

DRAFT NATIONAL SPATIAL DEVELOPMENT FRAMEWORK

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ABBREVIATIONS AND ACRONYMS

BEPP	Built Environment Performance Plan
CBA	Critical Biodiversity Area
CBO	Community-Based Organisation
CEF	Capital Expenditure Framework
CoGTA	Departments of Cooperative Governance and Traditional Affairs
CSIR	Council for Scientific and Industrial Research
CSP	Cities Support Programme
DAFF	Department of Agriculture Forestry and Fisheries
DHS	Department of Human Settlements
DMR	Department of Mineral Resources
DoE	Department of Energy
DORA	Division of Revenue Act
DoT	Department of Transport
DPME	Department of Planning, Monitoring and Evaluation
DRDLR	Department of Rural Development and Land Reform

DWS	Department of Water and Sanitation
ESA	Ecological Support Area
GVA	Gross Value Added
HDA	Housing Development Agency
HSMSP	Human Settlements Master Spatial Plan
ICT	Information and Communication Technologies
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IGRFA	Intergovernmental Relations Framework Act, 2005
IGR	Intergovernmental Relations
ITMP	Integrated Transport Master Plan
IUDF	Integrated Urban Development Framework
LUMS	Land Use Management System
M&E	Monitoring and Evaluation
MEC	Member of the Executive Council
MFMA	Municipal Finance Management Act, 2003
MIIF	Municipal Infrastructure Investment Framework

MinMec	Ministers' and MECs' Forum	PICC	Presidential Infrastructure Coordination Committee
MSA	Municipal Systems Act, 2000	PGDS	Provincial Growth and Development Strategy
MSDF	Municipal Spatial Development Framework	PLTF	Provincial Land Transport Framework
MSP	Master Spatial Plan	PRASA	Passenger Rail Agency of South Africa
MTSF	Medium Term Strategic Framework	PSDF	Provincial Spatial Development Framework
NATMAP	National Transport Master Plan 2050	RDP	Reconstruction and Development Programme
NDoT	National Department of Transport	RSDF	Regional Spatial Development Framework
NDP	National Development Plan 2030	SACN	South African Cities Network
NGO	Non-Governmental Organisation	SADC	Southern African Development Community
NGP	New Growth Path	SALGA	South African Local Government Association
NIP	National Infrastructure Plan	SANBI	South African National Biodiversity Institute
NPC	National Planning Commission	SANRAL	South African National Roads Agency SOC Ltd
NPO	Non-Profit Organisation	SDF	Spatial Development Framework
NSDF	National Spatial Development Framework	SDGs	Sustainable Development Goals
NSDP	National Spatial Development Perspective	SEA	Strategic Environmental Assessment
NT	National Treasury	SEIAS	Socio-Economic Impact Assessment System
NTP	National Transport Plan	SEZ	Special Economic Zone
PFMA	Public Finance Management Act, 1999	SIP	Strategic Infrastructure Programme

SKA	Square Kilometre Array
SPLUMA	Spatial Planning and Land-Use Management Act, 2013
SOE	State-Owned Entity
StepSA	Spatial and Temporal Evidence Platform for SA
SWSA	Strategic Water Source Area
TOD	Transit-Oriented Development

GLOSSARY OF TERMS

Apartheid

A political system and its policies directed towards the separation of different ethnic or racial groups. Spatially, apartheid involved the physical separation of the four racial groups according to the Population Registration Act of 1950, into so-called "Group Areas" according to the Group Areas Act of 1950. A system of ethnically-based "Bantustans" for Black South Africans was also established.

Bantustan

Areas reserved for African occupation under the Apartheid government. Approximately 13% of the total area of South Africa was divided into ten such Bantustans and were given some degree of self-rule, but always subject to the wishes and needs of the Apartheid government. While these areas were incorporated back into South Africa at the dawn of democracy in 1994, they still suffer the consequences of long-term neglect, isolation and poverty.

Critical Biodiversity Areas and Ecological Support Areas

Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), are of critical importance for ecological sustainability, and should be kept in a natural, or at least semi-natural, state. Critical Biodiversity Areas (CBAs) are divided into two sub-categories: CBA1 and CBA2. CBA1s are irreplaceable, which means there are no other places in the landscape where the conservation and ecological objectives associated with those CBAs can be met. In CBA2s, there may be some options for meeting the conservation and ecological objectives associated with those CBAs in other parts of the landscape. However, this can only be done at the cost of losing some of the spatial efficiency of the network of CBAs. If a CBA2 is lost and an

alternative natural area elsewhere is identified to become part of the CBA network, the alternative area is likely to be larger, increasing the size of the CBA-network as a whole. Areas identified as ESAs should be kept in at least semi-natural condition, i.e. with their basic ecological functioning still intact.

City

A human settlement characterised by (1) large and generally diverse communities of people living at high residential densities, (2) a variety of employment opportunities, and (3) high-intensity business and commercial areas.

Concentration

Concentration of people and activities refers to (1) a higher density of people, and (2) a higher intensity and mix of activities in a specific place, area or region. Generally, such concentration supports the development and sustenance of *agglomeration economies*. This can take the form of *urbanisation economies* (where cost decreases as total output of an urban area increases) or *localisation economies* (where costs decrease as firms in a specific industry increase output).

Decentralisation

The flow of people and economic activities from an urban centre or node to outlying (suburban and/or peri-urban) areas or nodes.

Densification

The process of increasing residential densities, i.e. the number of people living in a specific area, and is often expressed in numerical terms, e.g. 'persons per hectare'. Densification supports increased efficiency in the utilisation of infrastructure, services and amenities.

Development Corridor

Integrated linear networks of infrastructure and economic activity. Corridors typically fulfil a variety of multiple, complex functions, such as (1) the movement of people and freight, (2) facilitating trade between areas, (3) flows of information, (4) flows of services such as water and gas, and (5) facilitating tourism. Supportive functions may be located in corridors, e.g. logistics. Corridors often also include a human settlement and/or economic activity component, e.g. higher-density transit-oriented mixed-use development or industrial development adjacent to the main transport routes.

Ecological Footprint

A measure of the 'load' imposed by a given population on natural systems. The bigger the footprint, the greater the impact.

Ecological Infrastructure

Ecological infrastructure refers to naturally functioning ecosystems that generate or deliver valuable services to people, e.g. water catchments, wetlands, riparian zones, coastal dunes, kelp beds or spawning grounds. It consists of a network of interconnected structural elements in the landscape and seascape.

Economic Sectors

A division of a country's (1) economy or (2) type of economic activity in which its population is active. The following five descriptors are generally used to define the broad categories/sectors of economic activities: (1) the *primary sector*, which includes agriculture, mining and other natural resource-based industries; (2) the *secondary sector*, covering manufacturing, engineering and construction; (3) the *tertiary sector*, meaning the service industries; (4) the *quaternary sector*, which refers to

intellectual activities involving education and research; and (5) the *quinary sector*, reserved for high-level decision makers in government and industry.ⁱ In some instances, including this NSDF, the last two sectors are included in the definition of the *tertiary sector*.

Ecosystem

The dynamic and complex interplay of animal, plant, and micro-organism communities and their non-living environment (soil, water, climate and atmosphere) as a functional unit.

Ecosystem Services

Ecosystem services are typically grouped into four broad categories: (1) *provisioning*, including the production of food and water; (2) *regulating*, including the control of climate and disease; (3) *supporting*, including nutrient cycles and oxygen production; and (4) *cultural*, including spiritual and recreational benefits.

Evidence Mapping

A structured process of seeking, ordering and making sense of relevant published and unpublished research (i.e. 'evidence') to inform the preparation and review of policy and legislation.

Food Security

A condition of having reliable access to a sufficient quantity of affordable and nutritious food, through locally grown produce and/or imports.

Hinterland

The sparsely populated areas close to an urban settlement or node in which people farm or depend on natural resources, including the villages and small towns that are dispersed throughout these areas.

Infrastructure

The basic equipment, utilities, productive enterprises, installations, and services essential for the development, operation, and growth of human settlements and economic activities. Infrastructure includes items such as roads, utility lines for water, sanitation and electricity, drainage structures and communication technology. A distinction is often made between (1) *engineering infrastructure*, such as roads, electricity, sewerage, water; and (2) *social infrastructure*, which can broadly be defined as the construction and maintenance of facilities that support social services, such as health, education, community, welfare support, citizen registration and cultural facilities.

Land-Use Pattern

The land-use pattern is a general description of how land is occupied or used, and how land uses tend to be distributed across a specific geographic area. In the context of the NSDF, the *national land use pattern* is a high-level description of how the (1) population, (2) settlements, (3) economic activities, and (4) natural areas are distributed and systemically-related within the country as a whole.

Land Reform

A broad encompassing term that in the South African context includes (1) *land restitution* (redress of wrongs committed during the colonial and Apartheid eras), (2) *land redistribution* (provision of land for residential and economic purposes to those who do not have the means to access land), and (3) *tenure reform* (ensuring security of tenure).

National Development Paradigm

The overarching set of ideas and beliefs as to (1) the way in which a country should be developed, (2) how its economic relations should be structured,

(3) how the benefits of its economic system should be shared, and (4) how its resources should be used and managed.

National Social and Economic Interactions

The dense network of social and economic activities that take place in a country.

National Spatial Development Logic

The approach to, and way in which national space is used and managed in pursuit of the objectives of the prevailing *national development paradigm* and its associated legal and policy framework.

National Spatial Development Pattern

The human settlement-outcomes of past and current *national spatial development logics* in a country, which entails (1) where, how and for whom settlements are built, (2) the land tenure types and land-use patterns in these settlements, and (3) the type, mix, density, intensity and distribution of land-uses in these settlements.

Natural Resource Foundation

The natural resources of the country, consisting of both ecosystem services and sensitive and important ecological systems that need to be protected.

Node

Nodes are concentrations and clusters of activities of varying intensity and can be either mixed-use or mono-functional (e.g. an office node).

Polycentric system

A functionally integrated system of settlements/nodes of varying size that co-exist and collaborate in mutually beneficial ways, and in doing so,

enhance the resilience of the system and its constituent parts. The system allows the provision of a series of social and other services by (1) using the unique qualities of the various settlements/nodes in the system, and (2) harnessing the connections between them.

Protected Area

An area of special natural, ecological, architectural or historic interest, which is desirable to preserve and/or enhance. The protected areas referred to in this NSDF are those areas that are officially classified as such in terms of the National Environmental Management Act, 1998.

Rural

Generally regarded as areas outside cities and towns. Economic activity in these areas is in most cases intrinsically tied to natural resource use and/or beneficiation, and consists of agriculture, fishing, forestry, nature conservation, eco-tourism and mining. In South Africa, there are *rural areas that are densely populated*, but without (1) the distinct and diverse nodal areas of dense economic activity in the secondary and the tertiary sectors, or (2) the amenities typically associated with urban areas, which is a remnant of colonial and Apartheid spatial planning and the creation of Bantustans.

Rural Development

A planned intervention aimed at improving the quality of life and economic well-being of people living in rural areas.

Rural Edge

A line that is used to delineate a systemically-integrated area/region that has distinct rural qualities that need to be protected from 'intruding' uses that may disrupt or destroy these qualities. Typically, the delineation would be accompanied by (1) a description of the kinds of activities that are

permitted within the area/region, and (2) the procedures to apply for uses that are not specified as such. The line may have coordinates and be statutory, meaning it has binding legal power, or be seen as a 'fuzzy line', meaning its exact coordinates are not defined, and it is to be used in a directive, policy sense and not as hard, impenetrable physical line.

Settlement (also known as 'Human Settlement')

A settlement refers to a place where people live, work, study and relax. A settlement can range in size, from a small number of dwellings grouped together, to a large city or groups/conglomerations of cities tied together through dense transport and communication networks.

Socio-Economic Impact Assessment System (SEIAS)

A recently introduced government instrument that seeks to enhance the process of formulating policies, Acts and regulations by ensuring (1) alignment of such interventions with national priorities, (2) mitigation of risks, (3) anticipation of unintended consequences, and (4) minimisation of costs and maximisation of benefits.

Space Economy

The *spatial drivers* and *spatial manifestations and outcomes* of the economic interactions and transactions that (1) are generated in 'earth/terra-based space', (2) take place in that space, and/or (3) flow through that space. The size, nature, scale and scope of the space economy of a place/area is related to (1) its unique locational, spatial, ecological, economic, social, institutional, infrastructural, mineral, soils and topographical attributes, culture, and history; and (2) its level of connectedness to and relations with other places/areas, and the unique attributes and space economies of those places it is connected to, or transacts with.

Spatial Planning

The planning for the broader ambit within which land parcels are located and connected to each other through road and rail networks, and endowed with other forms of enabling and supportive infrastructure.

Spatial Transformation

In the South African context, this term broadly refers to a change in the structuring and organisation of settlements and economic activities, to (1) counter the segregated spatial patterns established during colonial and Apartheid times, and (2) address/alter the inefficiencies, injustices and inequalities in access to opportunities resulting from these patterns.

Strategic Water Source Areas

Strategic Water Source Areas (SWSAs) can be described as water factories, supporting growth and development needs that are often a long distance away from the SWSAs themselves. These areas contribute significantly to the overall surface and ground water supply of the country. Strategic Water Source Areas have been identified by the Water Research Commission (2015) but are not formally protected.

Stressed Catchments

Water stress is when the amount of water used exceeds 10% of renewable resources. Water stress depends on a range of factors and is not simply a shortfall in water availability versus requirement. Water deficits will not be experienced equally over an entire Water Management Area, nor at all times. In some cases, the deficits do not imply that consumptive use exceeds the available water, but that the allowances made for the implementation of the ecological component of the reserve cannot be met fully at present levels of use. Stressed catchments are also impacted upon by 'water demand/requirement', which refers specifically to the

beneficial, effective and efficient use of water, which can be improved through, for example, a reduction in water losses.

Supra-National

Refers to (1) 'regions', organisations and structures that are created 'above the nation state' by two or more countries (e.g. the African Union and the Southern African Development Community), to attend to matters of mutual concern and/or that lie outside the control/reach of a single country, and (2) agreements, protocols, policies, plans and investment frameworks prepared for these bigger *supra-national* entities.

Sustainable Development

Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. The definition of sustainable development usually refers to social, economic and institutional components.

Theory of Change

It can be described as (1) a story of how things, settings or situations can and will change, (2) a narrative of how a required change, transition or transformation will be brought about, or (3) a description of how a desired outcome will be accomplished through a planned/sequenced set of interventions.

Town

A place where people and services are geographically concentrated in a distinct and identifiable area. While towns can vary in size, they tend to have a smaller population, lower residential densities, fewer employment opportunities and fewer and/or smaller economic activities than cities.

Township

This term has two meanings in the South African context. *Firstly*, it is a *colloquial name* given to residential townships which were established during the colonial and Apartheid eras for temporary occupation by Black South Africans on the outskirts of towns and cities, with only the most basic of amenities and infrastructure provided. During colonial times, these townships were called “locations”, and sometimes still are, albeit increasingly less so. *Secondly*, it is the *legal name* given to new human settlements and extensions to existing settlements in planning legislation (e.g. “Sunnyside Extension 3”), dating back to the first Town Planning Ordinances passed in the early 1900s, and also appearing in the more recent Spatial Planning and Land Use Management Act, Act 16 of 2013 (SPLUMA).

Transit-Oriented Development (TOD)

A planned intervention that promotes higher density and mixed-use land development close to significant transit connections. It aims to (1) make the best use of land located along such routes, (2) increase ridership/use of public transport, and (3) promote sustainable urban development.

Urban

Referring to, located in or constituting a city. Urban areas are characterised by (1) large communities living at high residential densities, (2) a variety of employment opportunities, and (3) high-intensity business and commercial areas. The ‘urban-rural distinction’ between cities and towns varies from country to country, and is most often based on a combination of factors related to population size, level of economic output and development density. Generally, large towns are considered as ‘urban’, whereas small towns are most often regarded as ‘rural’. ‘Urban regions’ in the context of the NSDF refer to large and growing, functionally integrated built-up

regions, characterised by areas of high residential density and economic intensity where the population exceeds more than two million inhabitants.

Urban Edge

A line that is used as a border to distinguish between an area/region that is regarded as *part of a city or town* and its surrounding *natural or rural area*. Its primary purpose is to ‘contain the urban’ and as such, (1) no urban development is permitted, and (2) no municipal services are provided outside/beyond the line. As in the case of a *rural edge*, the line may have coordinates and be statutory, meaning it has binding legal power, or be seen as a ‘fuzzy/soft line’, meaning its exact coordinates are not defined, and it is to be used in a directive, policy sense and not as a hard, impenetrable physical line.

Urbanisation

The process by which an increasing percentage of a country’s population (1) moves to live in large towns and cities with the intention of staying there or in a similar urban area, and not returning to the countryside, and (2) is born in urban areas.

Water Scarce Regions

This construct refers to (1) the “*climate capability*” – i.e. a function of moisture supply, climate constraints and physiological capacity – of a region, and (2) the impact of climatic factors on the capability to grow an agricultural crop in the region within a growth season. For the purposes of the NSDF, areas described as ‘Water Scarce Regions’ fall within the low to low-moderate climate capability ranges.

EXECUTIVE SUMMARY

This *National Spatial Development Framework (NSDF)*, the first of its kind, seeks to make a bold and decisive contribution to bringing about the peaceful, prosperous and truly transformed South Africa, as articulated in the *Freedom Charter, the Reconstruction and Development Programme and the National Development Plan*. It does so in full recognition of:

- The stranglehold that the unjust national spatial development paradigms, logics and patterns of the past have placed on our many attempts at breaking the back of poverty, unemployment and inequality;
- The valuable, and often hard lessons we have learnt over the last twenty-four years in our pursuit of national reconstruction, inclusive economic growth and spatial transformation; and
- The necessity for decisive, collaborative and targeted state action in national space, to drive our country towards the shared, inclusive and sustainable future we desire and require.

In accordance with this transformative agenda, and guided by the Spatial Planning and Land Use Management Act, Act 16 of 2013 (SPLUMA), the NSDF consists of seven *interrelated parts*:

- *Part One* provides an overview of the background to, need for and role of the NSDF, locates it within the context of the National Development Plan (NDP), and sets out the NSDF's *theory of change* to move the country from where we are, to the South Africa we want and need;
- *Part Two* provides an overview of the process that was followed in the compilation of the NSDF, including (1) the data that was gathered and processed, (2) the many work-sessions that were held, and (3) the consultations and engagements that were undertaken;
- *Part Three* provides a *high-level overview of a series of significant national spatial development dynamics, challenges and opportunities* that impact upon, and shape both (1) the national development landscape, and (2) our ability to realise our national development goals;

- *Part Four* (1) puts forward the *national spatial development vision* of a shared and just South Africa, (2) sets out the shifts that must be made in the *national spatial development logic* based on the objectives and directives of the NDP and the SPLUMA principles, to enable a radical, transformative and decisive change in our national spatial development pattern, (3) provides six *national spatial development concepts* to give spatial expression to the national spatial development vision, and support the shifts that need to be made in accordance with the new national spatial development logic, and (4) provides an indication as to what life would be like in our country by 2050 if the vision is pursued, the necessary shifts are made and the spatial development concepts are appropriately and effectively used;
- *Part Five* puts forward the *national spatial development frame*, five *national spatial outcomes*, four *national sub-frames*, and ten *strategic spatial and implementation action areas*, to inform, direct and guide all future infrastructure investment and development spending decisions by government and the private sector in line with our national spatial development vision and logic, to achieve the desired national spatial development pattern for South Africa in 2050, and to, in doing so, realise our core national development objectives, as set out in the NDP;
- *Part Six* deals with the *implementation* of the NSDF, lists the tasks required in doing so, including *championing, communicating, institutionalisation, embedding, and actioning*, maps the significance of these tasks over time, and provides an overview of the role-players involved in realising the desired *national spatial development pattern*; and
- *Part Seven* provides a *summary of, and conclusion* to the NSDF.

While the NSDF recognises the challenges involved in bringing about the necessary changes in planning, budgeting and implementation, it is also very clear as to their importance in contributing to the joint crafting of our shared future.



PART ONE: Introduction

1.1 Setting the Scene

In his first State of the Nation Address, President Cyril Ramaphosa, in recognition of the exemplary struggle, conquest and spirit of our former President Nelson Mandela, stated:

"In celebrating the centenary of Nelson Mandela, we are not merely honouring the past, we are building the future. We are continuing the long walk he began, to build a society in which all may be free, in which all may be equal before the law and in which all may share in the wealth of our land and have a better life. We are building a country where a person's prospects are determined by their own initiative and hard work, and not by the colour of their skin, place of birth, gender, language or income of their parents".ⁱⁱ

Transitioning a country like South Africa with its dreadful history and stubbornly persistent legacy of the past into a better place for all, is no easy task, as was clearly articulated in the recently released report by the *High-Level Panel on the Assessment of Key Legislation and the Acceleration of Fundamental Change*, where it states the following:

"Colonialism and apartheid have left South Africa with a deeply divided and inequitable distribution of people and economic activity. This spatial inequality traps disadvantaged communities in poverty and underdevelopment, creates inefficient cities, and robs poor, rural people of secure livelihoods. The Panel makes recommendations that seek to break this damaging spatial pattern that is built on past laws, which marginalised the

black majority to the outskirts of the cities and to Bantustans, to preserve key assets, economic opportunities and the wealth of the country for the white minority. The legacy of spatial inequality appears intractable despite the National Development Plan and the Spatial Planning and Land Use Management's (SPLUMA's) focus on it. This issue needs an integrated solution that goes beyond the mandate of any one government department or specific level of government."ⁱⁱⁱ

The importance of space and land, and their densely interwoven connections to economic development and livelihoods, was also recognised in the *Reconstruction and Development Programme* in 1994, where it was argued that:

"No political democracy can survive and flourish if the mass of our people remains in poverty, without land, without tangible prospects for a better life. Attacking poverty and deprivation must therefore be the first priority of a democratic government."^{iv}

1.2 The National Transformation Logic & Space

Encapsulated in the three preceding powerful statements, is a '*national transformation logic*' with a distinct *spatial dimension* (see **Figure 1**), which can be expressed as follows:

Our new '**national development paradigm**', which includes (1) a set of progressive national economic, social and spatial development objectives, values and ideals, and (2) an enabling and supporting national legal and policy framework, seeks to bring about a new, post-Apartheid

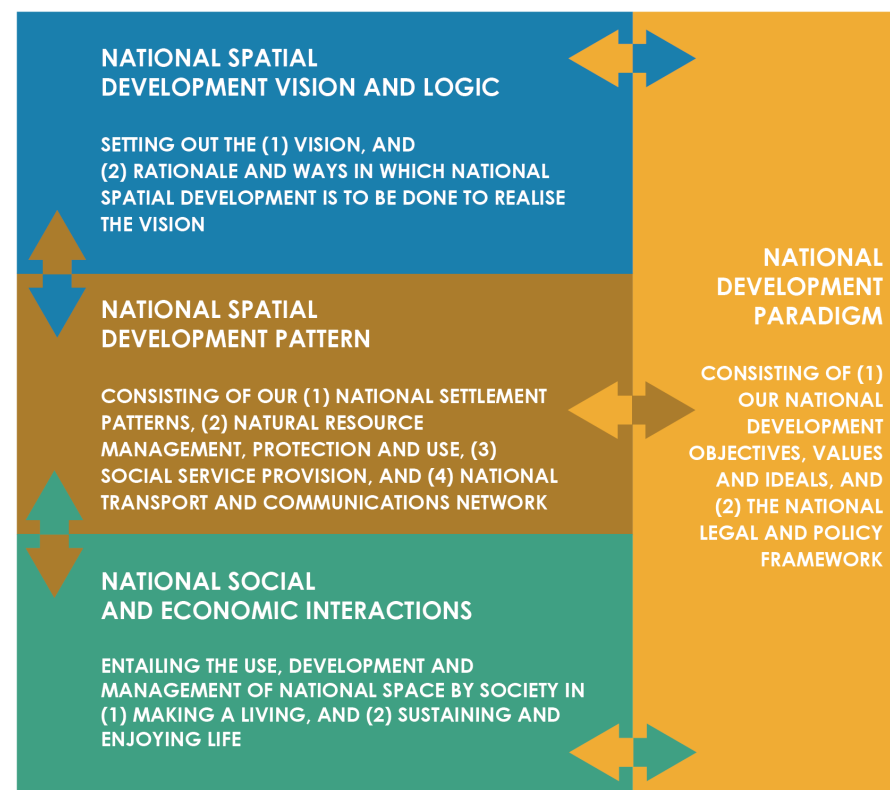
future. This desired future requires a new, post-Apartheid **'national spatial development logic'** and **'national spatial development vision'**.

Our current **'national spatial development pattern'** is an outcome of the **'national development paradigms'** and **the 'national spatial development logics and visions'** of (1) the colonial and Apartheid eras, as well as (2) the first two decades of democracy. This **'national spatial development pattern'** is an enabler, driver and facilitator of a multitude of **'national social and economic interactions'**. These interactions, in turn, (1) shape the **'national spatial development pattern'**, either reinforcing and sustaining it, or changing it, and (2) confirm or question the objectives, values, ideals, laws and policies that constitute the **'national development paradigm'**.

Moving from our current, undesirable **'national spatial development pattern'** to the desired *new post-Apartheid 'national spatial development pattern'*, requires *targeted and sustainable interventions* in all four the components of the national transformation process, *which is what the NSDF seeks to do*.

Before getting to the NSDF's *Theory of Change* and the *targeted and sustainable interventions* proposed in this NSDF, it important to get a sense of (1) what has been done, and (2) what we need to *start doing, stop doing, do more of, and do less of*. This is done in the following section, which in turn is followed by the NSDF's *Theory of Change*.

Figure 1: The National Transformation Logic



1.3 Taking Stock: National Spatial Development and the need for a NSDF

In this section, the following are considered: (1) where we come from and what needs to be undone, (2) what we have done and accomplished, and (3) what more, or what else still needs to be done and undone. This assessment is used to decide what changes we need to make, and the way in which the NSDF intends to do so.

1.3.1 Where do we come from and what needs to be done and undone?

In engaging the issues of 'space', 'spatial planning' and 'land', it is important to recognise the spatial objectives and logic of the colonial and Apartheid eras, and their different, but equally divisive, underlying economic and social logics.

(a) The Colonial Era

In terms of the **colonial development paradigm**, all economic activities (hunting, farming and mining) were done on land annexed by force, or through unfair 'deals' that benefitted the colonial empire. The resulting **national spatial development logic** consisted of railroads connecting mines and large farming clusters in the interior to harbours at the coast. From here, (1) commodities were exported, and (2) imports (primarily manufactured goods) were received and carried by rail into the interior. This logic laid the foundation for the country's infrastructure development pattern.

With the discovery of gold and diamonds, largely unplanned settlements sprang up. In accordance with the prevailing **colonial development paradigm**, these settlements were developed with only the benefit of the

colonists in mind. The indigenous population was (1) forcefully removed from their land to make place for the economic activities and related settlements, and (2) economically coerced to provide labour to white-owned farms, mines and industries to make a living.

Land use and land development decisions were made only with the benefit of the colonists in mind. Spatial planning legislation and policy was *ad hoc* and responded to the immediate needs for regulation, order and colonial exploitation and accumulation. In the rapidly-emerging towns and cities, the resulting **national spatial development pattern** consisted of racially-separated settlements in which white people enjoyed (1) a privileged status, and, by and large, (2) decent housing conditions. Black people were denied choice, dignity and respect, and treated as objects to support production through providing their labour at very low wages, and forced into so-called "locations" on the outskirts of these settlements.

(b) The Apartheid Era

The coming to power of the National Party in 1948, and the subsequent introduction of the racist **national development ideology/paradigm** of "Apartheid" brought about a new, carefully-conceived, all-encompassing set of laws and policies focused on systematic racial segregation, exclusion and suppression. These laws and policies (1) built on, (2) reinforced the exclusionary and exploitative national spatial development logic, and (3) entrenched and deepened the unjust and fragmented **national spatial development pattern** of the colonial era. However, *in contrast to* (1) the *earlier settler logic*, 'a new country' was now being crafted for the exclusive use and advancement of a white 'South African' minority, and (2) the *earlier colonial era*, indigenous Africans were now not only viewed as a source of cheap labour, but also an increasingly vocal and numerically superior threat to 'the new

country' and its white minority. To overcome this threat and develop the country, (1) the use of land and (2) the *spatial relation* of land-uses to each other, became of strategic importance. The resulting 'survive, suppress and rule' Apartheid **national spatial development logic** entailed the location of 'labour' as far away as possible from the country's economic hubs, but still within 'economically-feasible exploitation distance', i.e. as far away as the cost of rudimentary mass transport would permit. This hideous pursuit at one point even entailed the apartheid planners considering locating "the next Soweto in the Karoo and transporting 'labour' on a daily base by high-speed train to the then Pretoria-Witwatersrand-Vaal Triangle industrial and mining core". At the same time, increasingly draconic measures were introduced to destroy any black economic activity that could compete with white mining, farming, manufacturing and retail activities. Again, land was paramount in this pursuit, with (1) areas reserved for Black South Africans being placed ever-further away ('in the periphery') from areas of opportunity ('the core'), (2) large-scale forced removals of Black South Africans from where they were trying to access the opportunities offered by urban South Africa, or trying to set up businesses in these areas, and (3) areas set aside for Black occupation denied of any amenity or opportunity for economic activity.

In contrast to the earlier colonial era, **national spatial development planning** became the key means and driver for the creation and deepening of the segregated and unequal apartheid state and country: *It was a country solely planned and built for the enjoyment and advancement of a small white minority.* The black majority, in turn, were either (1) temporarily housed in "townships", or (2) forced to stay in ethnically-based Bantustans/homelands, and their movement to and from these areas to urban areas forcefully regulated through deeply oppressive measures, including the infamous passbook system. Apartheid spatial planning and land allocation was not, as in colonial

times, a reactive response to land-related crises as and when they arose; it was a *core component and driver* of the creation and organisation of the racist social, economic and **national spatial development logic** of the Apartheid state.

Over time, white South Africans living in towns and cities in Apartheid South Africa, simply by owning land, saw their land 'go' from 'land' to 'property'. This occurred through (1) the carefully planned parcelling, surveying and registration of such land, (2) the servicing of this land with public infrastructure (including social infrastructure such as schools and hospitals for whites), and (3) the protection of the value and amenity of such 'properties' and the suburbs in which they were located through town planning legislation and building regulations. Through (1) *spatial planning* and (2) *land use control*, white South Africans who owned land, received 'property', i.e. '*land with a monetary value and with the potential to increase such value*'. From this base, white South Africans were able to access opportunities in towns and cities, attend well-resourced, good schools, and enter the job market in these or similar such places. In doing so, reproducing the **unjust social, economic and spatial development pattern** of wealth and privilege developed under the Apartheid system.

Black South Africans, in turn, who were able to get access to land or retain access to land, were at best left with land that had little value to start with and quickly dwindled in value, due to (1) the spatial location of such land, and (2) the low spatial quality and lack of complimentary land-uses, amenities and economic activities in surrounding areas. It was a case of planned, orchestrated and forcefully implemented '*negative, destructive spatial planning*'. It actively disempowered Black South Africans, making them worse off, and destroyed the attributes and potential for any increase in property value that might have accrued to them.

This is the dreadful **national spatial development pattern** that democratic South Africa inherited in 1994 – the outcome of more than 300 years of unequal spatial investment and planning. It was, however, also *the spatial platform (1) on which, and (2) from which the country's space economy and society had to be transformed.*

1.3.2 What have we accomplished and what more needs to be done?

Over the past twenty-four years, government has introduced several acts, policies and programmes aimed at redressing the spatial legacies of colonial and Apartheid rule. In most cases, these were directed at the municipal level, with the newly created municipalities expected to pit their limited 'local' planning and financial powers against the spatial legacy of *centrally-orchestrated and implemented* apartheid spatial planning and land-use allocation. In most instances, the impacts were minimal. Old patterns were often reinforced, as new developments (such as RDP housing) were built in peripheral spaces on '*readily available and cheap land*'. At the same time, the privileged spaces of Apartheid largely remained 'as is', with what racial integration that took place, focused in former white suburbs and new middle-to-higher income (1) extensions to larger towns and cities, and (2) gated/barricaded enclaves primarily in secondary cities and metropolitan areas.

In the national sphere, the *Reconstruction and Development Programme Office* explored the idea of a *National Spatial Development Framework* (1995-1996). Resistance from national sector departments and provincial governments, who did not want their infrastructure investment and development spending proposals interfered with, resulted in this plan being dropped. Following on from this, the Office of the Deputy President (and later the Presidency) introduced the *National Spatial Development Perspective (NSDP)* (2000-2007), which sought to rationalise, harmonise

and integrate the investment and spending proposals of all government sectors and spheres. The NSDP was criticised (1) as being "*neo-liberal, urban-focused and anti-rural*", and (2) of "*taking a too narrow a view of development potential*". The NSDP was never used as envisaged and fell out of favour.

Not much happened in the national planning space after the demise of the NSDP until (1) the publication of the *Green Paper on National Strategic Planning* in 2009, (2) the appointment of the first *National Planning Commission (NPC)* in 2010, and (3) the subsequent preparation and adoption of the *2030-National Development Plan (NDP)* in 2012.

(a) The 2030-National Development Plan (NDP)

The NDP, is an all-encompassing comprehensive national development plan that is grounded in:

- The ideals of the Freedom Charter;
- The tenets of the Reconstruction and Development Programme (RDP); and
- The principles and directives of our Constitution.

The NDP (1) speaks to the multitude of needs and challenges facing the country, their underlying causes and factors inhibiting change, and (2) provides detailed guidance on responding to all of these. To address these challenges, which are all located in the *inherited colonial and apartheid space economy*, the NDP puts forward a series of proposals resting on "*six pillars*":

- Uniting all South Africans around a common programme to achieve prosperity and equity;
- Promoting active citizenry to strengthen development, democracy and accountability;

- Bringing about faster economic growth, higher investment and greater labour absorption;
- Focusing on the key capabilities of people and the state;
- Building a capable and developmental state; and
- Encouraging strong leadership throughout society to work together to solve problems.

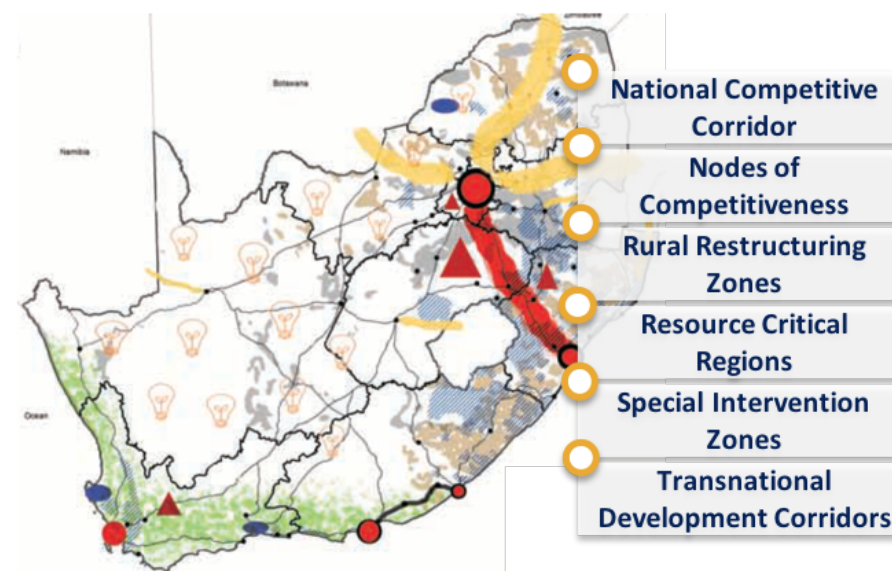
The NDP recognises that *overcoming our triple challenges of inequality, unemployment and poverty lies in transforming our physical space*. In doing so, it recognises that tackling the triple challenges means:

- Fundamentally *disrupting and undoing* inherited and persisting (1) colonial and apartheid economic, social and spatial investment logics, and (2) their resultant spatial forms and land-use patterns, which in turn impede inclusive economic growth and spatial transformation;
- Making radical changes *in and to space*; and
- Introducing an *inclusionary economic growth and spatial transformation-focused investment and spending logic* that all spheres and sectors of government can (1) buy into, (2) drive forward, and (3) be assessed on in terms of the outcomes of their actions.

The NDP furthermore recognises that while transformation-focused action is required throughout our country, and in every sector and sphere of government, it is only through *radical and decisive intervention* that is *coherently planned for and managed at the national scale*, that we stand a chance at (1) disrupting the Apartheid spatial logic and space economy, and (2) overcoming the inequities and distances brought about by colonialism and Apartheid.

It is especially Chapter 8 of the NDP – *Transforming Human Settlement and the National Space Economy* – that makes specific reference to the need for a “*national spatial development framework*”. Such a framework, it holds, must optimise, integrate and coordinate the energies and economic impacts of the strategic interventions in national space. Such ‘*national spatial framing*’ is recognised as of crucial importance given the significance of space and *access to land* in (1) bringing about transformation at scale, and (2) ensuring that people and places benefit from this intervention. The chapter also includes a “*proposed national schema for spatial targeting*” (see **Figure 2**) and (1) sets out a series of directives for such a framework, and (2) proposes that it be provided for in national legislation.

Figure 2: The NDPs Proposed National Schema for Spatial Targeting



Following on from this guidance, government prepared policy and legislation that speaks to, and gives further expression to (especially) Chapter 8 of the NDP. These instruments, which cover (1) settlement planning, (2) place-making, and (3) land-use and land-use management, are the *2016-Integrated Urban Development Framework (IUDF)* and the *Spatial Planning and Land Use Management Act, 2013 (SPLUMA)*.

(b) The Integrated Urban Development Framework (IUDF)^v

The IUDF, South Africa's national urban policy, takes as one of its key drivers the NDP's requirement that South Africa should see meaningful and measurable progress in the pursuit of more functionally integrated, balanced and vibrant settlements. It builds on, and responds to a variety of chapters in the NDP, but notably Chapter 8. This is evident in its guiding vision of *"liveable, safe, resource-efficient cities and towns that are socially integrated, economically inclusive and globally competitive, where residents actively participate in urban life"*. The IUDF puts forward a *"new deal"* for South Africa's cities and towns, which it sees as being on a continuum, ranging from the very large metropolitan regions to the smallest towns in rural South Africa. This new deal entails (1) maximising the potential of urban areas, and (2) integrating planning, budgeting and investment in such a way that it improves and enhances urban form and improves the performance of urban areas. The IUDF makes a strong case for:

- Working with and sharing the urban spaces built up during colonial and Apartheid times; and
- 'Retrofitting' our urban spaces to optimise their footprint and produce compact, coordinated and well-connected cities and towns.

The IUDF puts forward *"four strategic goals"* for all urban areas, i.e. (1) spatial integration, (2) inclusion and access, (3) growth, and (4) governance, and proposes *"nine policy levers"* to achieve these goals. These are:

- Integrated urban planning and management;
- Integrated transport and mobility;
- Integrated and sustainable human settlements;
- Integrated urban infrastructure;
- Efficient land governance and management;
- Inclusive economic development;
- Empowered active communities;
- Effective urban governance; and
- Sustainable finances.

The IUDF furthermore introduces three *"cross-cutting priorities"* that are to be used in the conceptualisation and implementation of the nine policy levers. These are: (1) rural-urban interdependency, (2) urban resilience, and (3) urban safety. While making strong, guiding statements in the pursuit of shared, inclusive, resilient and liveable urban settlements, the IUDF cautions against a once-size-fits-all approach. Instead, it recognises that South Africa has different types of cities and towns that perform different roles, and have different requirements. The IUDF has a multi-faceted implementation plan, including short-term interventions. These require the active participation of a range of stakeholders, including all three spheres and sectors of government, the private sector, NGOs, NPOs and local community organisations. The IUDF is also being used to prepare South Africa's *"Localisation Framework"* for implementation of the global Urban Agenda – in this way advancing the global pursuit of *SDG Goal 11: "Make cities and human settlement inclusive, safe, resilient and sustainable"*.

(c) *The Spatial Planning and Land Use Management Act, 2013 (SPLUMA)*

SPLUMA was introduced to “provide a framework for spatial planning and land use management” in South Africa. As such, it not only seeks to attend to and rectify the fragmented, irrational, unfair and unequal apartheid planning system inherited from the Apartheid era, but also its consequences in space. As in the case of the IUDF, this means the active pursuit of (1) spatial transformation and (2) social and economic inclusion, to ensure equal access for all to the services, amenities and opportunities that well-planned, well-functioning and well-managed settlements offer. Core in this regard is the introduction of single, uniform spatial planning and land use management systems in municipal areas that include places previously excluded from such systems. Being framework legislation, it seeks to provide “principles, guidance and norms and standards” for planning in the provincial and municipal spheres of government. The five “principles”, which must be adhered to, pursued, and observed in all actions undertaken in terms of the Act, are “spatial justice, spatial sustainability, efficiency, spatial resilience and good administration”.

SPLUMA furthermore:

- Mandates the preparation of “Spatial Development Frameworks” (SDFs) by all three spheres of government, including the “National Spatial Development Framework”;
- Provides for the preparation of “Regional Spatial Development Frameworks”; and
- Distinguishes between (1) spatial planning and (2) land use management, and establishes a link between the two.

Being located within the Constitutional realm of cooperative governance, these frameworks are not positioned in a hierarchical order, but instead as interdependent planning instruments that require intergovernmental collaboration and integration in their preparation, review and implementation.

(d) *Summary*

Assessing what has been done and accomplished over the last twenty-four years in terms of the **National Transformation Logic (Section 1.2 and Figure 1)**, the verdict clearly is that *much has been done*:

With regards to the **national development paradigm**, the (1) Constitution and (2) Cabinet-adopted NDP provide the foundation, and strategic direction for government to respond to our inter-related *core triple challenges of inequality, unemployment and poverty*. These are supported by a series of (1) enabling acts and policies, (2) solid sector plans and programmes, and (3) strategic infrastructure investment programmes, which include the New Growth Path, the Industrial Policy Framework and Industrial Policy Action Plans, the Strategic Integrated Projects, the Human Settlements Master Plan, and the National Transport Master Plan 2050.

With regards to the **national spatial development logic**, Chapter 8 of the NDP, and the IUDF and SPLUMA frame, mandate, allow and guide the changes that need to be made in:

- *Our space economy*, in terms of (1) what we do, where and why, (2) which resources we use, and how we use them, and (3) who participates in, and gains from these activities; and

- Our *settlements*, in terms of (1) how, and with what outcomes in mind, we plan and invest as a country, (2) how and where we provide which services, and (3) how we sustain these services.

This they do by enabling:

- The *use of spatial development planning to integrate and optimise* all public and private sector infrastructure and investment spending proposals in space, both (1) in the national interest, and (2) to the advantage of local spaces and those who live their lives in these spaces; and
- The *radical, decisive and sustainable transformation of our settlements* into productive, liveable and resilient places for all, through (1) wise spatial planning and land-use planning, development and management, and (2) the provision of access to land, economic opportunities and all the other amenities and opportunities that good, quality settlements offer.

However, when considering the **national spatial development pattern**, and the **national social and economic interactions**, and as echoed in numerous government reports, academic papers and the printed and social media, despite these components being in place, *the stubborn persistence of the colonial and Apartheid spatial development patterns* suggests that something is amiss. While much has been done and achieved in the ambit of legislation and policy, not that much change has been (1) felt in the daily lives of people, or (2) seen on the ground.

Leading on from the **National Transformation Logic**, as set out in **Section 1.2**, it would follow that this 'change-deficit' could be due to:

- There being a **new national development vision**, as provided by the NDP, but *not* a new and/or broadly accepted *post-Apartheid national spatial development vision*;

- The **enabling and supporting legislation and policy** *not* being adhered to and/or implemented (1) in the way that they are meant to be, including *not* in an integrated, coordinated and targeted way, and/or (2) without a *collective, national focus* on the issues of 'land' and 'space';
- *Not* enough time having passed for the necessary transformatory changes to have been made in terms of the **legal and policy framework**, and/or their effects to be felt in space (notably in the case of the 2013-SPLUMA and the 2016-IUDF); and/or
- The **national spatial development logic** *not* having changed from its earlier colonial and Apartheid versions, and/or *its transition to a post-Apartheid national spatial development logic* *not* being actively pursued and/or enforced.

Lending from a large evidence base of government reviews, reports, assessments and academic papers, notably the recent High-Level Panel Review and the 2018-World Bank Report on South Africa, *it is argued that all of above explanations are at play*. At the same time, another possibility is put forward, i.e. that *while there is agreement as to what we want to move from in terms of past national spatial development patterns, there is not clarity and/or agreement as to what the desired **post-Apartheid national spatial development pattern** should look like*. Without such spatial clarity and guidance, public investments are made in accordance with (1) sector-driven objectives, targets and outcomes, and/or (2) *place/territorially-based* concerns and challenges, without consideration for *the national transformative impact*.

It is here where the NSDF seeks to intervene...

Given the newness of such an intervention for our country, international precedent and experience with such national-level planning instruments is briefly engaged, before moving on to the NSDF.

1.3.3 International Precedent and Experience

Internationally, *national spatial planning* with typically a *twenty to thirty-year time horizon*, has primarily been a feature of:

- *Smaller European countries*, notably the Netherlands and Denmark, and more recently Ireland, Albania, Serbia, Slovenia, Iceland, Estonia, Wales, Scotland, Portugal and Romania;
- *Developmental states in Asia*, notably China, Singapore, Malaysia and South Korea; and
- *African countries* at two different stages, i.e. shortly after independence, and in more recent times of strongly-emerging and fast-growing countries, such as Ghana, Kenya, Uganda, Rwanda, Namibia, Botswana and Tanzania.

In most cases, such planning is associated with (1) more unitary states where the mandate and role of national planning in such arenas is either not, or less contested, and (2) countries where such planning is viewed in a favourable light due to its link to national economic planning and growth, *especially the triggering of such growth*. The mood of the time and the ideological home of the national governing party is also important. For example, in times of greater national and/or global support for state involvement in the economy, and/or tighter monetary conditions, such planning has generally been more welcomed. Likewise, the support for spatial planning, and especially national spatial planning, has (1) ebbed in accordance with the election of more pro-market, neo-liberal parties, and (2) *risen* with the election of parties that hold a more favourable view of state or developmental intervention in the economy.

The mere existence of such national spatial plans, strategies or frameworks has not necessarily meant that they (1) were implemented, or (2) had the desired impact. In many cases, the notion of one 'super-plan' imposing itself on the mandates of other sectors in the national

tier/level of government and/or in sub-national tiers/levels of government has not been welcomed. Furthermore, given that such instruments often have coordinating, integrating and guiding functions, and do not have their own budgets, they have struggled to secure buy-in and support. In other cases, (1) failure to fund, or (2) withholding funding from the entity responsible for the preparation and/or implementation of the instrument, for whatever reason, has seen it have little else but a life on paper and/or a website. Finally, the power, status and 'popularity' of the department or entity responsible for the instrument and/or the politician(s) responsible for or involved with it, has played an important role in its acceptance and use.

Where such instruments have worked, this has in most instances been due to:

- The entity preparing it, managing to secure strong support from the outset of the preparation process for the instrument both in and outside of government;
- Political will, coupled with decisive and capable state action;
- A strong and vocal technical lobby of planners, researchers and academics supporting it; and/or
- A clear, tangible need for it, and a prevailing sense amongst the population at large that it could make a meaningful difference in (1) the fortunes of the country, and (2) their lives.

1.4 The NSDF as Tool for National Spatial Development and Transformation

1.4.1 The NSDF's Mandate

In terms of *government policy*, Chapter 8 of the NDP calls for the preparation of a “*national spatial development framework*”. In terms of *legislation*, Section 5(3)(a) of SPLUMA provides for, and Sections 13(1) and (2) of the Act mandate the Minister to, “... *after consultation with other organs of state and with the public, compile and publish a national spatial development framework*” and review it at least once every five years.

1.4.2 The NSDF's Purpose, Focus and Content

Section 13(3) specifies that the National Spatial Development Framework (NSDF) must consider:

- All policies, plans and programmes of public and private bodies that impact on spatial planning, land development and land use management;
- Any matter relevant to the coordination of such policies, plans and programmes that impact on spatial planning, land development and land use management; and
- All representations submitted to the Minister in respect of the framework.

Section 14 sets out the content of the NSDF, and indicates that the framework must:

- Give effect to the development principles and norms and standards set out in the Act;

- Give effect to all relevant national policies, priorities, plans and legislation;
- Coordinate and integrate provincial and municipal SDFs;
- Enhance spatial coordination and land use management activities at national level;
- Indicate desired patterns of land use in the country; and
- Take cognisance of any environmental management instrument adopted by the relevant environmental management authority.

Section 12(1), which also deals with the SDFs of provincial governments and municipalities, specifies that the NSDF must:

- Interpret and represent the spatial development vision of the national sphere of government;
- Be informed by a long-term spatial development vision statement and plan;
- Represent the integration and trade-off of all relevant national sector policies and plans;
- Guide planning and development across all sectors of the national sphere of government;
- Contribute to a coherent planned approach to spatial development in the three spheres of government;
- Provide clear and accessible information to the public and private sector, and provide direction for investment purposes;
- Include previously disadvantaged areas, areas under traditional leadership, rural areas, informal settlements, slums and landholdings of state-owned enterprises and government agencies, and ensure their inclusion and integration into the spatial, economic, social and environmental objectives of the national sphere of government;
- Address historical spatial imbalances in development;

- Identify the long-term risks of particular spatial patterns of growth and development and the policies and strategies necessary to mitigate those risks;
- Provide direction for strategic developments and infrastructure investment, promote efficient, sustainable and planned investments by all sectors, and indicate priority areas for investment in land development;
- Promote a rational and predictable land development environment to create trust and stimulate investment;
- Give effect to national legislation and policies on mineral resources, and the sustainable utilisation and protection of agricultural resources; and
- Consider, and where necessary, incorporate the outcomes of substantial public engagement in the framework.

Section 12(2)(a) specifies that the three spheres of government must *participate* in the spatial planning processes that impact on each other, to ensure that their plans and programmes are coordinated, consistent and in harmony with each other.

Section 12(2)(b) specifies that the NSDF must *guide and inform* the exercise of any discretion of, or any decision taken in terms of the Act, or any other law relating to land use and development of land by the national sphere of government.

Section 12(3) specifies that the NSDF must *contribute to and give spatial expression* to national development policy and plans, as well as integrate and give spatial expression to policies and plans emanating from the various sectors of national government, and may include any “*Regional Spatial Development Framework*”.

Section 12(6) specifies that the NSDF must *outline specific arrangements for prioritising, mobilising, sequencing and implementing* public and private infrastructural and land development investment in the priority spatial structuring areas identified in the framework.

In **summary**, as indicated in **Figure 3** (below), the NSDF *must*, within the broader ‘family’ of strategic and sector plans of government:

- Target and direct all infrastructure investment and development spending decisions by *national sector departments and State-Owned Entities (SOEs)*;
- Guide and align plan preparation, budgeting and implementation *across spheres and between sectors of government*; and
- Frame and coordinate *provincial, regional and municipal spatial development frameworks*.

1.4.3 The NSDF's Theory of Change

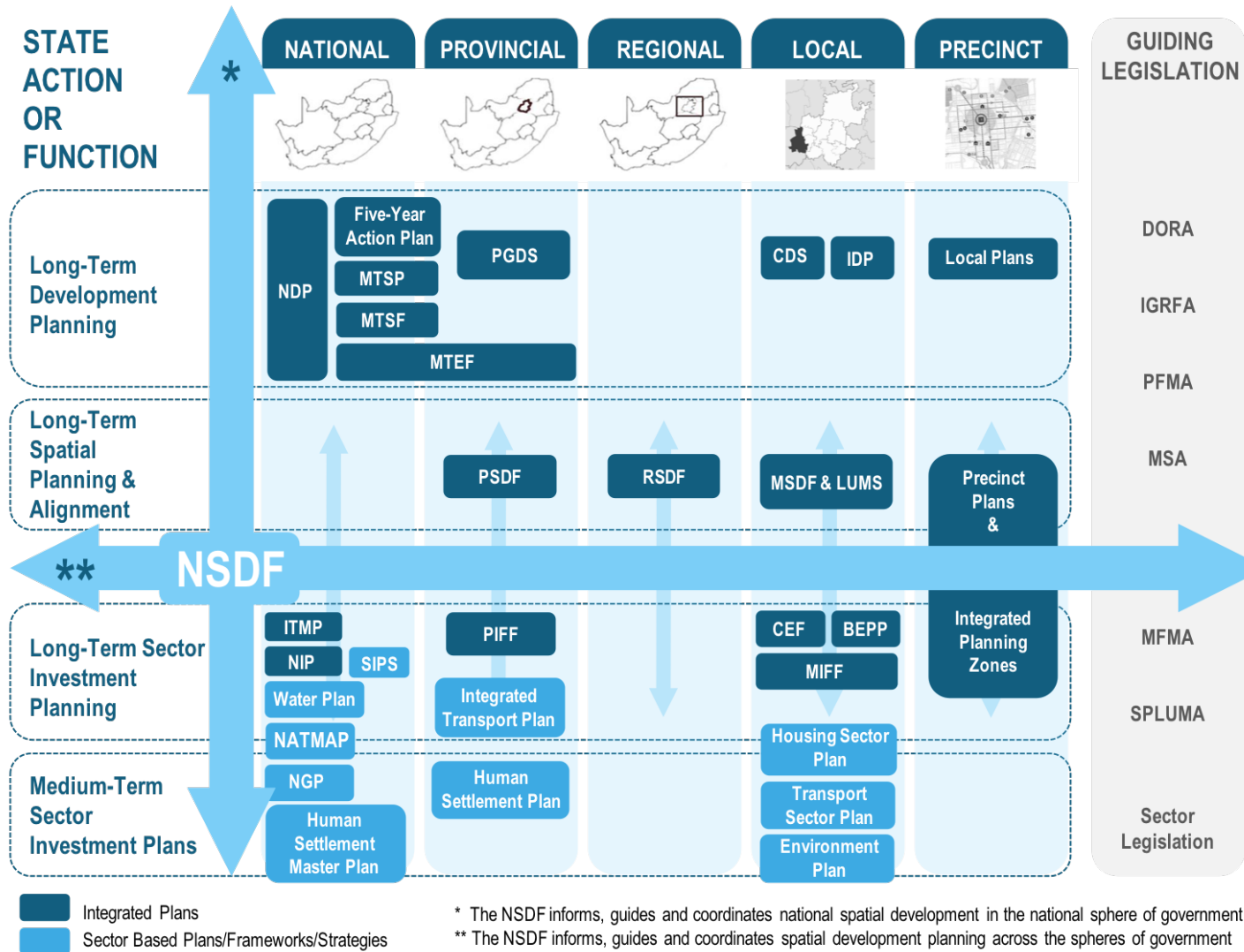
Based on (1) the *National Transformation Logic* as set out in **Section 1.2**, (2) the gaps and explanations as identified in the stock-taking exercise in **Section 1.3**, and (3) the legal requirements regarding the NSDF as set out **Section 1.4.2**, the NSDF's *Theory of Change* to move our country to the desired Post-Apartheid future, is as follows:

- **Step 1:** The existing **National Development Paradigm**, including the Constitution, the NDP and the existing legal and policy framework, notably SPLUMA and the IUDF, is used to:
 - Articulate a *compelling and persuasive* **Post-Apartheid Spatial Development Logic** and identify the ‘*shifts*’ from the old and existing logics that this *new logic* requires; and
 - Craft a *strong and credible* **Post-Apartheid National Spatial Development Vision**;

- **Step 2:** The new logic and vision is used together with an analysis of the *current and unfolding 'national spatial development landscape'*, to develop a set of *National Spatial Development Concepts*, and craft a *desired Post-Apartheid National Spatial Development Pattern* consisting of (1) a *National Spatial Development Frame*, and (2) a series of *NSDF Sub-Frames*;
- **Step 3:** The *National Spatial Development Frame* and *NSDF Sub-Frames* are used to indicate what *Interventions and Priority Actions* are required to bring about the *desired Post-Apartheid National Spatial Development Pattern*; and
- **Step 4:** The (1) *desired Post-Apartheid Spatial Development Pattern*, (2) *National Spatial Development Frames* and *NSDF Sub-Frames*, and (3) associated series of *Interventions and Priority Actions* are used to prepare clear *Implementation Guidance* for realising the *desired national spatial transformation*.

The outputs of these steps provide the structure for this document, as set out in **Section 1.5**.

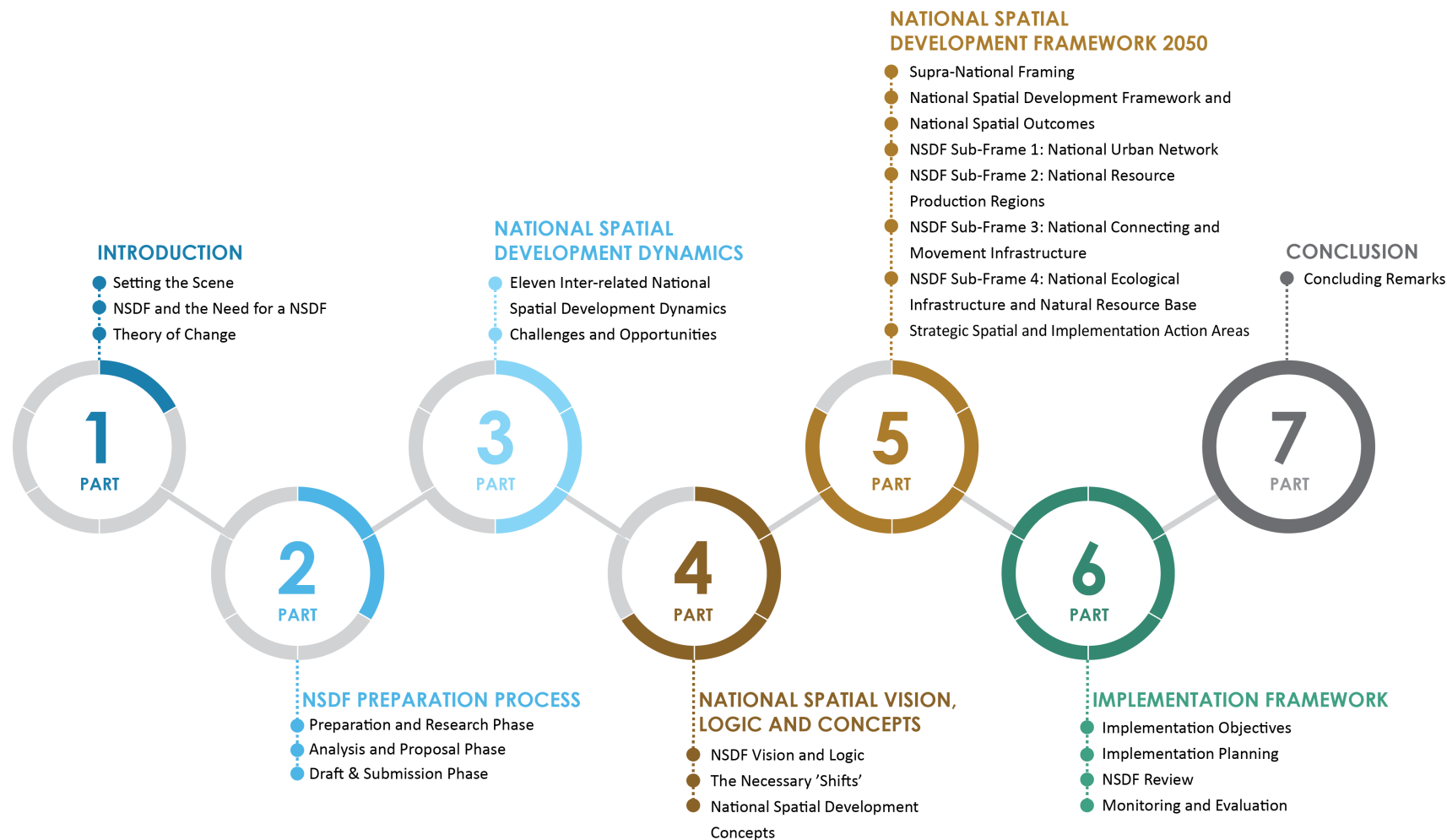
Figure 3: The Role of the NSDF within the 'Family' of Strategic and Sector Plans of Government



1.5 Document Structure

This document has the following parts:

Figure 4: Document Structure



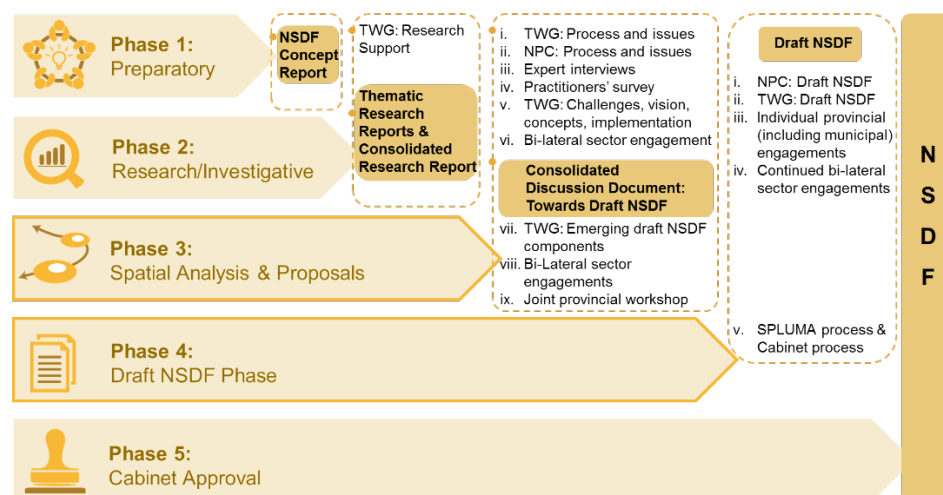


PART TWO: The Draft NSDF Preparation Process

2.1 Introduction

The process of preparing the first NSDF for South Africa started in April 2014. The formulation of the Draft NSDF comprised Phases 3 and 4 of the process, as illustrated in Figure 5.

Figure 5: NSDF Preparation Process



- Population dynamics, migration and people;
- Human settlements;
- Social infrastructure;
- Natural resources and the environment;
- Movement and transport;
- The national space economy; and
- Unemployment, labour, education and skills development, with an emphasis on rural development, land reform and agriculture.

At the outset of the NSDF process, the NSDF Technical Working Group (TWG) was established as a multi-stakeholder forum including representatives from (1) national sector departments, (2) Offices of the Premier and provincial sector departments involved in planning, (3) State-Owned Enterprises (SOEs); and (4) relevant government agencies and organisations.

2.3 Spatial Analysis and Proposals Phase

The third phase of the process, i.e. Spatial Analysis and Proposals, was conducted in a series of work-streams.

2.3.1 Foundational Work

The focus of this work-stream was to (1) establish the most significant global, national and inter-regional spatial development opportunities and challenges, and (2) develop a draft national spatial vision and set of national spatial development concepts. Foundational work was also done for the (1) the *Socio-Economic Impact Assessment System (SEIAS)*-process, and (2) the *Evidence Mapping*-process. Engagements in this phase included (1) NSDF Steering Committee meetings, (2) introductory presentations to the NSDF TWG, (3) expert inputs, (4) bilateral meetings

with selected sector departments, and (5) an online survey conducted with planning professionals.

2.3.2 Preliminary Sharing and Testing

The focus of this work-stream was on *sharing and testing* (1) the list of *opportunities and challenges*, and (2) the *draft proposals* prepared in the Foundational work-stream. With this objective in mind, a 'Consolidated Draft Discussion Document' was compiled, to enable (1) a *focused discussion* with, and (2) the *sourcing of inputs, comments and proposals* from national and provincial government departments, municipalities, SOEs, the NPC, the South African Local Government Association (SALGA) and stakeholder organisations, such as the South African Cities Network (SACN). Work-sessions were also held with the NSDF TWG and provincial officials responsible for the preparation and review of PSDFs, and submissions made to the NPC.

2.4 Draft NSDF Phase

This phase entailed (1) *the preparation of the 'first Draft NSDF'* based on the outputs of the previous work-streams and the inputs, comments and proposal made during these phases, and (2) *structured engagement on the Draft NSDF*, as provided for in SPLUMA (see **Figure 5**). These engagements included:

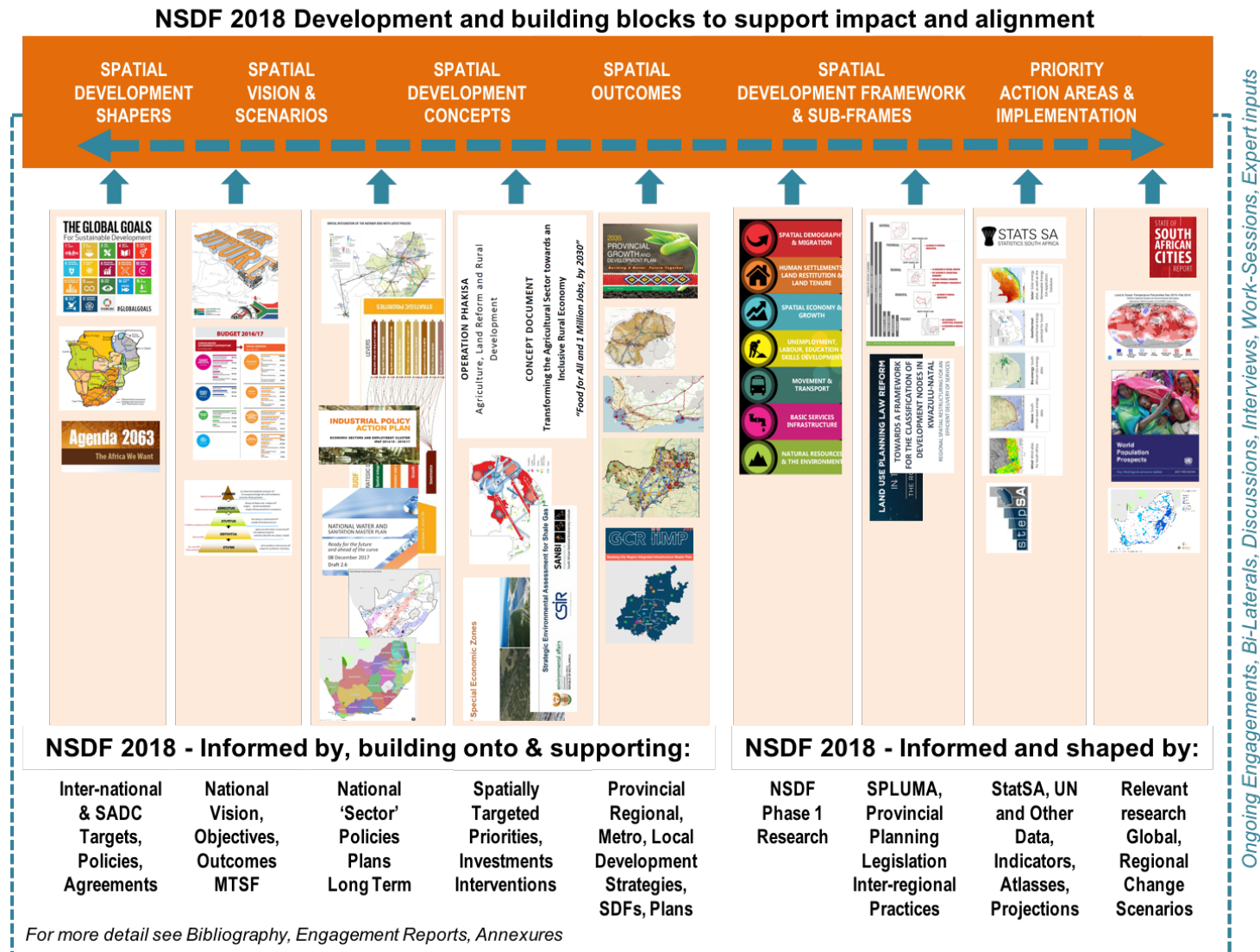
- A presentation to the NPC;
- A presentation to, and work session with the TWG;
- Provincial workshops in all nine provinces involving stakeholders from municipalities, provincial departments and the private sector; and
- Bi-lateral engagements with national sector departments.

The Draft NSDF was revised and amended based on (1) further data-gathering and analyses, and (2) inputs and comments made during the engagement sessions, and written submissions received after the events. It is envisaged that this '*new Draft NSDF*' will be engaged both further and wider, and include the 'sixty-day public commenting period', as prescribed in Section 13(4)(b) of SPLUMA.

2.5 Cabinet Submission Phase

The final phase will entail the preparation of (1) the '*Final Draft NSDF*' for Cabinet Submission, taking cognisance of public comments and inputs, and (2) the documentation as required in terms of the SEIAS, including the evidence as generated in the Evidence Mapping process

Figure 5: NSDF 2018 Development and building blocks to support impact and alignment





PART THREE: National Spatial Development Shapers

3.1 Introduction

A wide and diverse range of (1) *national* spatial development realities and (2) *international, national and sub-national* trends, flows and patterns impact upon, and *shape* both the national development landscape, and our *ability* to realise our national development goals.

Part Three of the NSDF provides some insights into these inter-related *national spatial development dynamics, challenges and opportunities*. It draws on, and highlights aspects as raised in and by:

- An extensive diagnostic conducted in the earlier stages of the preparation of the NSDF, and captured in a 'Consolidated Research Report' (see **Section 2.2**);
- Supra-national, national and provincial development plans, policies, frameworks and overviews;
- National discourses, newspaper reports, books and book chapters, journal and magazine articles, and published and unpublished research reports; and
- Modelled spatial implications of a series of population growth and climate change scenarios.

The NDP objectives, SPLUMA principles and NSDF vision statement were used in an iterative way as lens to (1) 'read' the South African national spatial development and planning landscape, and (2) identify key national spatial development dynamics, challenges and opportunities. From this analysis, eleven 'shapers' of *national spatial settlement and development* were put together. These shapers are discussed in **Sections 3.2 to 3.12** below. In each case, the scale and extent of 'the shaper', and its implications for national space, the space economy and/or spatial governance are highlighted, and connections to other shapers

highlighted. Interspersed between the eleven shapers are a series of thematically-structured 'Info Charts' under the following themes:

- People and Places;
- Ecologies, Economies and Spaces;
- Institutions and Services; and
- Movements, Connections and Flows

These charts capture and present in visual form key information pieces and elements as referred to under the shapers. The section is concluded with a summary of the most significant national spatial development challenges and opportunities extracted from the eleven shapers.

3.2 Demographic Shifts, Dividends, Vulnerabilities and Diversity

In the next 31 years, the South African population will grow by at least another 17 million people, from around 58 million people in 2018, to around 75 million by 2050. In addition to a population that will be 30% larger than we currently have, it is anticipated that (1) it will primarily be an urban-based population, and (2) at least 30 million of the 75 million South Africans (40%) are likely to be living below the Minimum Living Level (MLL).

In terms of composition, the very youthful population of today (28% of the population is below 15 years of age) will by 2050 still be regarded as young, with more than 25% of the population below 15 years of age and 31% between 15 and 34 years of age, and in their primary childbearing years. The share of the population that will be '65 years of age and older' will also have experienced significant growth, by 2050 constituting 8% of the population, i.e. 6 million people, which is nearly double the 3.2 million people that were '65 years of age and older' in 2018. This group will

require increasingly more health and frail care and income support from households, communities and the State. This will of course open up and create a large number of job opportunities for frail and health care workers, many of which may be created in rural areas, if this is where, as anticipated, most of those above 65 years of age will choose to live.

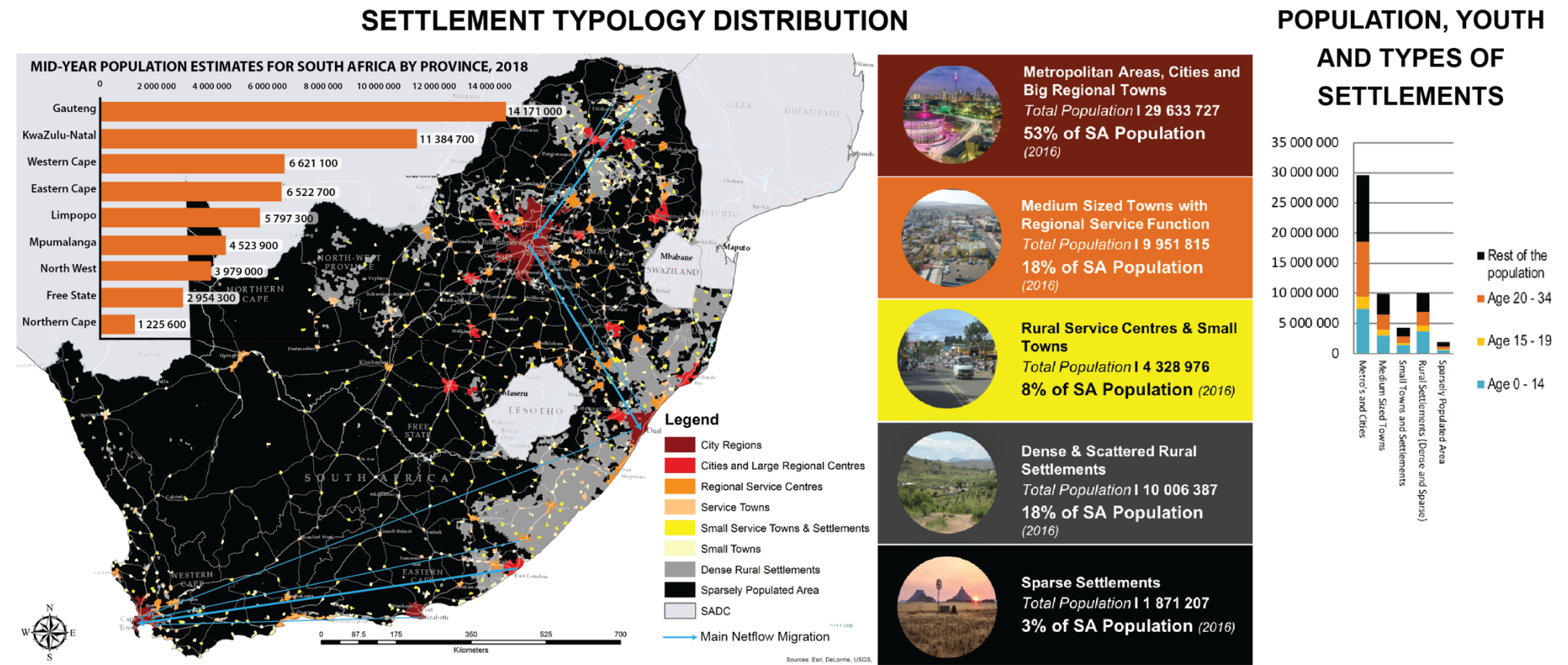
Given that the bulk of the envisaged youthful population will be living in urban areas, it will potentially present the country with a '*dynamic-triple-dividend*': (1) a large, dynamic, creative and innovative economically active population living at high densities in a few large places, constituting (2) a large, densely connected consumer market for goods and services, and (3) a far more accepting and accommodating approach to difference and diversity, which will be especially important in the large urban areas of the future. It is especially the higher densities at which our people will live, coupled with the greater need to co-produce and collaborate in such spaces, that may create and instil a different view of each other – *more accepting and more celebratory of difference, and more mindful of the contribution that different individuals and groups can bring to a challenge or problem.*

This '*dynamic-triple-dividend*' is, however, not a given, and may not materialise, in which case it could become a very volatile and destructive force. Should this young population (1) be raised in a caring environment with adequate food, love and care, (2) be well-educated and (3) be well-integrated in society, the '*full*' dividend is more likely to materialise. Should the opposite prevail, as is currently the case for large numbers of our youth growing up in deeply impoverished rural areas and townships, only parts of the dividend, or none of it at all will be realised, with severely negative consequences. As for the greater acceptance of difference and diversity, should (1) scarcity and (2) an unwillingness to sharing the little that is available prevail, this dividend will also not materialise. In such an event, our urban areas could very likely see more of the xenophobia and other forms of hatred of '*those who are seen to*

be different', and this will be to the detriment of our cities transitioning into dynamic cosmopolitan economic powerhouses.

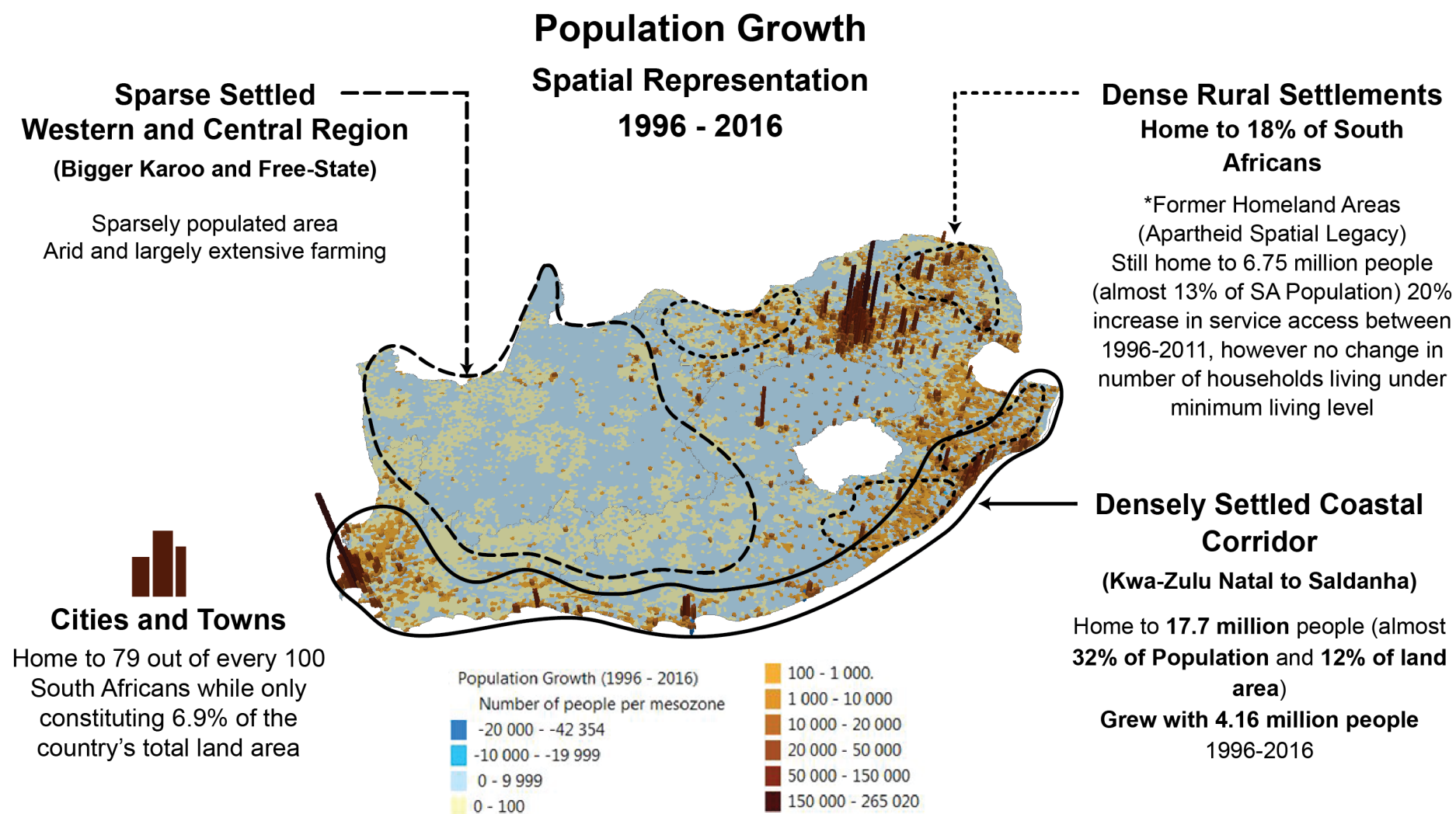
Merely hoping that the dynamic-triple-dividend will materialise by itself, especially given our historical high levels of poverty and inequality, is not a sensible strategy. To realise the '*full*' dividend will require that it be actively pursued, with the State playing a critical role in this regard. Support for nutrition programmes, housing, care and access to economic opportunities for our youth will need to be attended to. All State plans will also need to be prepared with an emphasis on youth. At the same time, those *national spatial development patterns and settlement forms* that will be better at (1) eliciting the dividend and (2) allowing it to flourish, will need to be pursued. These include (1) developing urban settlements at higher densities, (2) greater mixing of land-uses, and (3) greater accessibility to the services that successful, well-connected, dynamic urban areas offer.

Figure 6: People and Places – Population and Settlement Dynamics



Population Characteristics and Settlement Dynamics Based on StatsSA, 2011, 2018; Quantec 2016, CSIR Town Typology 2018, Vulnerability and Migration Indicators – See Annexure A

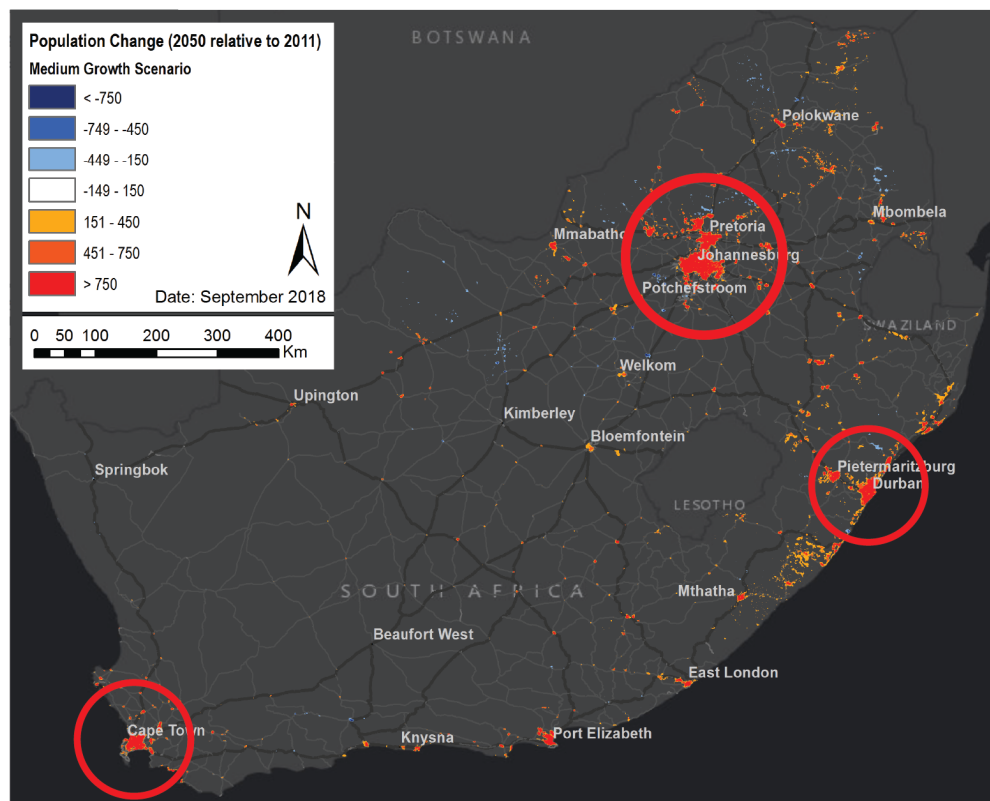
Figure 7: People and Places – Population Settlement and Growth Dynamics



Demographic change using CSIR Town Typology, 2018. See Annexure A

Figure 8: People and Places – Demographic Growth Scenarios

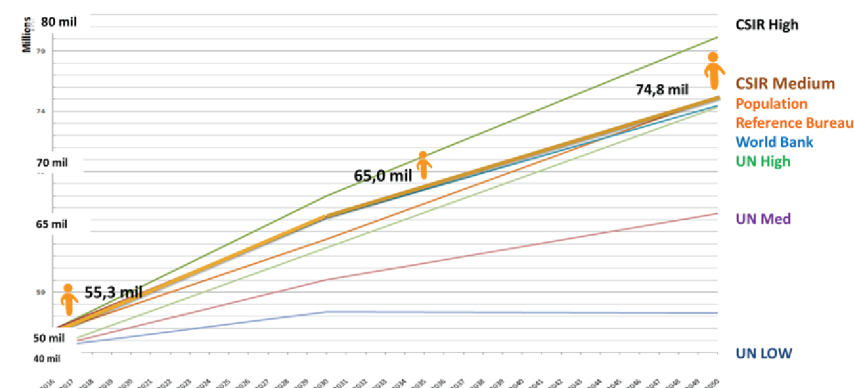
**2050 POPULATION
(MEDIUM SCENARIO - SETTLEMENT GROWTH WITH
NO INTERVENTION)**



Demographic modelling and scenarios developed through CSIR, Green Book-project, 2018, using CSIR Town Typology, 2018. See Annexure A

**Estimated Population Growth Implications
2016 and 2050:**

19 million people,
5 million dwelling units,
664 084ha of land for housing
(area equal to that of City of Tshwane)
1.04 billion m³ water for domestic use



Population growth in

Millions:

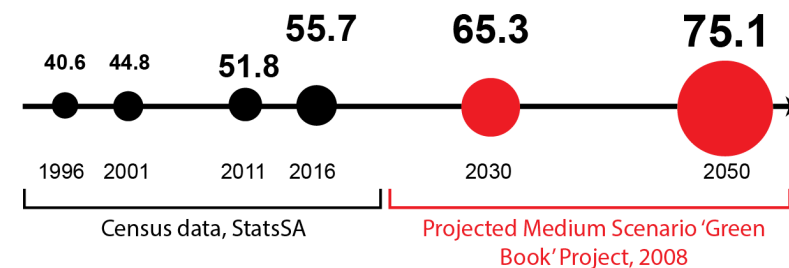
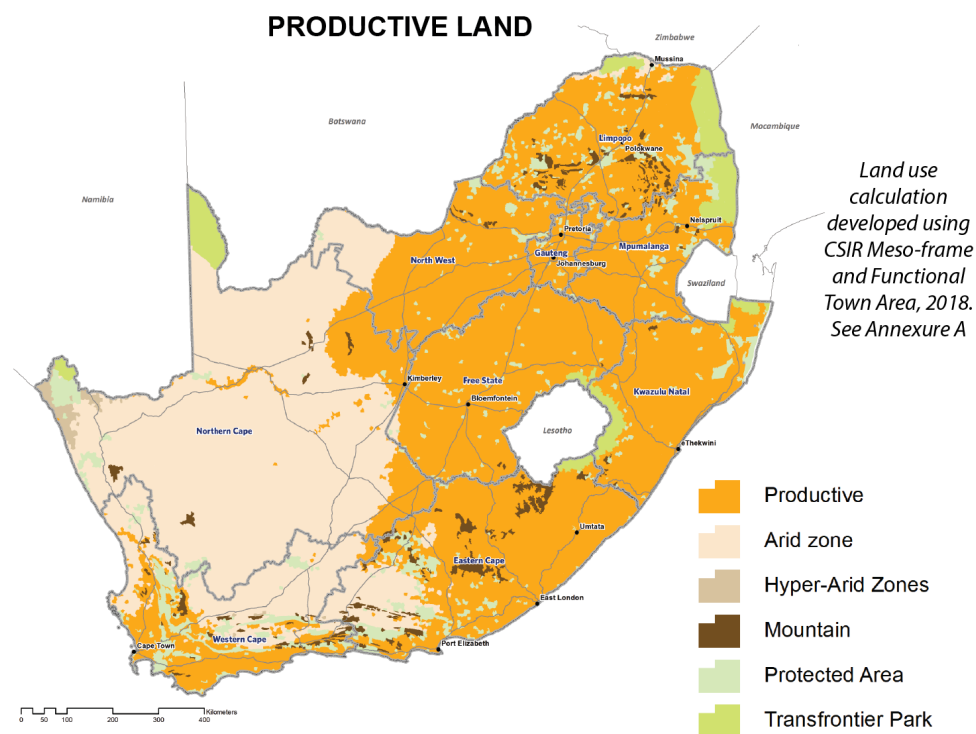


Figure 9: People and Places - National Land Use

NATIONAL LAND USE



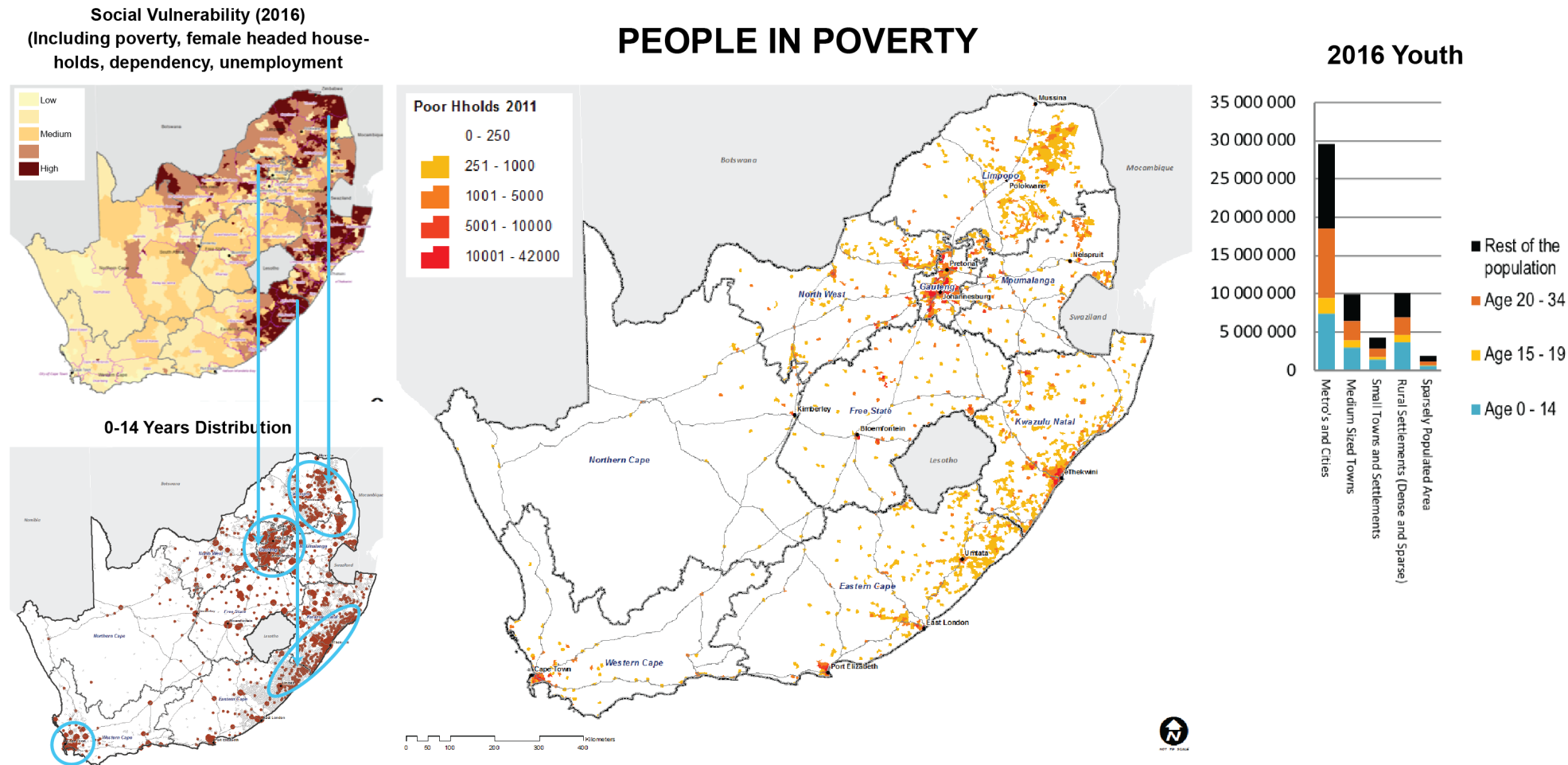
LAND USE STATISTICS

NATIONAL AREA	HA	% of SA	PEOPLE
Productive Use: Urban and Rural Settlement areas (CSIR Meso Zone, 7x7 land description, 2017) * Include High Capability Agriculture	13 451 600	11%	51 849 267
Productive use: Sparsely populated areas (CSIR Meso Zone, 7x7 land description, 2017) * Include High Capability Agriculture	51 572 400	42%	1 757 883
Arid zone (CSIR Meso Zone, 7x7 land description, 2017)	41 572 400	34%	668 702
Hyper-Arid Zones (CSIR Meso Zone, 7x7 land description, 2017)	632 900	1%	6 661
Mountains (CSIR Meso Zone, 7x7 land description, 2017)	2 556 200	2%	49 414
Protected Areas (DEA)	7 915 500	6%	829 652
Transfrontier Parks (DEA)	4 417 200	4%	630 533
TOTAL		100	

NATURAL RESOURCE FOUNDATION	HA	% of SA	PEOPLE
Stressed Catchments	15 548 697,85	12,75%	
Critical Bio-diversity Areas (SANBI, 2017)	NA	NA	NA
Strategic Water Source Production Areas (Water Research Commission Identified Areas 2017)	NA	8%	NA
*High Capability Agriculture (Mandala GIS, 2018 – Due to mapping process still being finalised by Department of Agriculture)	3 055 734	2,51%	NA

OWNERSHIP	HA	% of SA	PEOPLE
State Land (DRDLR 2017) (Includes national parks and traditional areas)	21 195 968	17,38%	NA
Traditional Leadership Areas (DRDLR, 2017)	13 989 464,37	11%	NA

Figure 10: People and Places – Population Vulnerability



Population Characteristics and Settlement Dynamics Based on StatsSA, 2011; Quantec 2016, CSIR Town Typology 2018, Vulnerability and Migration Indicators – See Annexure A

3.3 Urbanisation, the Pursuit of a Better Life and a Desire for Quality Urban Living and Spaces

Urbanisation, meaning both (1) the movement of our people from rural to urban areas, and (2) the increase in the percentage of our population living in urban areas, will continue unabatedly throughout the three decades up to 2050. According to United Nations-estimates, “... 71.3% of the South African population will live in urban areas by 2030, reaching nearly 80% by 2050.” National population projections for medium and high-growth scenarios (considering population growth as well as international migration patterns) conducted to explore future climate change scenarios, illustrate the need to plan for at least a 30% increase in population by 2050 (Source: Prof J van Tonder for CSIR/IRDC Green Book on Climate Change Adaptation). In the same vein, the CSIR's ‘Downscaled Settlement Locational Modelling-exercise’ projects that under ‘a scenario with no radical intervention’, approximately 85% of South Africa will be living in urban agglomerations by 2050.

Our three urban regions (Gauteng, Western Cape and eThekweni) will experience the largest increases in population – this being from natural growth, as well as in-migration from South Africa, SADC and further afield. Significant movement will also take place from villages and small towns to larger, better connected towns located on major transport routes where provision of better and more reliable basic services, education, healthcare and policing are and will remain important drivers of migration. However, while small towns and dense rural settlements are not expected to see a large population growth, they are also not expected to see a significant population decline in either the medium-scale or high-growth scenarios for population growth in South Africa. As such, both large urban regions and rural areas will require government focus and attention.

Given the presence of a young, educated, vocal and demanding *urban electorate* of around 65 million people, making good on the promise of

a *better life for all*, will be a major concern for government. This will especially be the case in large urban regions, where these large populations will place huge demands on already over-burdened, collapsing and ageing municipal infrastructure. At the same time, these areas will need to rapidly increase their contribution to the country's formal economic output and tax income, and become (1) the sites of ‘*spatial transformation*’ and ‘*drivers of inclusive and sustainable economic growth*’ at scale, and (2) the incubators of dynamic, creative, and innovative new economies. Municipalities will not be able to carry this burden alone and will require significant financial and technical support from (1) national and provincial government and (2) the private sector. Long-term planning for urban growth, including the identification of suitable land, land reform planning, land-use management, and the preparation of infrastructure master plans with full life-cycle costing, will be imperative.

Ways of urban life and living are also likely to undergo radical changes, with urban inhabitants increasingly (1) seeking, finding and making ways of *making a life* for themselves, and (2) becoming far more involved in *making better quality urban spaces* in what will for most be *their only home*. This ‘*drive from below*’ will be fuelled by (1) a far more active citizenry, in part driven by necessity, (2) a much smaller ‘large-sized private sector’, severely bruised by dwindling disposable household incomes and a slow-to-change capital-intensive business model unsuited to an increasingly-faster changing business environment, and (3) the scale of the challenge in relation to the State's finances and capacity to deliver services and assist in this regard. This ‘*drive from below*’ will also lead to a relaxation of bylaws and (1) far less petty and far more high-level land use regulations, enabling far greater levels of economic activity and far more organic and inclusive economic growth, (2) far greater diversity in economic activities, housing forms and tenure types, (3) far more horizontal and vertical mixing of land uses, (4) far higher settlement densities, and (5) far more vibrant city streets.

The gaps in State service provision will very likely open up opportunities for entrepreneurial endeavour, notably in the provision of housing, water, energy, health care and education. The *greater availability of urban land for settlement, through urban land reform*, will also see a rapid increase in the number of new small-scale property developers. Altogether, these new forms of urban living and urban spaces will become the new drivers of innovation, creativity and *job creation and societal transformation from below* and cement large urban areas as the most important contributors to the South African economy. This will not only be done through the collective endeavours of millions of individual actors and small and micro-sized enterprises in the economy, but also by the contribution of innovative and agile large companies competing successfully in the global economy.

An increase in cross-border trade and the rendering of personal, financial, education and health services in border-region towns, will see an increased movement by inhabitants both from South African and other African countries to such towns. Given the envisaged changes in urban areas towards places of far greater vibrancy, diversity and respect for difference, and their global connectivity, the larger urban areas will experience significant in-migration of people from primarily other African countries, but also from further afield.

In the sprawling rural areas along (1) the eastern escarpment of the country in Limpopo and Mpumalanga, and (2) the eastern KwaZulu-Natal and Eastern Cape coastal strip, the trend towards far greater densification in *nodes and along routes connecting such nodes*, will continue and result in *far more concentrated development* and the release of agricultural land for productive use in the corridors.

Smaller towns in rural areas will also experience sizeable counter-urbanisation, as growing numbers of retiring middle-income South Africans from urban areas will settle for more tranquil lives in the rural part of our country. This will, in many such settlements, facilitate (1) the construction and upgrading of houses by individuals and families for this anticipated retirement stage, as well as (2) the tailor-made development

of housing units catering for this older population in such towns, which will support the growth of a new generation of small-to-medium sized property developers in these towns. The injection of the regular pensions of these new, retired inhabitants will also (1) stimulate the local economy, by creating a new market for local produce and personal and social services, notably the provision of health and frail care services, and (2) provide valuable and stable municipal rates and tax incomes. This move to rural South Africa will also be strengthened and facilitated in many villages and smaller towns by the rapid release of land in such towns through the *national land reform programme*.

Quality urban living in both urban and rural areas will require just and sustainable access to social services. The provision of such services (1) requires investment in 'social infrastructure', i.e. *'high-quality facilities that are well-equipped, maintained and operated, and staffed to the correct level by well-trained personnel who provide a range of critical social services to the community'*, and (2) include the full spectrum of health and education services, citizen registration, welfare support, cultural and sport and recreational facilities. While no comprehensive overview of backlogs in the provision of these services is available at national level, local case-studies show critical shortages and grossly inadequate service delivery in both rural and urban areas. These include (1) poor maintenance of buildings, (2) a shortage of equipment, and (3) critical staff shortages, especially with respect to well-trained and dedicated staff. The projected national population increase to 75 million people by 2050, however, not only means expanded requirements for social facility investment and operation, but also (1) *presents an opportunity for meaningful employment in rural towns*, and (2) if properly planned and provided, can act as a highly effective and sustainable economic multiplier. The importance of spatial planning to guide targeted social infrastructure investment can, however, not be over-emphasised – *establishing a sound spatial-location-logic that optimises human capital development with economic impact is imperative to address inequality and ensure inter-generational justice*.

3.4 Ruralisation and the Need for Decisive and Sustainable Rural Development and Agrarian Reform

Currently more than 17 million of our people are estimated to live within rural settlements across dense and sparsely populated regions – mainly in the former Bantustans. Most of these people live in conditions of severe poverty and vulnerability. Research on these conditions shows that ‘... *the deprivation gap between those living in the former homelands and the rest of the country has not narrowed in the period between 2001 and 2011*’, meaning that well-intended investment and rural development initiatives for over a decade or more have not significantly changed this picture of relative deprivation in the former Bantustans (Wright and Noble 2012 & 2014; Makgetla 2010).

However, after (1) hundreds of years of colonial and Apartheid oppression, exploitation, disregard and calculated under-investment, (2) followed by decades of uncoordinated and fragmented investment by successive post-Apartheid governments in rural South Africa, these areas are finally getting the recognition, respect and focused ‘development attention’ they deserve and have been promised since 1994. This trend towards *taking rural areas seriously* is set to continue and become stronger over the next three decades, as rural areas become recognised as parts of our country that are (1) areas of national significance for surface water and food production and the provision of key national ecosystem services, (2) still home to millions of South Africans, many of them highly vulnerable and isolated from the broader national economy, (3) places of retreat, rest and connection with nature and cultural practices, far away from fast-paced urban lives, and (4) sought-after domestic and international tourism and retirement destinations. In terms of State action, focused rural development is set to find expression in (1) targeted agrarian reform, (2) tenure reform, (3) the development of agri-

processing and logistic support-hubs, (4) diversification of the local economy, (5) small-town redevelopment and regeneration in accessible locations, (6) public works-led job creation programmes and the roll-out of core government social and municipal services, and (7) the provision of grant support with the building and upgrading of housing, specifically in identified *regional anchors* and *rural service towns*.

Of crucial importance to the realisation of the desired rural development objectives, is *rural land reform*, which will release vast amounts of under-utilised commercial agricultural and State-owned land for use by new entrants to the farming sector, and give the resurgence and upliftment of rural areas a huge impetus. The *new rural economy* will, however, necessitate the development of a very different local economy in those towns built up over generations and sustained by a model of either large-scale commercial agriculture or subsistence agriculture. New agriculture support entities, cooperatives, equipment, fertilizer, market support, funding and research will need to be introduced in towns in rural areas to support a new type of farmer. Municipalities, who will have to ensure new and appropriate land management in such areas, may also be expected and/or called upon to assist new role-players in the local economy with establishing new agricultural and non-agricultural-related economic activities. In this, they will require very specific support from the national and provincial sector departments responsible for agriculture and rural development, who will themselves also have to take on new roles in the light of *the new dawn in rural South Africa*.

Rural communities will increasingly also demand better levels and higher speeds of connectivity, both by road and rail, and by broadband. At the same time, demands will be placed on government for the provision of quality social, education, health and police services, placing significant pressure on what will, for at least the next decade, be a severely constrained fiscus. As alluded to earlier, it is imperative that such services be provided in *such places* and in *such a manner* that they (1) have the

greatest impact, and (2) are able to service the greatest number of inhabitants. In deciding on sites/locations and service-mixes, the focus should be on serving (1) the youth, and (2) those inhabitants who will elect to retire in rural areas, and who will spend significant amounts of money during their working lives on building and/or maintaining their retirement homes.

3.5 Natural Resource Limitations, a Move Away from Ecosystem Destruction, Pollution and a National Water Security Crisis

Over the last few years, the majority of ordinary South Africans citizens were rudely awakened to the reality that South Africa is a water-scarce country, and not one merely struck or frustrated by occasional droughts. While we have for many years been able to transfer water between catchments with a surplus to areas with a deficit, and maintained the myth of water-abundance, the reality is that the model has run its course and that we no longer have sufficient water left in the system to redistribute if we continue to use water as we did in the past. We will have to employ technology to (1) supplement our water supply, (2) reduce our use, and (3) better manage and distribute piped water.

Should we, however, choose to continue along the economic trajectory that disregards our natural base, and continues to incur huge damage to our natural resources, we will in the very near future become even more aware of, and be confronted with the following realities: (1) dwindling water security and availability, wetland destruction, severely disrupted water catchments and over-utilised and polluted groundwater sources, especially in our mining and commercial agricultural productions areas, (2) highly contaminated and toxic waterbodies and waterways, (3) toxic levels of air pollution through highly noxious industrial activities and the generation of energy through coal-fired power stations,

(4) the loss of the very small extent of high-value agricultural land we once had, (5) irreparably damaged ecosystems and loss of the services they provide for all forms of life, and (6) a long and rapidly growing list of extinct species. Furthermore, we will be confronted with the reality that our continued pollution of rivers and streams, soil, air and the oceans around us, is not compatible with our plans to (1) grow our tourism sector, (2) expand our agricultural and agro-processing activities, and (3) make far greater use of the oceans economy. As a country, we will be asked to make hard choices, such as between (1) an environment that sustains us and is not harmful to our lives, and (2) the economic activities and national income that comes from exporting and burning dirty carbons, like coal, and irresponsible and wasteful resource use.

Turning away from this looming ecological disaster will require that trade-offs be made at the *national level* between (1) noxious and polluting economic activities, and (2) ecosystem health and integrity. At the same time, water demand management and the behavioural changes and enforcement protocols that emanate from this, will need to be introduced, policed and enforced at *municipal level*. Irreplaceable natural resources of national significance, irrespective of where they are located, will need to be acknowledged, demarcated and treated as such, so that they can contribute to the well-being of all citizens. Municipalities will have to focus far stronger in their land use management functions on protecting such areas and promote compatible and productive uses that contribute to environmental management and restoration goals.

Likewise, sustainable land development and intergenerational spatial justice will require effective land administration and management, civil society custodianship and strong and efficient governance. This will only be possible if (1) municipal land use management systems are in place, and (2) municipalities are staffed with competent, dedicated and caring town planning officials and councillors, who cannot be corrupted and

who have the will to act. In addition to this, rehabilitation of degraded land in stressed and degraded catchments (including former mining areas) will need to be done. Mining companies must be held accountable to clean up what they polluted, and regulations in this regard effectively enforced. Mediation of the fall-out in terms of jobs tied to polluting mining and industrial activities that are distractive of the ecosystem will have to be done, and job creation in ecologically less-damaging sectors (1) planned for well in advance of mine closures, and (2) actively provided for.

3.6 Climate Change Implications, Regional Adaptation and Mitigation

Climate change is set to have far-reaching impacts on our country, notably with regards to temperature and rainfall patterns. Temperatures are set to increase by between 1 and 4 degrees Celsius between now and 2050, in primarily the western and north-western parts of the country, while the number of very warm days is set to increase in an equally wide band across the country. Rainfall is set to decrease in a large stretch of the south-western, western and north-western parts of the country, while rainfall is set to increase, but also become more erratic in the central and south-eastern part of the country. These climatic changes will not only have severely detrimental impacts on the highly productive agricultural activities in the western and north-western parts of the country. The towns in these areas, of which most rely heavily on these agricultural economies, will be equally hard-hit, and their residents required to make far less use of water for domestic and economic consumption to keep the agricultural activities going.

Climate change impacts will also render significant parts of the country increasingly hostile to human, animal and plant life, and hard to live in. In addition to this, the likelihood of more veldfires is set to increase,

especially so in vast and remote rural areas where municipal services are already thinly spread and the State's capacity to deal with such disasters is generally weak. While some of the central and eastern parts of the country may experience more rain, the equally greater degree of uncertainty and intensity of the precipitation will not be conducive to traditional conventional agriculture. Sudden downpours may lead to (1) a greater loss of top soil, and silting up of dams and water canals, and (2) the destruction of rural roads and infrastructure. In urban areas, such sudden and severe downpours could lead to flash-flooding, loss of life and destruction of municipal infrastructure, buildings and property, especially so in cases where these are not well-maintained. In many of our urban areas, it is especially the poor, vulnerable and marginalised inhabitants who live in poor housing that is not well located, and who are generally not insured, that will disproportionately suffer the impacts of such disasters.

In terms of *national land use and settlement patterns*, climate change begs serious questions with regards to future human settlement in national space, such as: How will climatic change impact regional development patterns in terms of temperature, liveability, water, food security and the adaptation to viable agricultural practices and commodities? What kind of impacts can be expected in settlements and where should new cities be built, and with what population-size in mind? What are the disaster-risk reduction interventions, coping capacity and national resource implications, e.g. drought relief, that are required in areas that are set to experience significant and intolerable changes in climate: Should high-risk settlement development for instance be curbed, will government be able to provide support for the most vulnerable and if so, of what kind and at what cost? Furthermore, what kind of activities and settlement patterns should be allowed in such areas, and should new settlement development in these areas be discouraged, or concentrated in alternative, carefully selected suitable locations? Questions around regional adaptation includes consideration

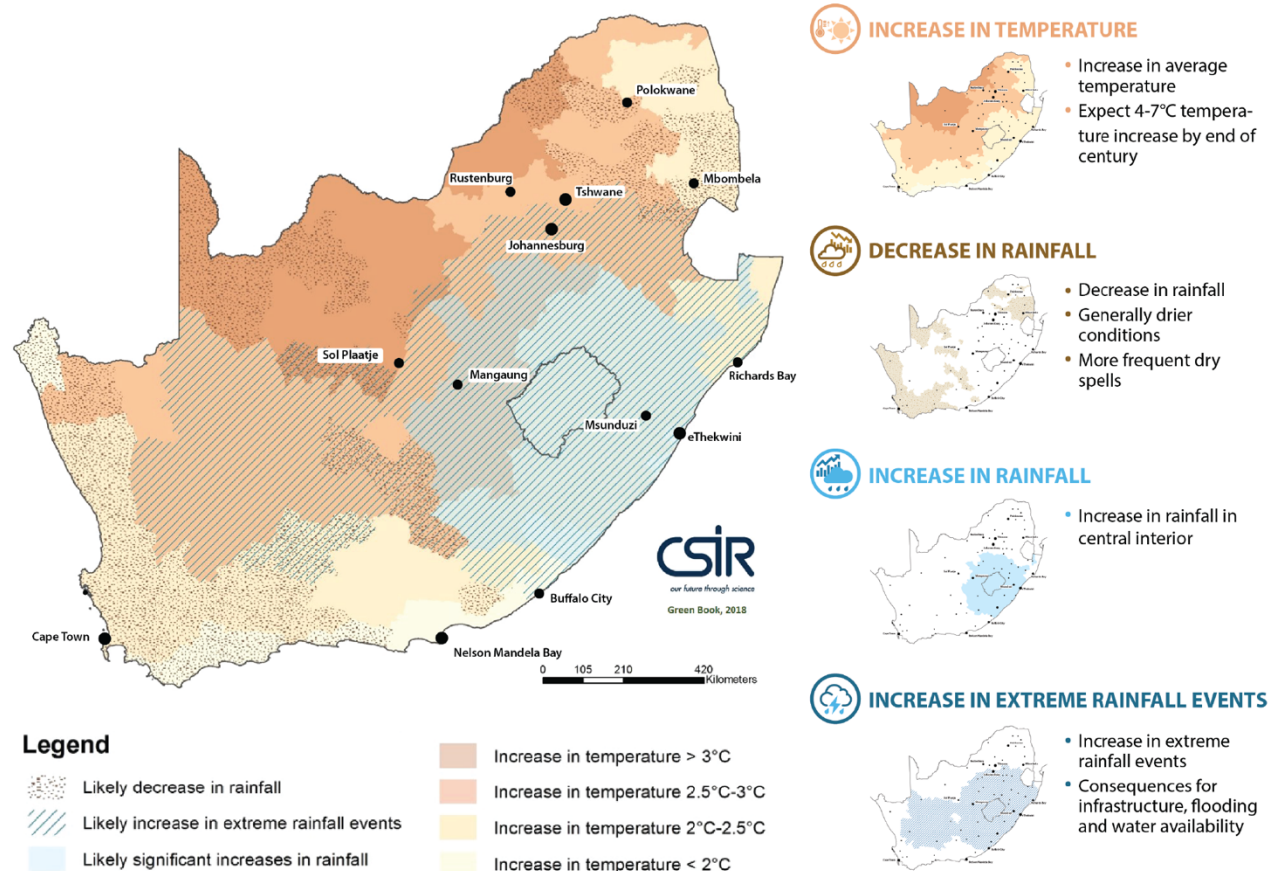
whether directing or discouraging urban and settlement in certain regions is constitutional, and if so, what kind of method or measure to regulate settlement in such areas would be used?

The higher levels of discomfort in the interior of the western and north-western parts of the country may also trigger migration from these parts to areas with better climates, notably the eastern interior and south-eastern coastal belt. The eastern coastal belt and eastern escarpment is, however, the part of the country (1) most suitable for food production and surface water-capture, and (2) in which traditional land tenure systems currently prevail. These are also areas in which the dreaded land-related legislation of the colonial and Apartheid eras have left deep scars, both on *the people*, and *space*, in the form of limited access to land, over-grazing and erosion. Given the urgency of the matter from a *national perspective*, and the challenges that will be encountered, it is of crucial importance that '*a national spatial climate-mitigation plan*' be prepared, with (1) full participation of all role-players involved, and (2) a strong spatial planning and ecosystems and land-use management component.

In addition to this, climate change is also set to have severely negative impacts in terms of temperature increases and lower rainfall figures in countries to the north of South Africa, and up into central Africa. These changes could potentially lead to large-scale in-migration of 'environmental refugees' from such countries to amongst others, South Africa. Thus, South Africa will both (1) need to be prepared, and (2) our national space be planned with such a possibility in mind, to avoid the kind of antagonism and open hostility that refugees from Africa, the Middle East and Asia are increasingly experiencing in parts of Europe.

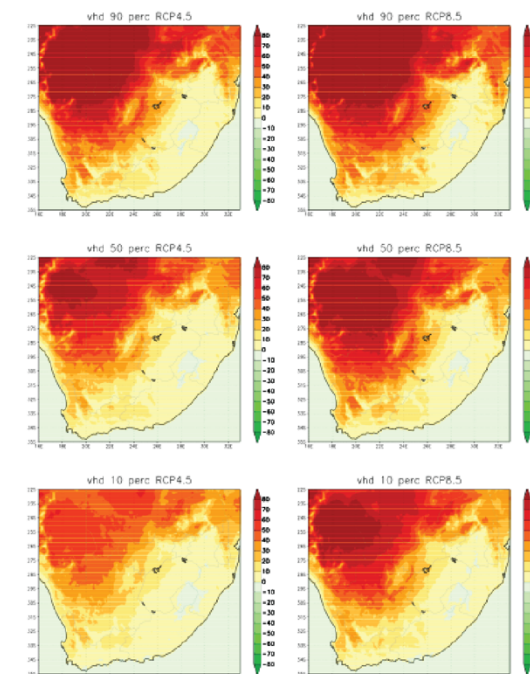
Figure 11: Ecologies, Economies and Spaces – Climate Change and Projected Regional Implications

CLIMATE CHANGE AND PROJECTED REGIONAL IMPLICATIONS



Climate Change Modelling and scenarios developed through CSIR, Green Book-project, 2018. See Annexure A

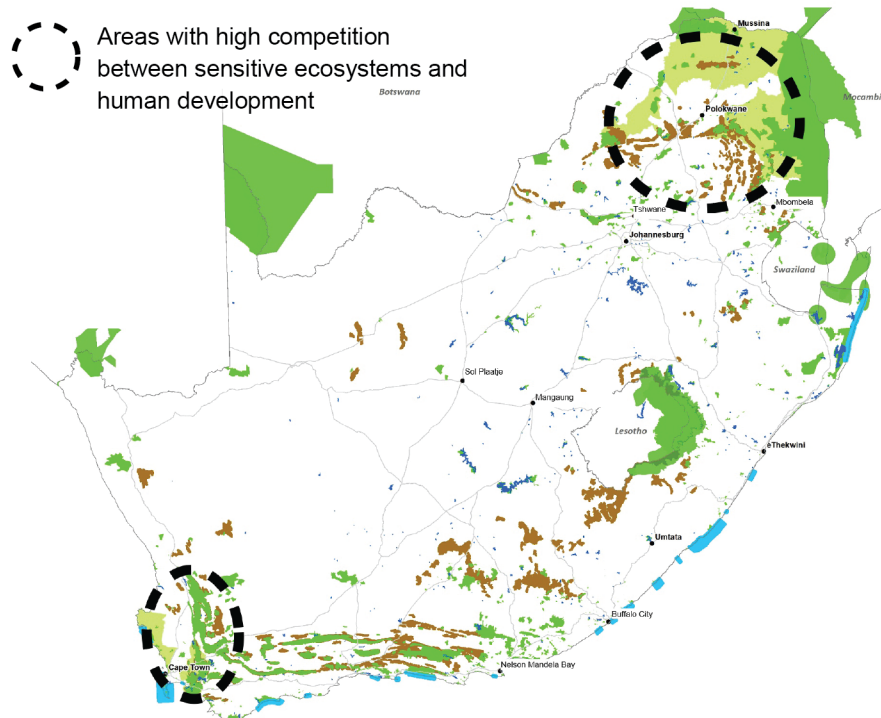
For the period 2021-2050 relative to 1961-1990, under low mitigation, very hot days are projected to increase with as many as 40-60 days per year in the Limpopo river valley, and 70 days per year in parts of the Northern Cape, North-West, Orange River Valley



CCAM projected change in the annual average number of very hot days (units are days per grid point per year) over South Africa at 8 km resolution, for the time-slab 2021-2050 relative to 1961-1990. The 10th, 50th and 90th percentiles are shown for the ensemble of downscalings of six GCM projections under RCP4.5 (left) and RCP8.5 (right) (CSIR, 2018a).

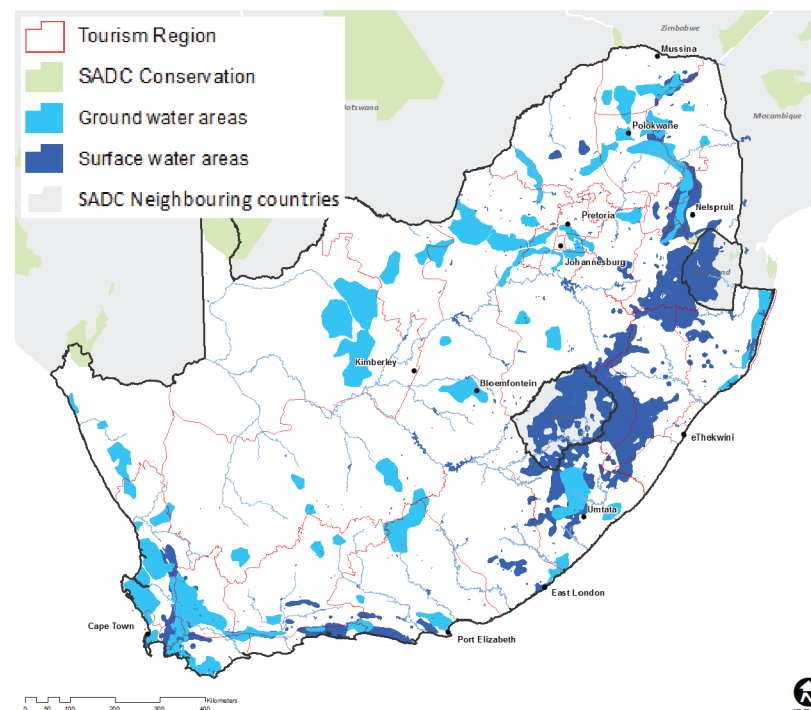
Figure 12: Ecologies, Economies and Spaces – National Ecological Infrastructure

PROTECTED AREAS



- | | |
|---|--|
| Biosphere reserves | Trans-Frontier parks |
| Terrestrial protected areas | Mountainous areas |
| Marine protected areas | Water Bodies |

STRATEGIC WATER SOURCE PRODUCTION AREAS



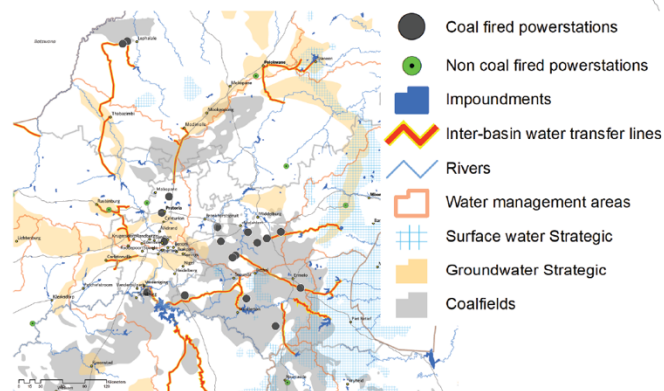
- **8% of Land Area**
- **50% of national water supply**
- **Supports 51% of the population and 61% of the economy**

Figure 13: Ecologies, Economies and Spaces – Ecological Infrastructure, Interdependence and Threats

WATER SECURITY: SPATIAL INTERDEPENDENCIES

Ecological Risks for Water Security if not restored

- **1 Greater uMngeni region** (KZN) (water supply for Ethekwini, intensive agriculture, expanding settlements.)
- **2 Waterberg region** (Limpopo) (mining, water and future expansion driven as national priority)
- **3 Breede and Berg River** (water supply for Cape Town, intensive agriculture, city growth, Increasing Droughts)
- **4 Olifants WMA** (Mpumalanga & Limpopo) (big irrigation scheme, major water quality issues, mining pressure)



RELIANCE ON WATER

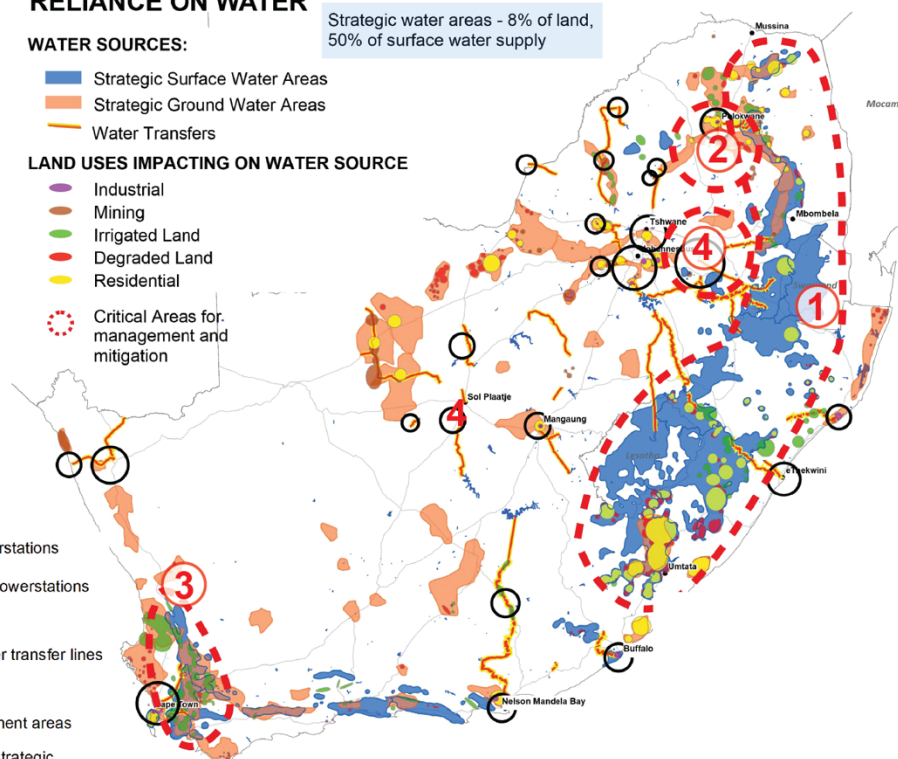
WATER SOURCES:

- Strategic Surface Water Areas
- Strategic Ground Water Areas
- Water Transfers

LAND USES IMPACTING ON WATER SOURCE

- Industrial
- Mining
- Irrigated Land
- Degraded Land
- Residential
- Critical Areas for management and mitigation

Strategic water areas - 8% of land, 50% of surface water supply



INTERDEPENDENCIES:
Cities and towns relying on water transfers, many from already stressed catchments, support 61% of economy and 51% of population

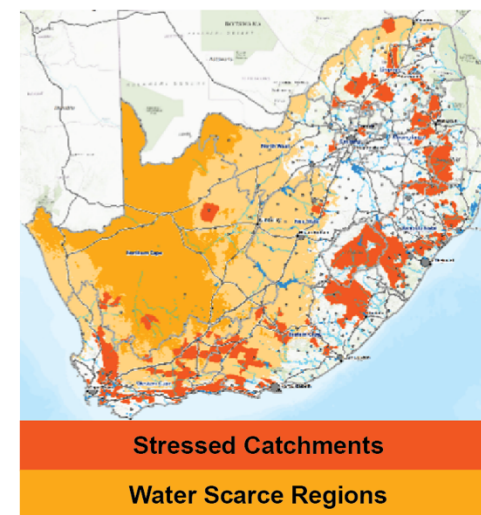
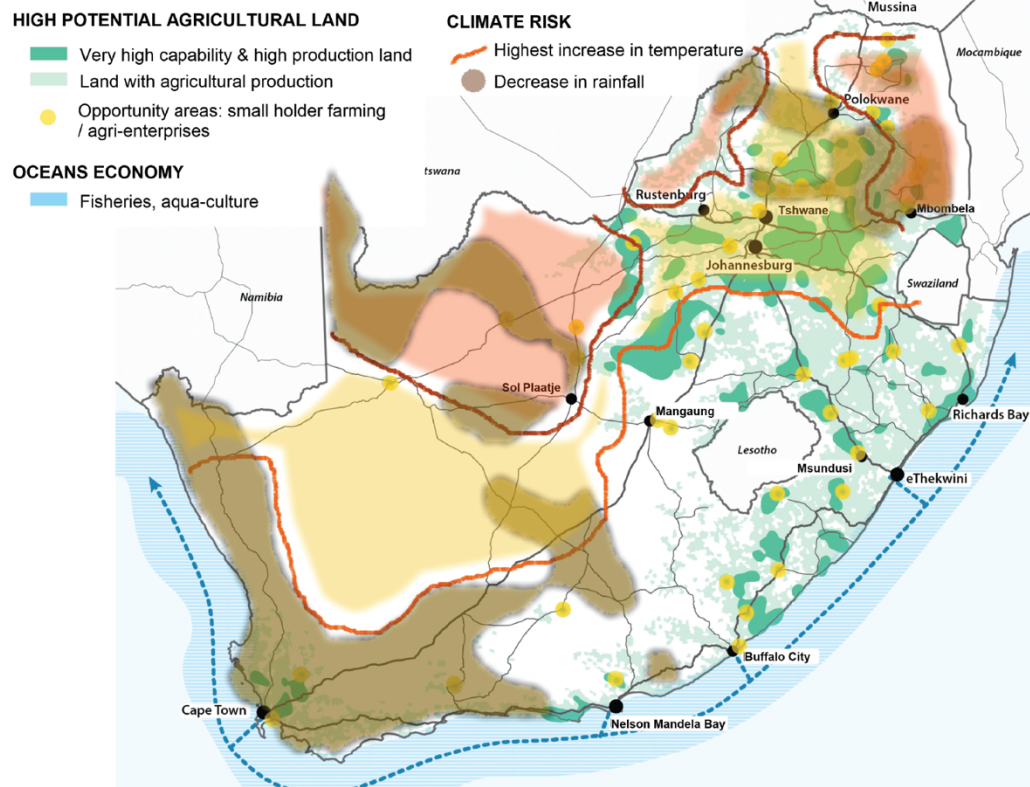
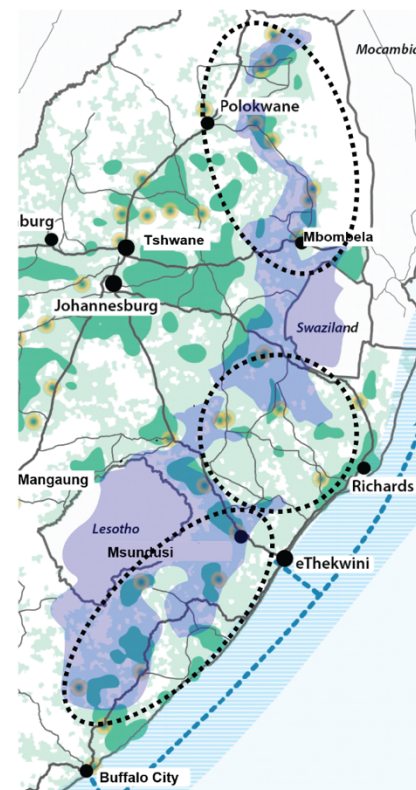


Figure 14: Ecologies, Economies and Spaces – Supporting Ecological Infrastructure

FOOD SECURITY: SPATIAL INTERDEPENDENCIES



CRITICAL ROLE OF DENSE RURAL

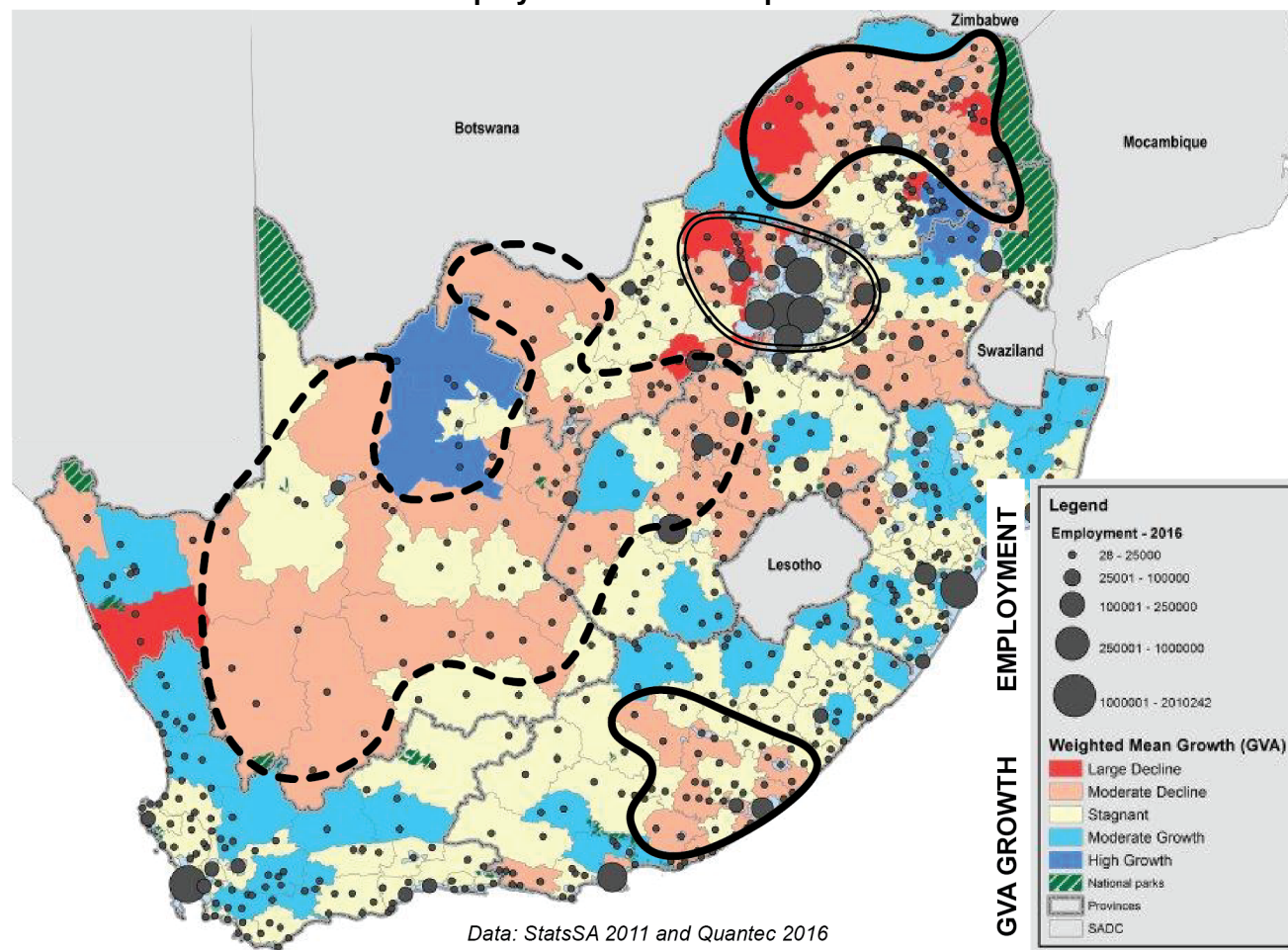


The development of these dense rural areas in a sensitive manner, including better land use management and addressing unresolved issues of land tenure, is a priority. Consideration will have to be given to the establishment of a more concentrated land use pattern, with more consolidated land being available for small scale and high-intensity commercial agriculture.

At the same time, the economic opportunities inherent in the productive capacity of the area, should not be negated.

Figure 15: Ecologies, Economies and Spaces – Regional Economic Trends

REGIONAL ECONOMIC GROWTH AND EMPLOYMENT
LM Economic Growth Compared against National Average (2001 - 2016)
Employment Calculated per Town



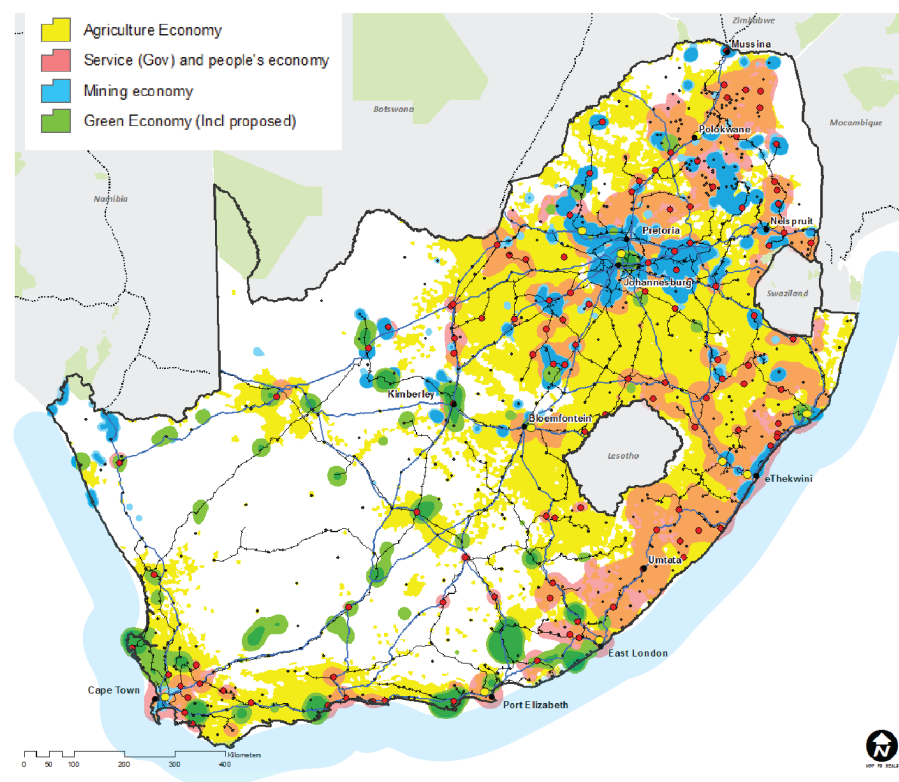
SIGNIFICANT REGIONAL ECONOMIC TRENDS

- The mining dependent economies in the area of slow growth and absolute decline around the Gauteng City Region. Mining production in the area around the metro's declined from 7% of the national Mining output in 1996 to 3.86% in 2016. Unemployment increasing whilst region will continue to face population growth.
- The Biggerr Karoo Region, where temperature increases and water security create increasing risks for large number of vulnerable local economies.
- Densely settled areas where employment vulnerability is very high and where population growth exceeds economic growth.
- Large and growing urban regions with stagnant economies and low employment growth

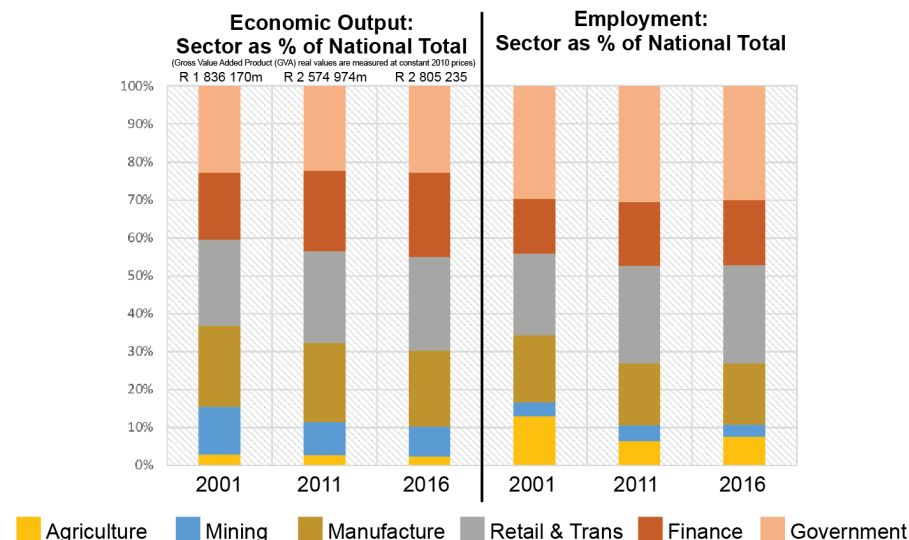
Figure 16: Ecologies, Economies and Space – National Economic Production and Employment Trends

SPATIAL REPRESENTATION OF ECONOMIC PRODUCTION IN SA (2016)

Nodal Agglomeration (Largely Retail and Trade, Finance, Government Services) and Manufacturing Related Sectors) and Rural Resource Economies (Agriculture, Mining, Energy production, Oceans)



NATIONAL ECONOMIC OUTPUT AND EMPLOYMENT TRENDS (INCREASINGLY NODAL)



IDENTIFIED COMPARATIVE ADVANTAGE FOR EXPORTS: FUTURE FOCUS AREAS (INCREASINGLY NODAL AND DISTRIBUTED)

- Agriculture and forestry; agro-processing; organics and natural ingredients; biotechnology; fertilizer and pesticides; aquaculture; leather and leather products;
- Mining and beneficiation, including capital equipment
- Petrochemicals; transport and storage; machinery and equipment; and energy; Automotive; petrochemicals and biofuels; clothing and textiles;
- Financial and business services; Pharmaceuticals; Information communication and technology (ICT)

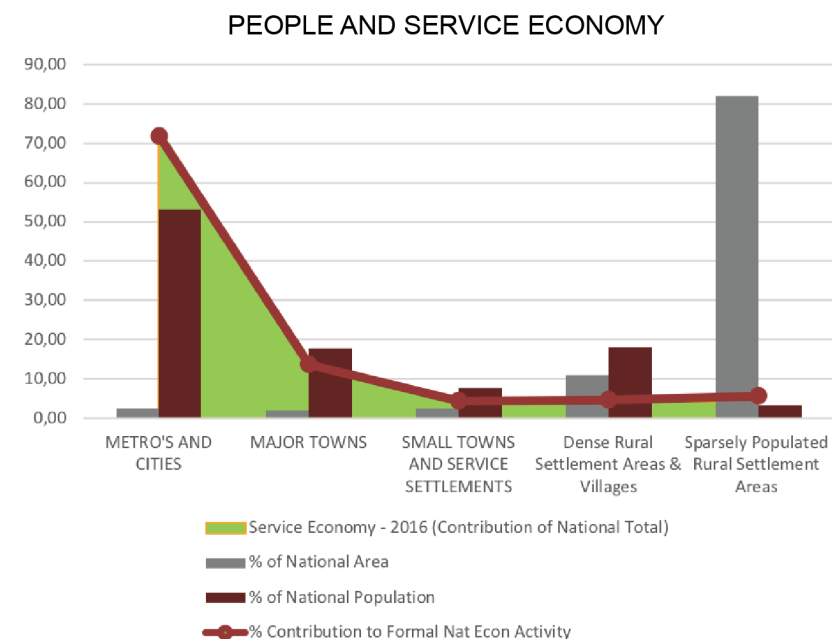
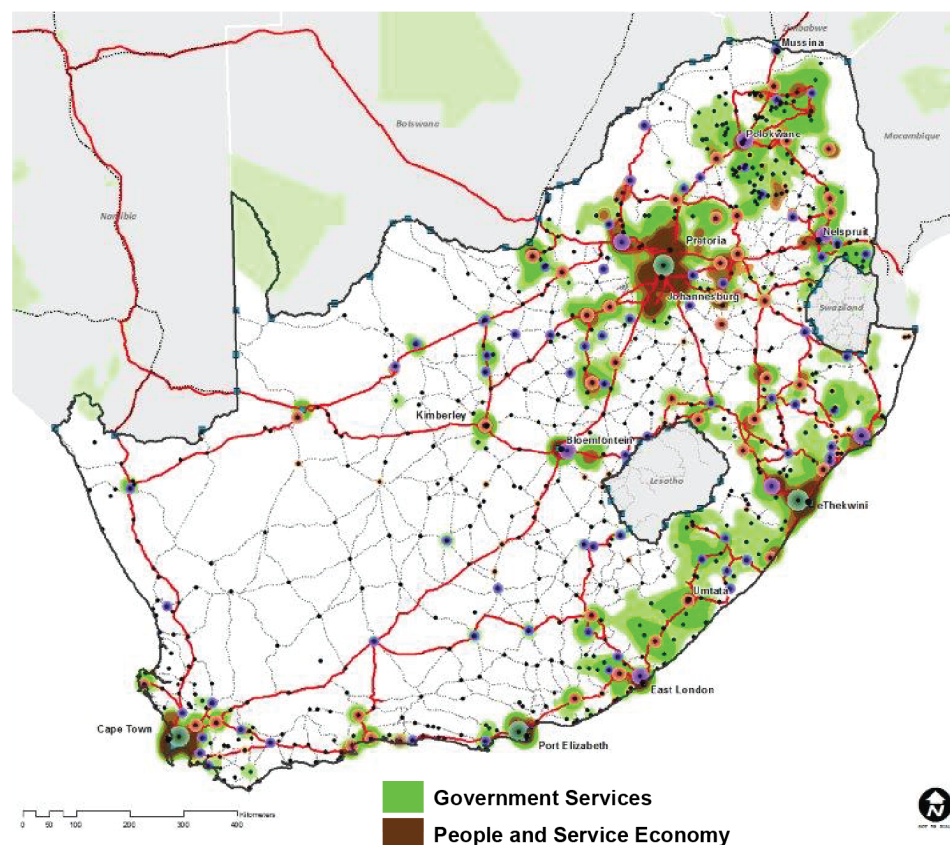
NATIONAL SIGNIFICANCE OF SERVICE SECTOR (LARGELY NODAL)

- Government & service sectors expected to continue to play in future

Data: StatsSA 2011 and Quantec 2016. Spatial indicators based on CSIR Mesozone 2017, See Annexure A. Integrated National Export Strategy (INES): "Export 2030". the dti.

Figure 17: Ecologies, Economies and Spaces – People and Agglomeration Economies in Polycentric Network of Cities and Towns

PEOPLE AND SERVICE ECONOMY

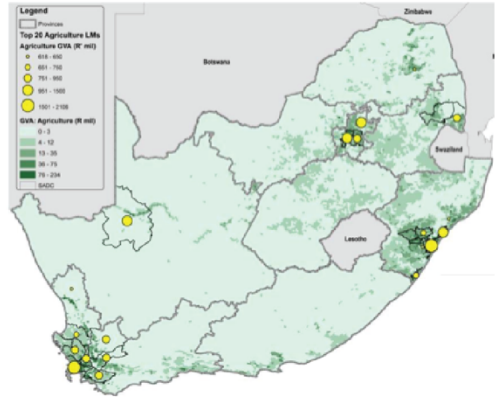


Large towns, cities & metro's are the productive heartland of the SA Formal Economy - Contributing to almost 72% of Formal National Economic Output (GVA) and 66% of all formal employment

Data: StatsSA 2011 and Quantec 2016. Spatial indicators based on CSIR Mesozone 2017, Functional Town Area, 2018. See Annexure A.

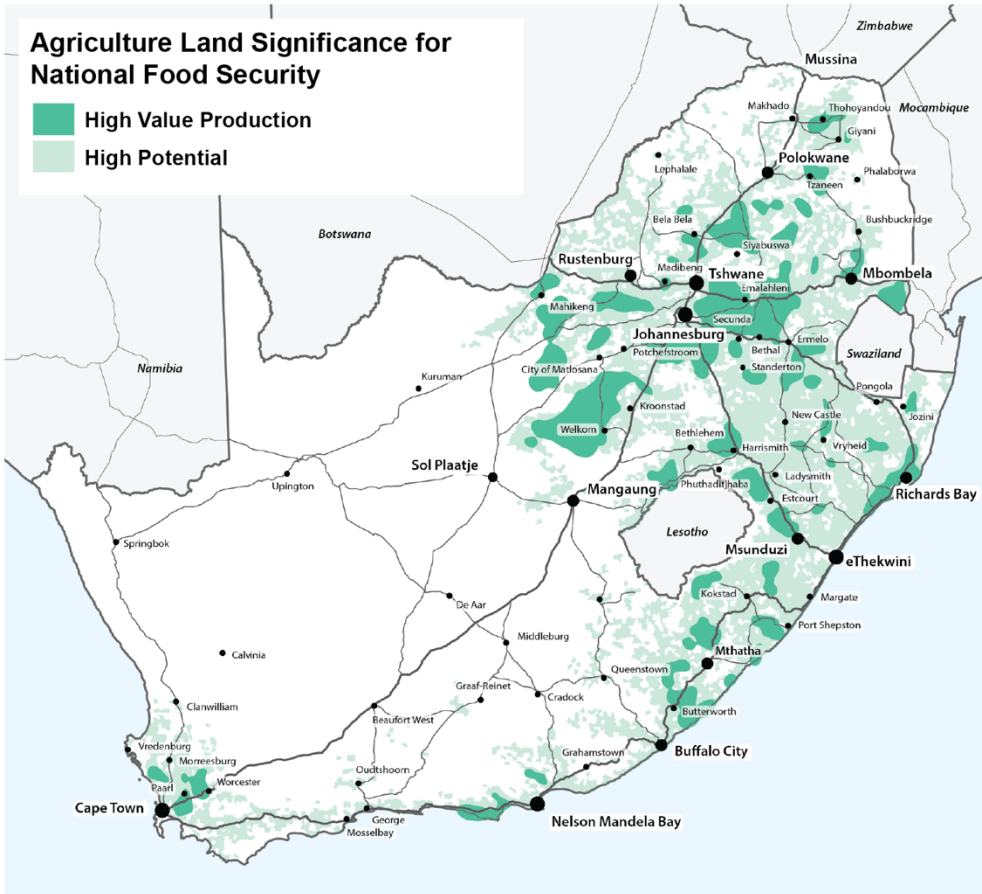
Figure 18: Ecologies, Economies and Spaces – Agricultural Resource Economy and Food Production

Agriculture as Significant Contributor to National Economies & Sector Employment



20 Top Agriculture Production Areas:
36% of National Agricultural Output,
30% Employment in Sector 2016

Agriculture as Significant Contributor to Local Economies and Employment



Identified areas of high and moderate land capability, high potential for agri-resource enterprise development - Considering a) crop fields from the National Department of Agriculture as well as b) land capability Updated by National Department of Agriculture.
Data: StatsSA 2011, 2016 and Quantec 2016. Spatial indicators based on CSIR Mesozone 2017, See Annexure A.

3.7 Land Reform

Irrespective of the final wording of the amendment to Section 25 of the Constitution specifying the conditions in terms of which the State may expropriate land without compensation, land reform will see a rapid expansion from its current form and its performance to date, both in urban and rural South Africa. In accordance with the intention to address colonial land and livelihood dispossession and injustice, Black South Africans will either get (1) secure tenure and land use rights, or (2) full title to land, and the grossly unbalanced land ownership profile, by which the bulk of commercial agricultural land in the country is held by White South Africans, will be radically reversed. As such, land reform is set to have a huge impact on (1) national land-use and land-ownership patterns, (2) national settlement development, and (3) the national space economy.

In *urban areas*, land reform is sure to involve the identification of '*suitable land for making a life, and quality urban life and living*', i.e. land that could (1) ensure infill development, (2) bring about greater social and economic inclusion, (3) unleash new economic opportunities, and (4) enable a far greater segment of the South African population to own and lease property, and have access to the amenities and qualities of urban living. In addition to this, the provision of land for economic activities and property development in urban areas to Black South Africans previously excluded from such opportunities, will also assist in bringing far more new and emerging actors into the economy, and assist in breaking the back of the deeply monopolistic, concentrated and elite-controlled nature of the South African economy. At the same time, urban land reform may assist in making available sites for (1) unleashing new opportunities in under-valued economies in our urban areas, such as the optimisation of the cultural industries, entertainment, food preparation, and service and small-scale manufacturing and repair activities, and (2) facilitating the functional integration of urban South Africa into a functional national economic innovation, inclusion and transformation

system. This will, however, require of municipalities to gather the necessary information and keep up-to-date records of all land parcels in their areas of jurisdiction that are (1) strategically located with regards to urban economies, (2) underutilised, (3) vacant, and/or (4) kept for speculative purposes only. It would also require decisive action and the limiting of time-lags between land acquisition, release, development and utilisation.

In *rural areas*, information such as land ownership, the condition of the land and soils, the carrying capacity of the land, the availability of water on the land, accessibility, the quality of fences and roads, and anticipated exposure to climate change, would be important considerations. As in urban areas, limiting the time lag between land acquisition and utilisation will be of the essence. Care would also need to be taken to mediate the impacts of changes in rural economies, notably in small towns built up on the back of, and reliant on (1) large-scale commercial agriculture and large farmers, and (2) their related market, financial and personal services, daily supplies, education, health care and fertilizer needs. At the same time, engagement will need to take place on the matter of tenure in communal land areas, and the utilisation and sharing of such land in the 'sweet spot' of our country for food production, surface water capture and provision of key ecosystem services.

3.8 Dependency on Natural Resource Extraction and Related Economic Activities

Currently, our national economy is heavily natural resource-extraction based, with mining and coal-based energy generation key contributors to our national GVA. The NDP supports a move away from coal-based energy generation in line with international trends and climate protocols. Long-term spatial and infrastructure planning must be cognisant of this move, and a collectively and carefully planned, well-communicated

and stakeholder-sensitive transition – including the social, spatial and economic mitigation of the significant impacts of the move – be undertaken.

While currently still of enormous importance, mining is set to shrink in terms of its contribution to the national economy, and undergo a radical change in terms of employment levels in the light of automation and possible disruptions in the demand for certain commodities, such as coal and platinum. The move away from platinum is tied to (1) an increased search for and use of cheaper alternatives, (2) far more recycling of the metal, and (3) most importantly, the global move away from diesel cars, of which most use platinum in their catalytic converters. While the use of platinum in the hydrogen fuel cell-industry may hold out some hope, there is a very real likelihood of the platinum mining industry seeing serious shrinkage in the not too distant future. Should this happen, it would hit our economy very hard in at least three ways: (1) a much smaller demand for platinum, which could lead to platinum mine closure and job losses, (2) a greatly reduced demand for diesel-powered vehicles, which could hurt our local car manufacturing industry severely, and (3) a greater demand for electric cars in which we have not invested as a country, coupled with a focus in new mining exploration-activities on metals required for electrical cars, which we are not world leaders in.

Areas where the coal and platinum mining sectors form the backbone of the local economy, especially insofar as local employment is concerned, will have to be supported to transition towards more diversified, sustainable economies. In cases where (1) climate change and (2) lack of or highly limited opportunities mean that there are no viable economic alternatives to mining, resettlement to places with viable, sustainable economies will need to be planned and facilitated with the utmost degree of circumspection.

3.9 Technology, Innovation, Resilience and Disruptions in the Space Economy

While this is a fertile field for speculation, there is far less clarity as to what this shaper will entail and how it will play out in countries, cities and rural areas throughout the world. What is increasingly clear is that (1) *communication* will become faster, more affordable and more accessible to all, (2) *urban areas*, notably large urban areas, with their potential for human-to-human service-based economies, dense institutional networks and higher education, innovation and research centres and institutes, will remain and become even more significant players in this/the new economy, (3) *automation, robotics, and machine learning* is upon us, and will cause major disruptions in the world of work and will leave very few occupations unaffected, with some areas of work, such as dangerous and physically draining work in the mining industry at least being a thing of the past, and (4) those who *have higher levels of education* are more likely to manage and survive the transitions than those with only rudimentary levels.

With regards to national spatial development, South Africa should see (1) the roll-out of lightning-fast broadband access throughout the country within less than a decade, (2) the advent of highly automated mining activities with far fewer on-site jobs, which can be sustained by “*fly-in-fly-out*” modes of operation, and hence not require the establishment of ‘mining towns’ as in the past, (3) automation in economic sectors that are currently regarded as major creators of employment, such as manufacturing and agriculture, thus leading to a reduction in employment and job creation in areas where it would be sorely needed, notably rural South Africa, and (4) closures of factories and mines in South Africa that are unable to compete globally, which will result in job losses in those towns dependent on those sectors, but also a general reduction in retail and economic activities in affected municipalities.

In order to ensure that the country is not left behind, the following are crucial: (1) the *roll-out of broadband* throughout the country, first to the most densely populated areas, and thereafter the more sparsely populated areas, (2) prioritisation of well-functioning, *key national road and rail networks* to ensure the creation of a densely integrated functional national economic system, (3) a focus on *innovation and knowledge generation, packaging and sale*, (4) expansion, modernization and re-gearing of the *higher education sector* towards growing and supporting innovation, and the entertainment, cultural and creative industries, and (5) the *nurturing of all South Africans* in all sectors of society, from health care to nutrition to education, to ensure that they are all prepared for the dynamic world they will be entering. If well-used, the (1) new technologies, (2) ease of access, and (3) disruptive forces, especially those of new communications technologies, should also assist in breaking down the monopolistic nature of the South African economy.

Figure 19: Movement, Connections and Flows – Connectivity

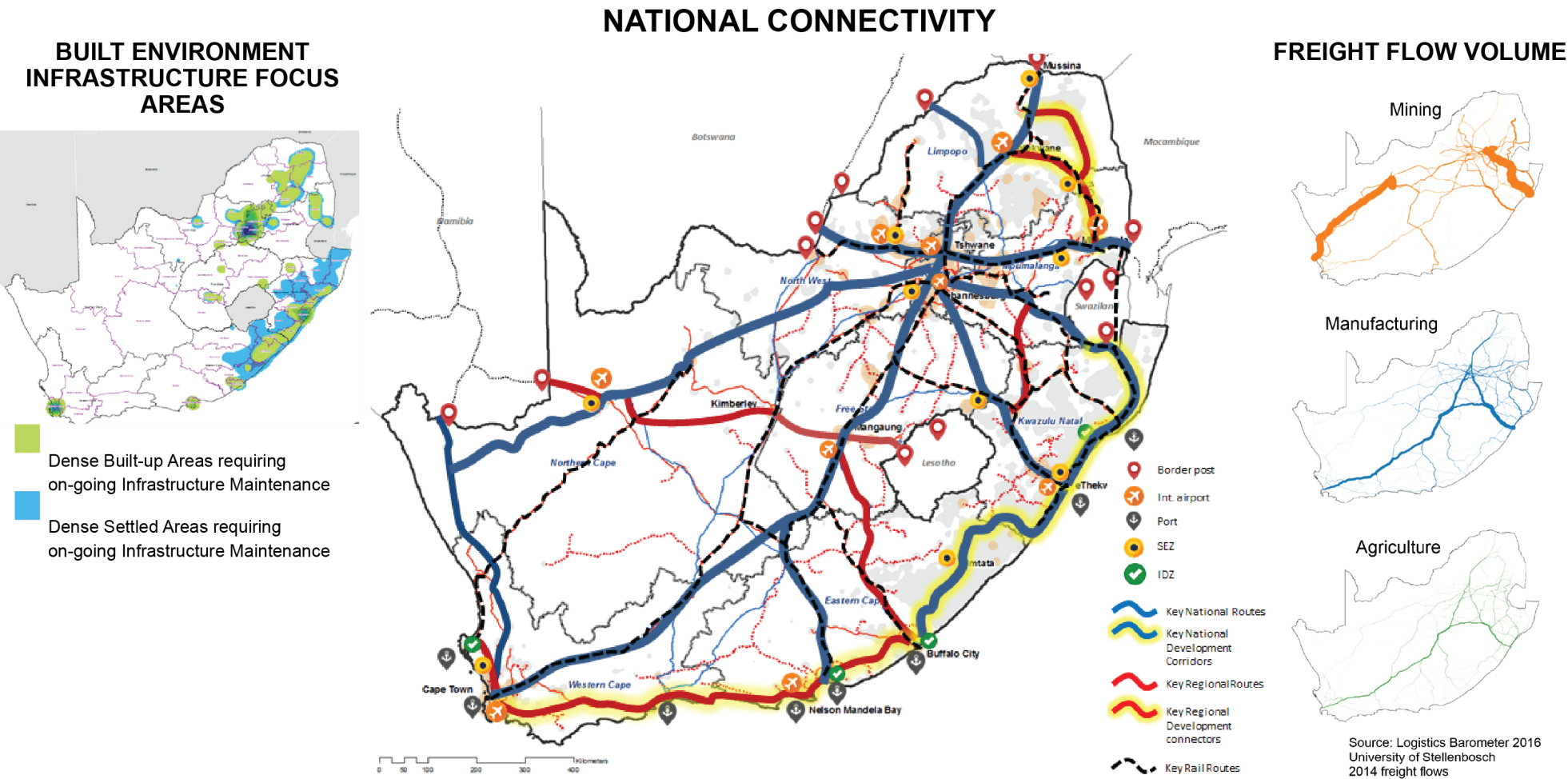
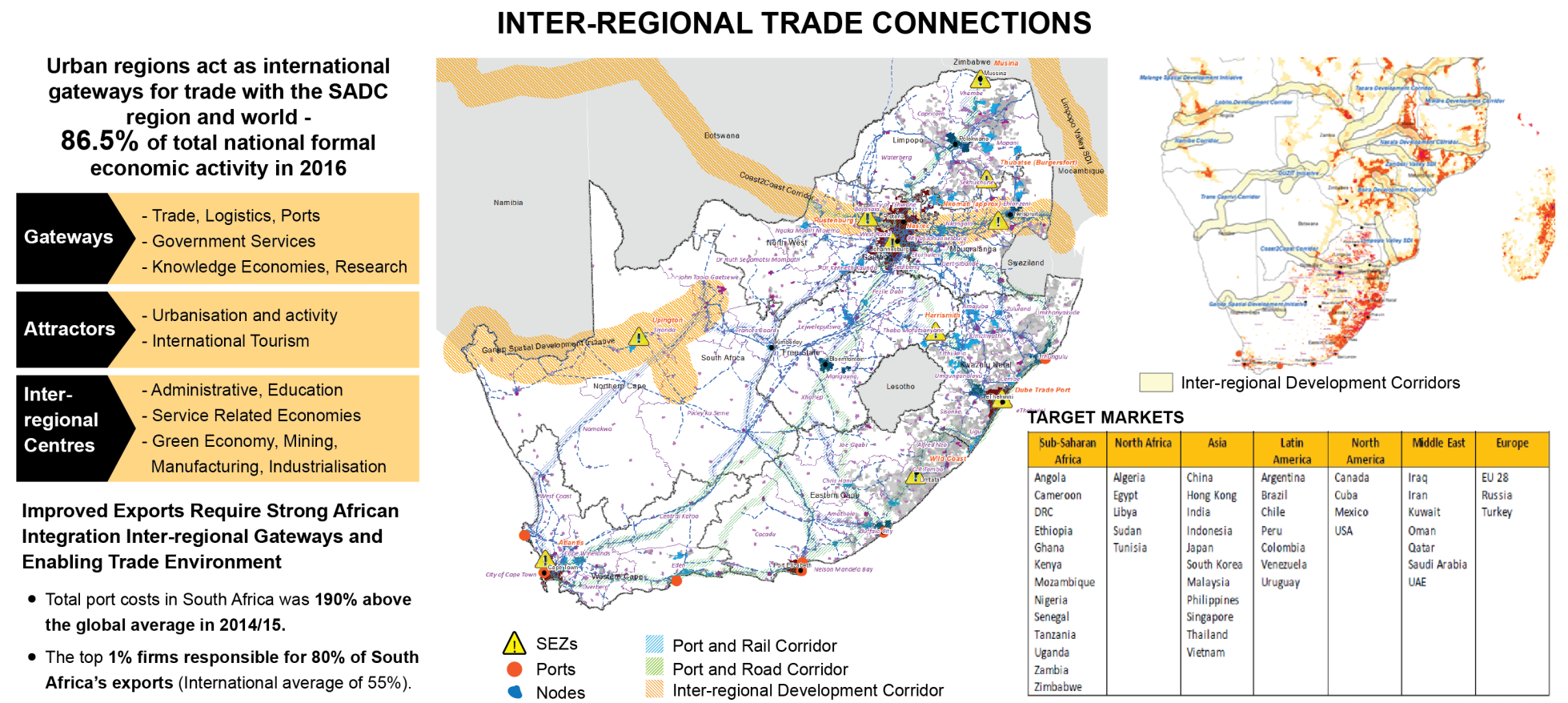


Figure 20: Movements, Connections and Flows – Inter-regional Trade Connections



TOWARDS Spatial Perspectives in Support of The NGP. Unpublished Report Prepared By The CSIR For EDD; SACN, SOCR, 2016). Integrated National Export Strategy (INES): "Export 2030". the dti.

Figure 21: Movements, Connections and Flows – Energy

ENERGY INFRASTRUCTURE AND POTENTIAL

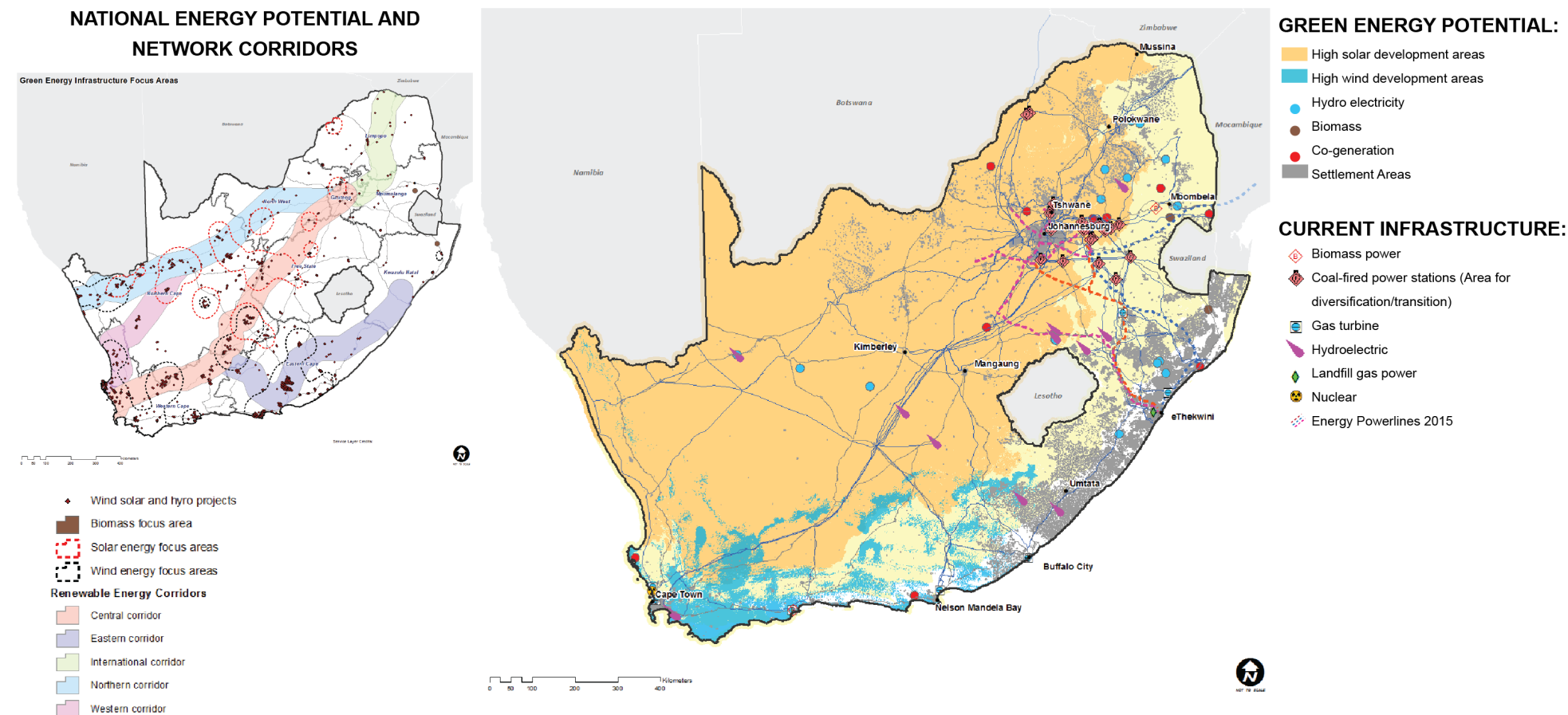
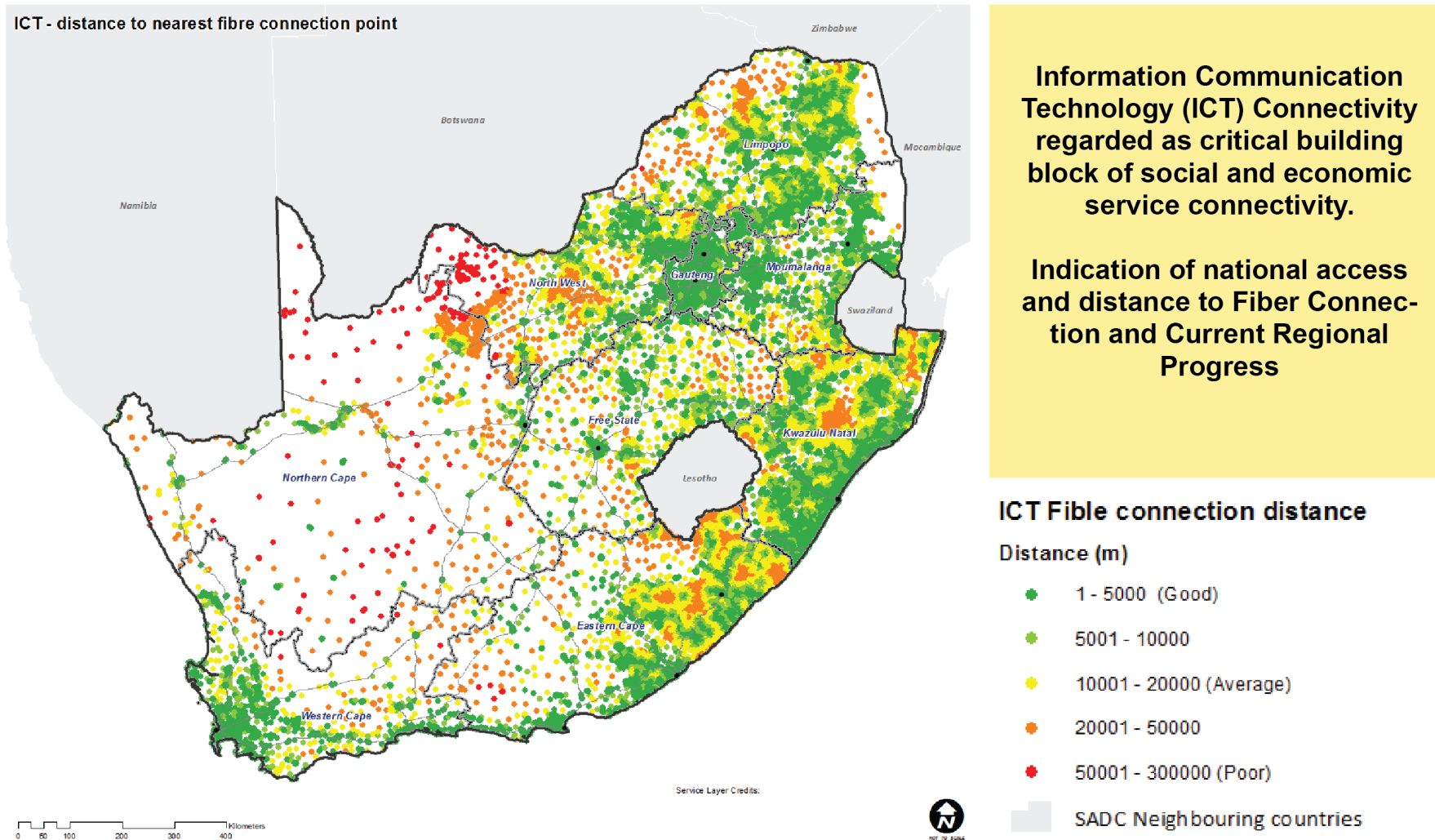


Figure 22: Movements, Connections and Flows - ICT

INFORMATION COMMUNICATION TECHNOLOGY



For *urban areas* to play the role that they can and must, 'public city space' will have to be optimised in terms of its ability to attract and grow informal activities linked to information, communication and technology services. This will in itself ask (1) *less of* a focus in urban economic and spatial development plans on large-scale 'nodal developments' with flashy high-rental shopping malls and office blocks, and warehouses filled with imported goods, and (2) *more on* new technology-assisted and enabled, small-and-medium-sized eco-agro-industries, manufacturing and cultural activities, and innovation. Should South Africa not succeed in surviving the disruptions and transitions coming our way, it will most likely lead to the creation of new inequalities, further fragmentation, and more and deeper gaps between the rich and the poor, with more crime and barricaded development a very likely spatial outcome.

3.10 Globalisation, Supra-National Regionalisation, Gateway Nodes and National Connectivity and Integration

Despite the current setbacks for global trade, the long-term trend will be for (1) increased global trade, and (2) increasing integration of countries and cities in the global economy. The importance of being part of this global economy and to be 'an equal partner' in this system, will demand of countries, including South Africa, to ensure ease of access to their economies through well-functioning (1) global gateways, i.e. harbours, airports and border posts, and (2) a well-maintained national road and rail network. The latter will also ensure that the whole country, and not only parts of it become and remain part of this global economy. Prioritisation of routes on this network will be very important, as funds for road and rail connections will be severely limited. Where possible, rail should be prioritised to reduce (1) carbon emissions and damage to

roads by trucks, and (2) the social costs that communities in towns with truck stops, especially their most vulnerable members, often suffer.

Significant changes are also envisaged in the top order of the global economy, with (1) China and India set to greatly strengthen their positions, and (2) regional powerhouses, such as Indonesia, Brazil, Turkey and Mexico poised to increasingly make their presence felt. Furthermore, a number of countries on the African continent are rising rapidly, notably Ethiopia, Rwanda, Ghana, Kenya, Nigeria, Egypt and Angola. Closer to home, Mozambique is growing at a steady pace, and Zimbabwe is gearing up to make rapid economic progress in the next few decades. Should South Africa wish to remain a part of this global economy, it will need to ensure that its urban and rural-based economies are globally competitive, which would amongst others, require (1) reducing constraints on small business development, and (2) the upskilling of our labour force. From a spatial perspective, South Africa must ensure that it ties its economy into the (1) new global economies, (2) regional powerhouses, and (3) emerging economies on the African continent. This must be done though aligning its ports with the growing significance of new trade routes to the east of the country, and ensuring fast and reliable connectivity through these ports to not only the Gauteng urban region, but also other regions in our country with strong export opportunities.

Of equal importance will be the strengthening of regional trading blocs, such as the African Union (AU) and the Southern African Development Community (SADC), to (1) create greater regional consumer markets and (2) ensure more bargaining power when negotiating the terms of trade with other such blocs, e.g. the European Union. Alignment of national freight and logistics infrastructure, especially the (1) major road and rail corridors, but also (2) harbour infrastructure, will be required to establish and sustain strong regional linkages within SADC.

Internally, if a fast-growing, well-connected and more inclusive economy is to be achieved, the development of movement infrastructure and a variety of modes of transport will have to be guided by a national spatial development pattern with at its base (1) the pursuit of more compact, concentrated settlement in fewer core national nodes, to reduce the number of main roads and railway lines to be built and maintained, (2) more mixed, higher density development, to reduce the need for motorised travel and distances to be travelled, and (3) higher levels of beneficiation and processing of raw materials, to reduce the volume of raw products that require road and railway networks, and that pass through our harbours. The current movement network will also have to be strengthened, especially in coastal areas in the eastern half of the country, to support the population, economic and climatic shifts described earlier in **Section 3.6**. In addition to this, infrastructure maintenance will have to be prioritised, not only for freight transport, but equally so for the safe, efficient and affordable movement of passengers, including tourists. In densely settled urban areas, a special emphasis will need to be placed on the provision of more affordable public transport services in Transit Oriented Development-type formats.

3.11 Institutional Weaknesses and Fragmentation and Prospects for National Developmental Action

In a country with the dreadful history of exploitation and targeted underdevelopment like South Africa's, there are high expectations of the State to assist in (1) correcting the wrongs of the past, (2) healing the still-open wounds, and (3) creating a different and better future. This is, and has proven to be a huge endeavour, and one that government has managed to attend to with different degrees of success. What has not made this national transformation, reconstruction and redevelopment

task any easier is the 'parcelling out' of inherently highly integrated *national* reconstruction, transformation and redevelopment tasks to different spheres of government in terms of the Constitution, with limited powers of one sphere over another to bring about (or force) the required *nationally-focused and significant* alignment, integration and coordination. In addition to this, the need to bring other spheres of government on board in planning processes, also has a cost-implication, requiring of officials to meet and talk through such tasks, and try to find ways to coordinate, align and harmonize their actions.

Given a wide range of reasons, notably (1) the costs involved, (2) the lack of enforcement of decisions reached in multi-stakeholder engagement sessions, (3) the different modalities and work and budget-cycles, and (4) the unique particularities of decision-making in the different spheres and sectors of government, *national sector departments* have increasingly focused on fulfilling their mandates and *going it alone in their pursuit of meeting their set targets*. In addition to this, inefficiency, incompetence, corruption and theft of state resources has (1) led to an erosion of trust in public institutions, (2) severely damaged the culture of service delivery in the public service, and (3) siphoned off billions of Rands required for redress and development. The result has been an increasingly frustrated populace that has lost much of its trust in the State and its capabilities. Another outcome of State failure has been an increasingly greater reliance on (1) the private sector and (2) outside countries and entities to finance much-needed infrastructure investment. While 'it may get things done', it may also lead to (1) the country losing control over its resources, and (2) an inability to implement plans and frameworks that are in the national interest, rather than those that are in the interests of the private investors or foreign countries.

In the provincial sphere, many *provincial governments* have prepared provincial economic growth and development plans and spatial development frameworks to attend to their economic, spatial

development and human settlement challenges, but have in most cases lacked (1) the funds required to put these plans into motion, given that the bulk of their funds are tied to the provision of education, health and welfare services, and (2) struggled to secure *national sector department* and *municipal buy-in* to and *support* for these plans and frameworks.

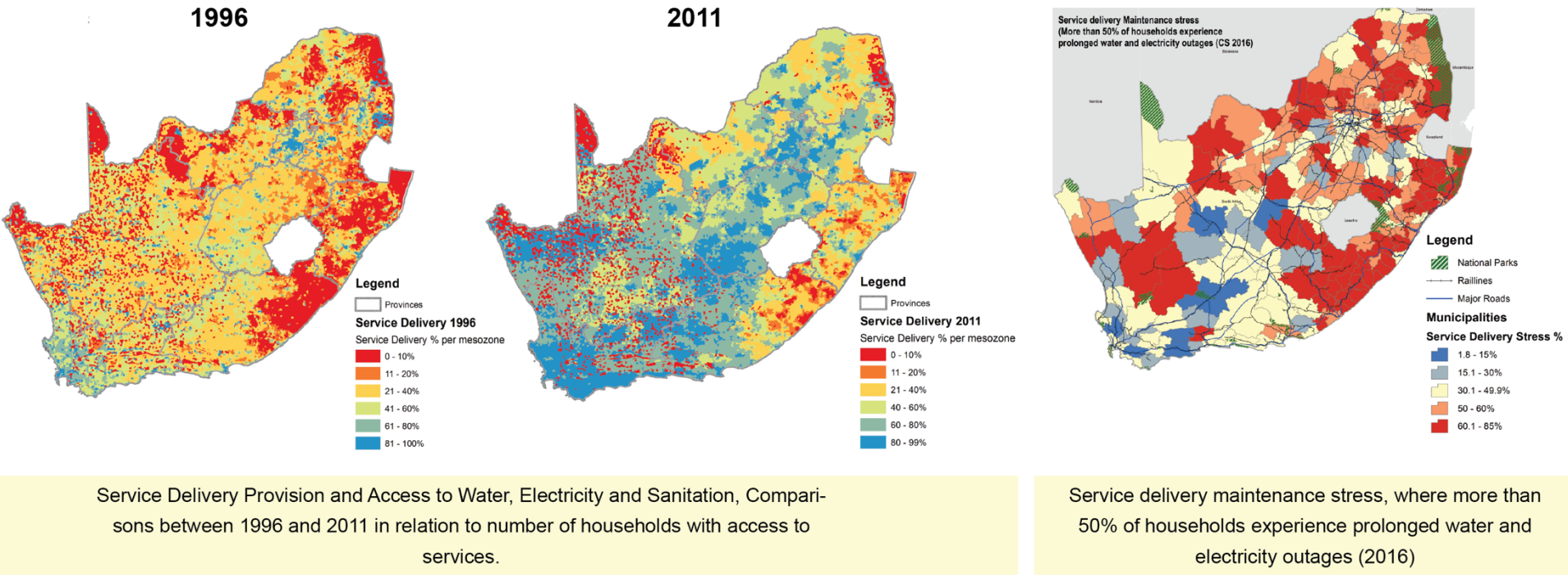
In the *local space*, municipalities are increasingly struggling to provide basic municipal services, often overwhelmed by the huge national redevelopment and transformation tasks they have been given. And, while the crucial and potentially very powerful (1) spatial planning and transformation, and (2) land use management functions resort with them, most municipalities lack the leadership, technical capacity and finances to adequately execute their mandates. At the same time, many municipalities have turned *ever-more inward*, both in terms of municipal planning and the provision of municipal services, which has been hugely detrimental to *progressive, transformative municipal-wide planning*, and subsequently also provincial and national planning and transformation. In addition to this, *in distressed mining and heavy manufacturing areas*, municipalities were not only hit hard by job losses and business closures, but also lost their steady and significant incomes from the sale of water and electricity to mines and factories. In many *rural areas*, municipalities have struggled to prepare credible plans and achieve the desired developmental impact, given (1) the vast size of their areas of jurisdiction, (2) lack of capacity, and (3) the enormity of their inherited service backlogs.

While the State is and remains crucial to the reconstruction, transformation and development of our country, it is currently struggling to do so. Inadequate funding and capacity, and a loss of trust and legitimacy in the eyes of the people, coupled with a deficit of political will, are key constraints on this crucial endeavour. Failure to deliver on much smaller tasks has also reduced confidence in the ability of the State to attend to the large national transformation questions. As such,

rebuilding trust and showing progress in the areas of transformation will be crucial in the next decade. Making good on planned interventions and ensuring feasibility of investments in terms of a long-term plan will also assist in this regard. To do so within the limited budgets available, will require (1) far more spatial targeting, integration and alignment in infrastructure investment and development spending by the State, and (2) ensuring that existing and possible systemic links between places and communities are optimised. Careful planning of the placing, type and reach of State facilities will go a long way in assisting such processes. Equally so will be careful planning of the national spatial development form and pattern, to concentrate resources and investment in areas where the majority of our people are living and are likely to live in future. Such national, regional and local-scale planning will, however, require (1) staffing of government departments and municipalities with well-trained, ethical professionals and (2) greater direction and clarity in terms of what is to be done, where, when, for how long, and by whom.

Figure 23: Institutions and Services – Basic Service Delivery

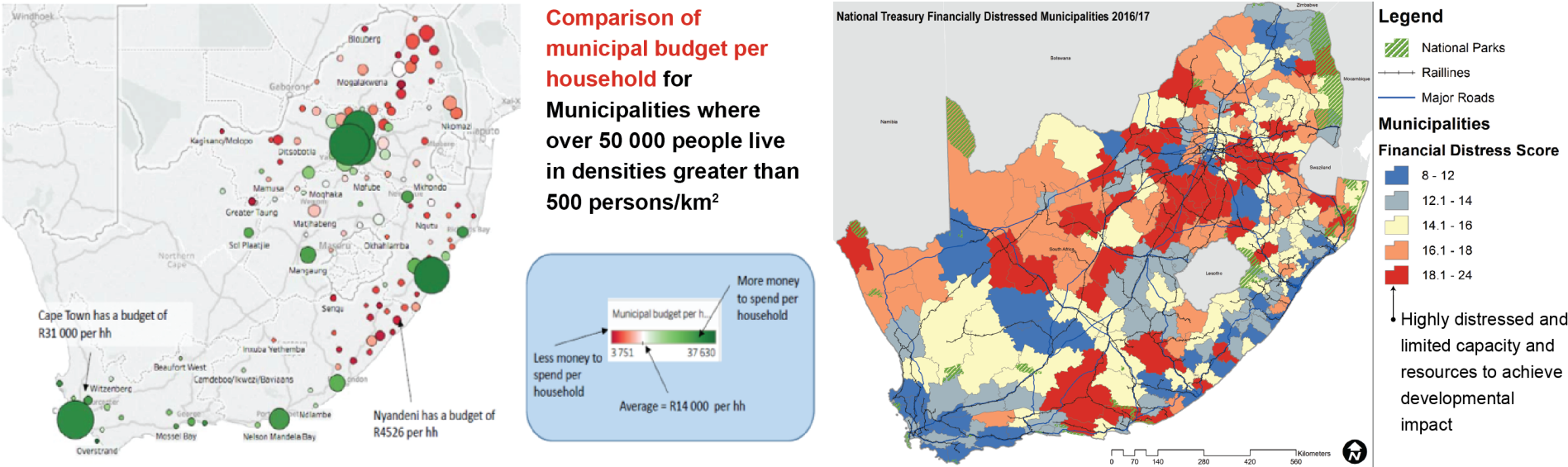
NATIONAL SCALE OVERVIEW OF
PROGRESS AND CHALLENGES WITH BASIC SERVICE DELIVERY



StatsSA, 2011. National Treasury, 2018. Government Performance in South Africa, 2016

Figure 24: Municipal Financial Viability

A LARGE NUMBER OF MUNICIPALITIES ARE FACING CHALLENGES IN TERMS OF FINANCIAL VIABILITY

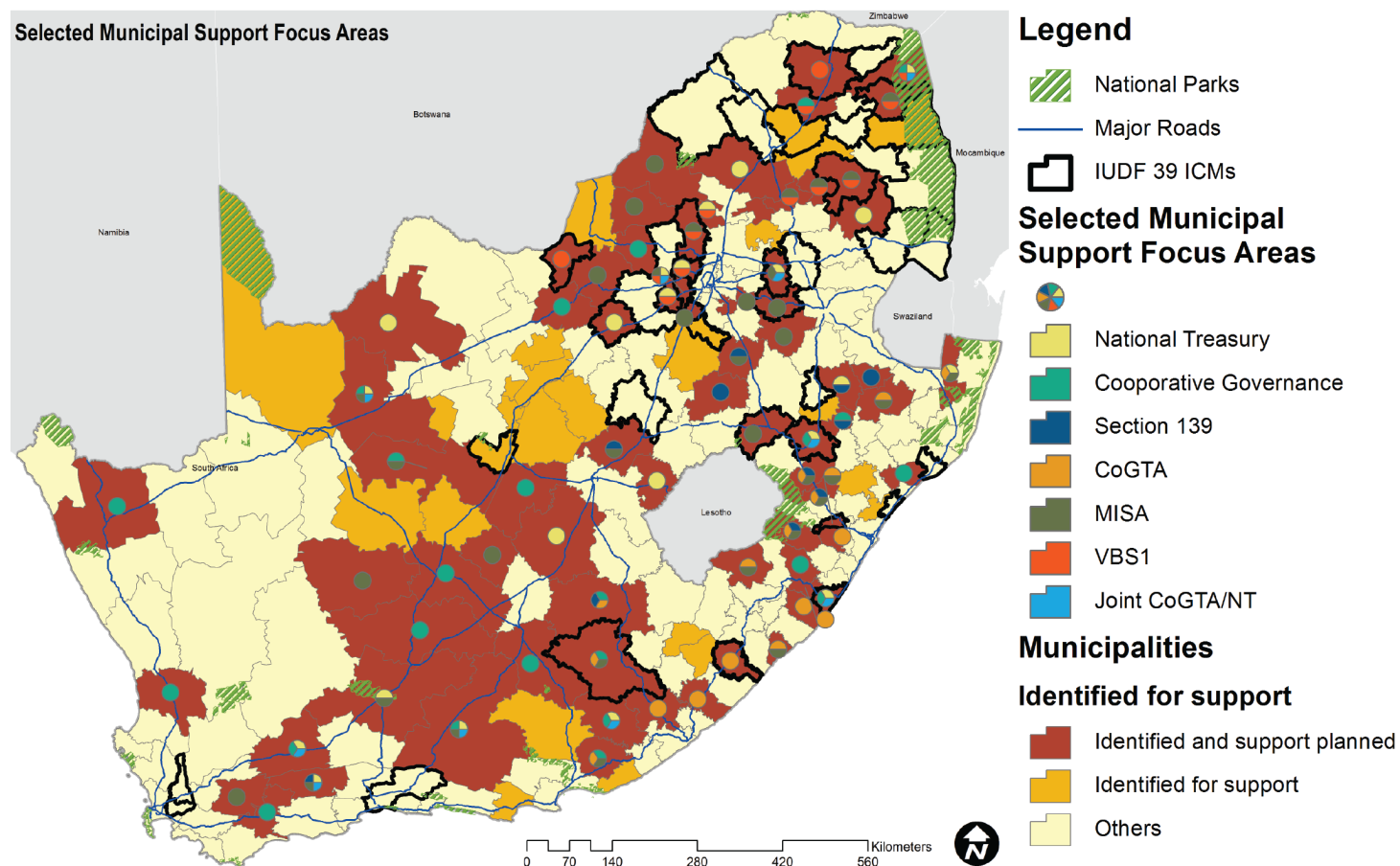


Large numbers of financially distressed municipalities has significant implications for local service delivery. It also has significant implications for national developmental impact within an intergovernmental system where developmental local governments are required to fulfill key roles as part of a bigger developmental state.

IUDF Presentation 2018; National Treasury, Municipal Financially Distressed Municipalities, 2016-2017

Figure 25: Institutions and Services – Municipal Capability

AN INDICATION OF CURRENT GOVERNANCE SUPPORT FOCUS AREAS



A large number of municipalities are facing challenges in terms of governance capacity (including capacity, leadership, financial management and viability).

A range of inter-governmental support mechanisms have been set in place

National Treasury, Municipal Support Focus Areas per Local Municipality, 2016-2017.

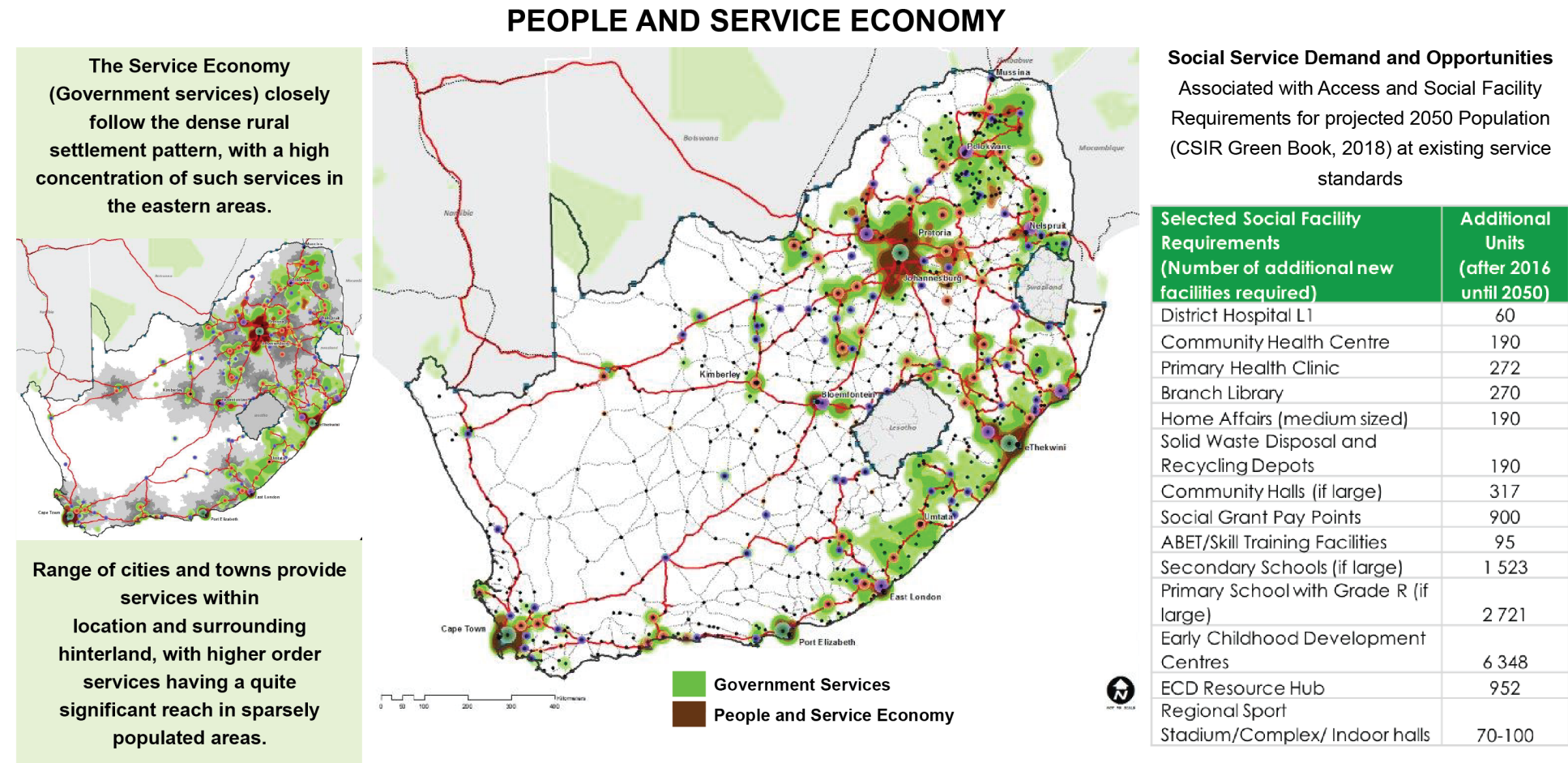
Figure 26: Institutions and Services – Municipal Capability

LOCAL GOVERNMENT (AND THE MAJOR CITIES IN PARTICULAR) ARE CRUCIAL ACTORS IN THE COUNTRY'S DEVELOPMENT AND IN BUILDING A CAPABLE STATE IN LINE WITH THE NATIONAL DEVELOPMENT PLAN (NDP)

Municipal Capability for 2017 (Capable Cities Index)		Components of Municipal Capability	
Capacity (municipal conduct focused internally), Performance (municipal conduct focused externally), & Compliance (municipal conduct in relation to the law).	<ul style="list-style-type: none"> The capacity of municipalities has significantly improved; 45 municipalities did not have a permanent municipal manager and CFO; Intervention under section 139 of the constitution can improve municipal capacity; 30 % of municipalities would still require external assistance to reach full capacity; Cities are now performing better in filling vacant positions of senior managers; and Being a metropolitan municipality does not necessarily mean improved capacity. 	Environmental capability	The social and demographic composition of citizenry; economic circumstances (including the tax base); spatial structure of settlements; and ecological, geographic, natural, mineral, and environmental context in which individual municipalities function.
		Institutional capability	The structure and functionality of the organisations with which the municipality needs to interact. This includes policy, legislation, the institutional framework, and the relationships between organisations, including the regulatory, enabling, and support arrangements for local government. It also includes the financial framework within which municipalities function.
The Capable Cities Index (CCI) (Applied Constitutional Studies Laboratory at UWC (2017)), measures and ranks the capability of South Africa's municipalities on the basis of their consistency in maintaining high levels of capacity, performance and compliance, with a focus on the 27 largest cities.		Organisational capability	Internal policies, organisational structure, ability to manage relationships and contacts with other organisations, strategic leadership, organisational purpose, organisational memory, internal confidence, human resource management, operational systems, technical capacity (ability to provide and manage infrastructure) and financial abilities.
		Individual capability	The potential and competency that is found within a person. It is normally reflected through their technical and generic skills, knowledge and attitudes accumulated through education, training, experience, and networks

Parnel, s., Moodley, N., and Palmer, I., 2017. Defining the four components of capability

Figure 27: Institutions and Services – Social Services



3.12 Key National Spatial Development Dynamics, Challenges and Opportunities

The key national spatial development challenges and opportunities (1) that emerged from the discussion of the eleven *National Spatial Development Shapers*, and (2) that the NSDF will have to respond to are:

- Providing life chances and a decent quality of life for an additional 17 to 22 million people between now and 2050, within the context of (1) an ever-smaller habitable land area due to climate change, (2) ever-more stressed, threatened and compromised ecological spaces and systems, and (3) ever-fewer natural resources;
- Ensuring rapid redress at scale to Black South Africans (1) robbed of their land, (2) systematically excluded from the economy, and (3) severely restricted and stunted in their life chances, while at the same time rapidly growing and transforming the economy and transforming national, provincial and local space;
- Maintaining national biodiversity and ecosystem integrity for global, national and local resilience within an environment of a young, dynamic and aspirational population;
- Managing competition between human activity and nationally important ecosystems and the essential services they provide, notably so with regards to water production, energy generation, mining, manufacturing and food production in the central and eastern parts of the country;
- Managing surface and groundwater use and potentially harmful land-uses in surface-water production areas, preventing contamination of water bodies and sources by human activities, rehabilitating contaminated water bodies, streams and rivers and maintaining bulk and local reticulation water infrastructure;
- Making the shift to a greener, low-carbon, more service-based economy through (1) compact, mixed land-use well-connected urban and rural settlement development, (2) the provision of enabling municipal services, and (3) efficient and affordable ICT and transport infrastructure investment and development;
- Optimising the enormous economic growth and job creation opportunities that dense, compact and diverse urban agglomerations and development corridors offer in the areas of human-to-human service provision, trade, entertainment, and the creative industries, especially so in an ICT-rich, but also job-threatening 4th Industrial Revolution environment;
- Improving the quality of life and human capability in a fiscally-constrained environment through (1) the well-located, planned and integrated provision of social services, and (2) the optimisation of the economic and employment benefits of such service provision in all our cities, towns and villages;
- Transforming the current highly financialised commercial farming agricultural sector into a mixed system, including hundreds of thousands of small and medium-sized producers, and optimising the economic dividends from the research, marketing, financing and equipment development opportunities that this transition will create in both urban and rural South Africa;
- Competing in the global economy through innovative product and service development in especially our large cosmopolitan urban regions, with an emphasis on (1) the creative industries, and (2) the cultural and entertainment sectors, and utilising both of these to bolster our tourism offering;
- Optimising the enormous economic opportunities that SADC offers for (1) trade, (2) collaborative research and knowledge development, packaging and distribution, (3) water-sharing, and (4) energy generation;

- Identifying and utilising opportunities for the beneficiation of minerals, metals and agricultural products where it is economically viable and ecologically sustainable; and
- Optimising our existing national transport infrastructure network by (1) prioritising rail over road, and (2) *investing in* and *maintaining* the most crucial components of the network, with an emphasis on connecting global gateways, core urban nodes and regional anchors throughout the country.



PART FOUR: National Spatial Development Vision, Logic and Concepts

4.1 Introduction

In this section, the **National Spatial Development Vision** to direct, guide and align spatial planning, infrastructure investment and development is provided. This is followed by an exposition of the shifts that need to be made from the current **National Spatial Development Logic** to the required **Post-Apartheid National Spatial Development Logic**, in accordance with the **National Transformation Logic** (see **Section 1.2**). Following this exposition is an introduction to, and overview of the 'National Spatial Development Concepts' that were chosen and/or created for use in the preparation of the **National Spatial Development Frame** and its **Sub-Frames**.

4.2 The National Spatial Development Vision

The purpose of the **Post-Apartheid National Spatial Development Vision** is to provide a long-term guiding light for realising our desired **Post-Apartheid National Spatial Development Pattern**. As set out in the **National Transformation Logic** (see **Section 1.2**) and the NSDF's *Theory of Change* (see **Section 1.4.3**), this vision is:

- Derived and drawn from the **National Development Paradigm**, with as its key pillars the Constitution, the NDP, and the full suite of post-1994 legislation and policy; and
- Prepared within the current and anticipated future challenges and associated opportunities facing our country (see **Part 3** and specifically **Section 3.13**).

In addition to the more eternal long-term **National Spatial Development Vision** and accompanying Mission-statement (see **Figure 28**), a time-bound **2050-National Spatial Development Vision** is provided in **Section**

4.5 below, to make (1) the future more tangible, and (2) our infrastructure investment and development spending actions more measurable.

Figure 28: The National Spatial Development Vision Statement



“All Our People Living in Shared and Transformed Places in an Integrated, Inclusive, Sustainable and Competitive National Space Economy”.

The accompanying **Mission Statement** reads as follows:

“Making our Common Desired Spatial Future Together Through Better Planning, Investment, Delivery and Monitoring”.

4.3 The National Spatial Development Logic

A key driver in the NSDF's theory of change (see **Section 1.4.3**) is the move from a national spatial development logic based on, and in service of the colonial and Apartheid development paradigms, to one based on and in service of a **Post-Apartheid National Development Paradigm**. In this regard, it is framed and guided by:

- The NDP targets, strategic levers and strategic policy direction; and
- The five normative principles as provided in *SPLUMA*.

In this section of the framework, (1) the direction and guidance provided by the NDP and the five *SPLUMA* principles, and (2) the *shifts* that have to be made in the **National Spatial Development Logic** are set out.

4.3.1 The NDP as Guide and Driver

The NDP identifies a set of national development priorities, which include targets for economic growth and employment, equality and prosperity. It also identifies (1) *inclusive growth*, (2) *the capacity of our people*, and (3) *a capable state*, as the levers to achieve these targets. The link between the targets, levers and strategic policy direction, as provided in the NDP, is summarised in **Figure 29**.

Figure 29: The NDP Levers and Objectives-Framework



The national spatial development implications of the strategic direction provided by the NDP in the formulation of a new **National Spatial Development Logic** can be interpreted as follows:

(a) With regards to Inclusive Growth

A need to:

- Transit to a compact, service-based, resource-efficient space economy, that includes both rural and urban spaces, and that recognises the limitations of our national natural resource base;
- Consider the long-term resilience-benefits of a more compact settlement footprint in spaces less prone to the impacts of climate change, and adjust new settlement development, housing provision, transport, and service network decisions accordingly;
- Increase access and remove barriers to (1) the often concentrated and barricaded benefits of the national resource base, and (2) the locational benefits and amenities of exquisite and exclusive places developed for the few;
- Promote inclusive and sustainable urban settlement growth and facilitate movement and trade in and between settlements;
- Support growing economic nodes in previously forgotten and ignored regions, and ensure a more diversified economy;
- Deal with declining mining and industrial areas in smart, affordable and sustainable ways; and
- Recognise and develop settlements in accordance with their (1) roles in the national space economy and network of settlements, (2) regional and local contexts/settings, and (3) labour-absorption capacities.

(b) With regards to the Capacity of our People

A need to:

- Ensure access to and provision of quality services to all South Africans, to enable the development of human capital irrespective of its locality in the country;
- Develop national urban centres of service excellence and innovation, to drive and maintain the global competitiveness of our country; and
- Develop differentiated, place-specific and viable responses to critical issues, such as service gaps, migration hot-spots, high levels of youth unemployment and exclusion, and land availability and tenure-related issues.

(c) With regards to a Capable State

A need to:

- Recognise and use spatial planning as a tool for transformation and spatial planning processes and plans, such as SDFs, as opportunities for integrating and coordinating State action;
- Introduce a new spatial development logic and vision in the process of building a new, cohesive society; and
- Attend to state capacity gaps, to ensure fulfilment of the NDP's developmental agenda.

4.3.2 The SPLUMA Principles as Guide and Driver

In addition to the policy directives provided by the NDP, SPLUMA provides *five guiding principles* that have to be used and observed *in all spatial planning processes at all scales, including the national scale*. These principles are the following:

- Spatial justice;
- Spatial sustainability;
- Spatial resilience;
- Spatial efficiency; and
- Good administration.

In terms of the formulation of a new **National Spatial Development Logic**, the following guidance and direction is drawn from these principles:

(a) Spatial Justice

A need to:

- Ensure redress in terms of access to the economic opportunities and locational benefits that the country and its cities, towns and rural areas offer, including well-located, productive land;
- Include inclusion of previously excluded areas in the national space economy; and
- Pursue intergenerational justice in (1) the location and pattern of settlement development, and (2) the use of natural resources.

(b) Spatial Sustainability

A need to:

- Ensure national spatial development within the limits of the natural resource base of the country – now and in the future;
- Pursue the development of viable settlements and sustainable economies; and
- Pursue a more concentrated, well-connected and more compact national footprint, to increase access to opportunities for all, and reduce (1) use and wastage of natural resources and state finances, and (2) the need for motorised transport.

(c) Spatial Resilience

A need to:

- Proactively minimise risks to settlements through the considered selection of the location and pattern of settlement development; and
- Develop settlements in ways that reduce their dependency on carbon-based fuels and grid-based energy-distribution systems, as and where possible, to mitigate and reduce their climatic impact.

(d) Efficiency

A need to:

- Optimise the use of all State and non-State resources and minimise the negative impacts of settlement development, wherever it is done and whatever spatial form it takes; and
- Diversify and densify settlements to reduce transactional costs and the need for motorised transport.

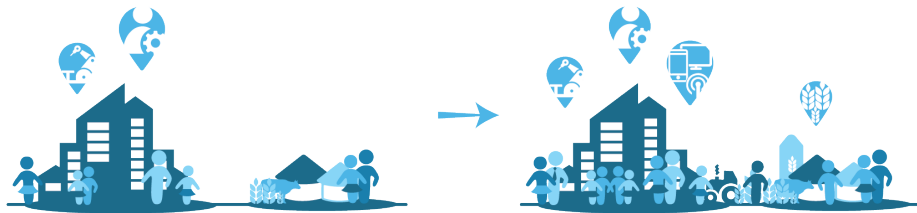
(e) Good Administration

A need to:

- Pursue coordination, integration and spatial alignment in all forms of government spatial planning, budgeting and investment;
- Ensure maximum participation and active engagement in spatial planning and settlement building, grow the local economy and tax base, and build social cohesion; and
- Ensure adherence to the law, notably SDFs and municipal Land Use Schemes, to ensure that the social, spatial and economic benefits of good spatial planning materialise.

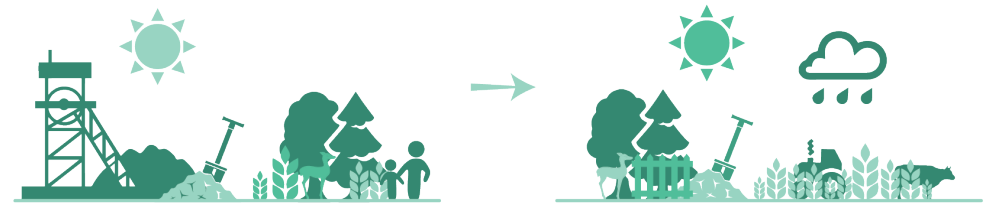
4.3.3 The Necessary 'Shifts'

Based on the NDP and SPLUMA as *guides* and *drivers*, the following interrelated *shifts* in the **National Spatial Development Logic** are proposed by the NSDF to ensure the movement to a truly **Post-Apartheid National Spatial Development Pattern**:



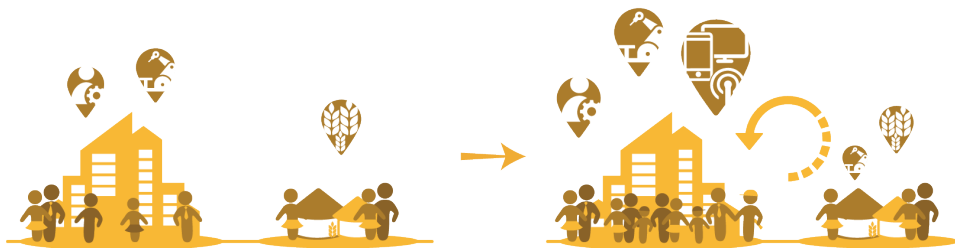
(a) With regards to the beneficiaries of national spatial planning and spatial development

- Placing the interests and benefit of the many at centre stage, and not those of a/the few;
- Ensuring access for all to the use of land for residential, social, economic and cultural purposes, both in urban and rural areas;
- Limiting the development of luxury enclaves and estates for the use and enjoyment of the few; and
- Ensuring rapid release of land, through well-planned urban and rural land reform at scale, for the use, development and enjoyment by the many.



(b) With regards to our natural resource base

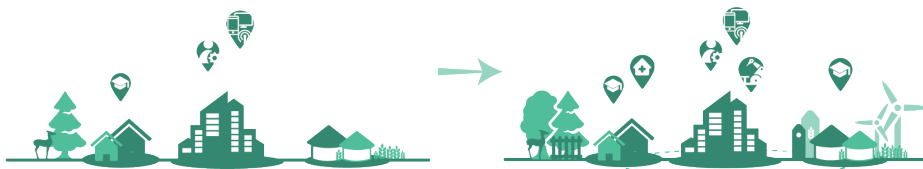
- Placing a much greater focus on, creating a much greater awareness of, and introducing a far greater quantification of our natural resource base, to enable and enhance the sustainable use and protection of critical natural resources;
- Making a clearer distinction between the ecological and economic value of natural resources and pursuing a far greater interest in and understanding of future trends and risks in natural resource use;
- Identifying and earmarking broad categories of (1) high-value agricultural land for national food security and agrarian reform, and (2) environmentally-significant areas for the provision and use of essential ecosystem services.



(c) With regards to the nature, function and performance of our settlements

- Recognising our settlements as 'our new gold', and establishing a new, renewable people and place-based economy based on human interaction and ingenuity in quality urban spaces, and no longer a finite, ecologically-unfriendly mineral resource-extraction driven economic model;
- Reframing the old logic of cities as 'engines of growth' in service of capital, to '*cities as engines of radical transformation in service of inclusive, people-focused, people-driven development and transformation*', and unleashing the enormous opportunities they offer for (1) the human-to-human services sector, (2) the innovation, knowledge-creation, valorisation and sharing sector, (3) the culture, entertainment and restaurant sector, and (4) the domestic and international tourism sector;
- Optimising the dividend of the millions of young South Africans that will be entering higher education, and be (1) gaining new insights, (2) making new sense of the world, and (3) developing new forms of knowledge;

- Recognising cities as democratic spaces in which millions of economic activities and transactions take place and *can* take place, and in doing so, have the power to disrupt and destroy the highly concentrated, monopolistic nature of our economy;
- Emphasising the need to develop a new kind of city in which *public space* can become a key driver of a new '*people's economy from below*';
- Pursuing a denser, smaller, polycentric system of settlements that has (1) a smaller footprint, and (2) spans urban and rural areas;
- Making a clear distinction between the roles and capacity of different types of settlement on the national settlement network; and
- Recognising the need for the future-proofing of cities as sites of human innovation in becoming active participants, and not victims of the 4th Industrial Revolution and the era of Artificial Intelligence (AI).



(d) With regards to our rural areas

- Recognising the need to develop and strengthen regional-rural systems in the pursuit of vibrant, inclusive and sustainable rural development;
- Pursuing the identification, development and strengthening of 'regional development anchors' in rural areas, to (1) connect urban to rural areas in mutually-beneficial ways, and (2) act as catalysts for *regional-rural development*;
- Developing a systems-based 'polycentric rural service-delivery network' around regional developments anchor and carefully selected 'rural service towns', to provide quality public services, and ensure far greater levels of rural-to-rural interaction and local economic development;
- Exploring the delineation of 'rural edges' in rural areas to ensure the protection of (1) the unique, intrinsic qualities of our rural areas, (2) the cultural, customary and historical value they have, and (3) the often highly sensitive ecosystems they harbour;
- Pursuing *intra-rural trade* as core systemic and social glue/cohesion-activity between villages and towns in rural areas, and *not malls*, which at core are little more than 'one-sided-extraction transaction points'; and
- Pursuing greater resilience of rural areas through diversification, in so doing ensuring that they are not and do not become 'single-economic sector' places.



(e) With regards to the nature, significance, form and impact of spatial development planning

- Ensuring greater coordination, integration and collaboration in spatial development planning, both *in* and *between* the spheres and sectors of government, including the use of (1) *national spatial targeting* and (2) *differentiated responses* to the potentials and challenges of designated sub-national intervention areas;
- Investing at scale in areas identified for future economic growth, for the necessary period of time to make an impact, and with the benefit of not only the national economy, but also the regional and local economies in mind;
- Placing a far greater focus on the developmental impact of national investment and spending initiatives on the well-being of sub-national regions and local communities;
- Introducing a 'spatial transformation accountability system' to set spatially-focused targets, and drive and measure progress with regards to (1) targeted investment in national priority spaces, (2) spatial transformation, and (3) the wise utilisation of our natural resource base; and
- Driving far greater involvement in, and support by sector departments and provinces in municipal spatial development planning, to ensure (1) the preparation and use of progressive, quality municipal SDFs, and (2) the enforcement of land-use policies and rules emanating from such SDFs in municipal Land Use Management Systems (LUMSs), as provided for in SPLUMA.

4.4 National Spatial Development Concepts

In order to (1) give spatial expression to the **National Spatial Development Vision**, and (2) support the shifts that need to be made in accordance with the new **National Spatial Development Logic**, a series of '**National Spatial Development Concepts**' were developed. These concepts have their home in:

- The contextual realities, challenges and opportunities, as set out in **Part Three**;
- The drivers, levers and principles as set out in the NDP, the IUDF and SPLUMA (see **Sections 1.3.2** and **4.3**);
- What is considered '*good spatial and settlement planning*' in local and international planning policy frameworks, guidelines and practice; and
- The theoretical domains of spatial development planning, urban design, regional and rural development planning, institutional economics, agglomeration economics, and ecological resource planning and management.

Six such **National Spatial Development Concepts** were developed. Each of these is discussed below (see **Figures 30** and **31**).

Figure 30: National Spatial Development Concepts

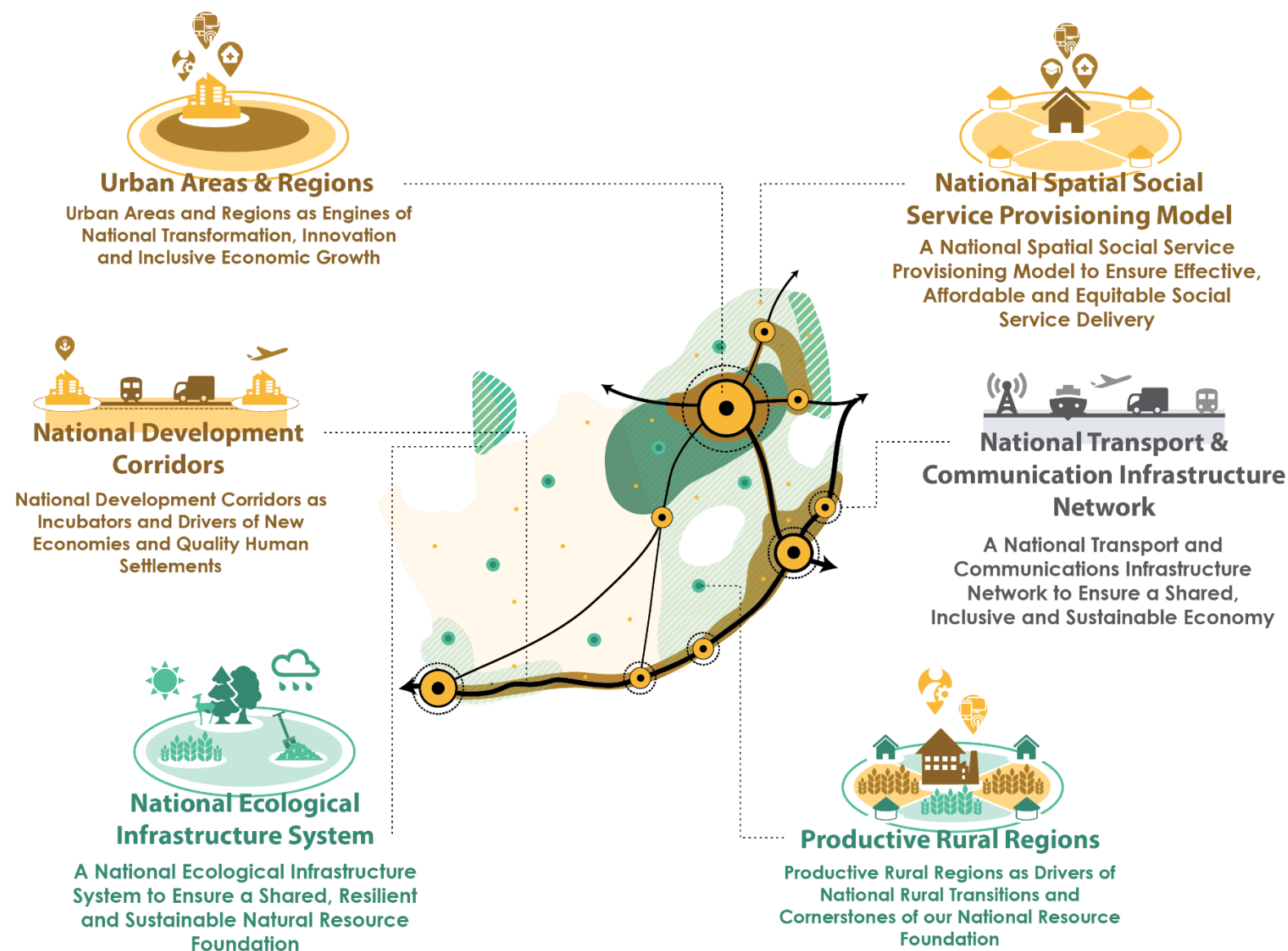
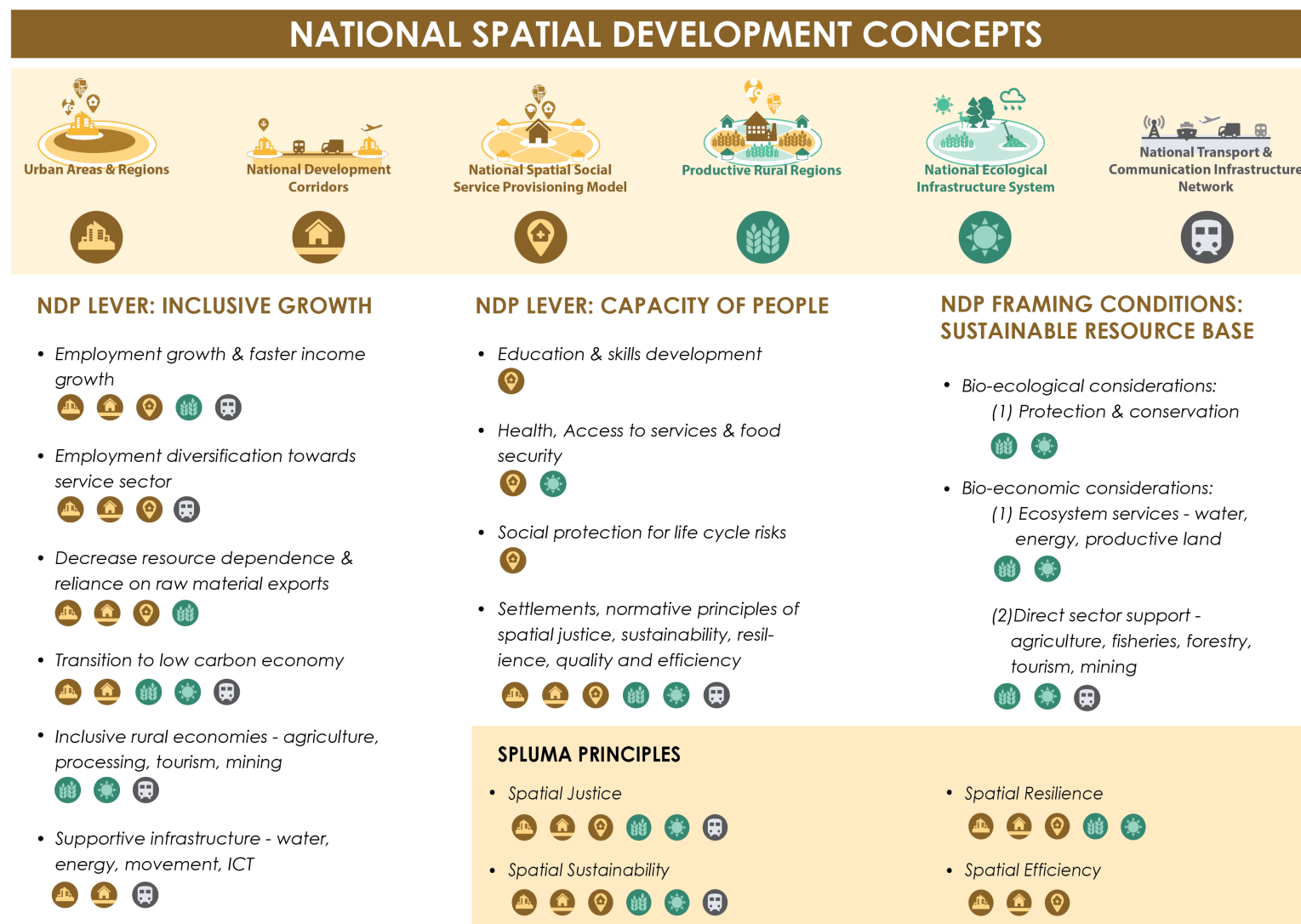


Figure 31: Linking National Spatial Development Concepts to the NDP and SPLUMA



Please note: NDP Lever 'Capable State' and SPLUMA Principle 'Good Administration' addressed in Implementation Framework

4.4.1 Urban Areas and Regions as Engines of National Transformation, Innovation and Inclusive Economic Growth



The IUDF argues that, “... in the economic history of humanity, urbanisation has always been an accelerator of growth and development, bringing about enormous changes in the spatial distribution of people and resources, and in the use and consumption of land.” With nearly 80% of South African’s population already living in

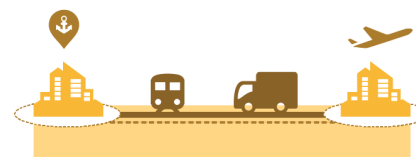
cities and towns, and this figure set to rise to 90% by 2050, the NSDF shares this view, and argues that **urban areas** will play an increasingly important role in the development of a shared and sustainable South Africa. Urban areas will replace commodities as South Africa’s ‘new gold’. The NSDF does, however, hold that urban areas will only be able to perform this critical and desired role if:

- There are *high levels of inter-connectivity* between the country’s city regions, cities and towns, and they are all tightly integrated into a mutually beneficial and resilient *national urban settlement network* (see also **Section 4.4.6** below);
- The *benefits of agglomeration in urban areas* are allowed to surface and flourish through (1) fast-tracked urban land reform and land release, (2) effective settlement planning, design and management, including growth management, (3) the introduction of regulations and land use management systems that focus on strategic and not petty matters, (4) densification,

diversification and quality public place-making, (5) the provision of basic municipal and social services in a financially viable way, (6) the provision and use of effective public transport and non-motorised bicycle lanes and walkways, (7) stringent water demand and waste management, (8) the creation of safer environments, and (9) the provision of effective policing services; and

- *Regional-level urban development corridors* between (1) cities and towns in urban regions, as well as (2) existing and emerging nodes within cities and towns (such as between township nodes, suburban nodes and Central Business Districts) are planned, developed, supported and strengthened.

4.4.2 National Spatial Development Corridors as Incubators and Drivers of New Economies and Quality Human Settlements



National Spatial Development Corridors are large stretches of densely populated human settlements and intense economic activity along/on roads and/or railway lines. The

dense human settlements, the road/railway links and the intensive economic activities mutually support each other in a synergistic way. While such corridors often develop organically over long periods of time, they can be supported and strengthened, and their development fast-tracked through well-considered and targeted State interventions. Interventions of this nature typically entail (1) the strengthening of the economy or the housing market in cities and towns in the corridor, (2) the construction of new, or the expansion and/or upgrading of existing road

and railway links in the corridor and/or (3) the provision of targeted incentives to support denser, more concentrated development in corridors with more sprawling settlement patterns.

The NSDF regards **National Spatial Development Corridors** as potentially powerful national spatial development concepts, especially (1) along coastal-based tourist routes, and (2) in former Bantustan areas marked by dense, yet sprawling human settlements along roads and/or railway lines.

The development of such mega-scale **National Spatial Development Corridors** will, however, require:

- Intensive and sustained *broad-based, multi-sectoral intergovernmental and SOE-collaboration*, especially so with regards to the quantum, timing and spatial location of (1) land to be released for use/settlement, (2) infrastructure investment, upgrading and maintenance, (3) and social service provision;
- The development of urban areas in the corridor in accordance with the *requirements for urban areas* as set out in **Section 4.4.1** above; and
- The *availability of viable, real economic opportunities*, which would ideally not be based on a single sector to strengthen resilience, and the potential to develop viable and sustainable economies based on these opportunities.

4.4.3 Productive Rural Regions as Drivers of National Rural Transitions and Cornerstones of our National Resource Foundation



Rural areas, especially in the former Bantustans, have for decades been (1) zones of extreme neglect, (2) at the receiving end of the worst excesses of large-scale commercial farming, mining activities and urban-based manufacturing economies during colonial and Apartheid times, and (3) of late, the areas of often well-intended, but

piecemeal, unintegrated and fragmented spatial and economic development initiatives.

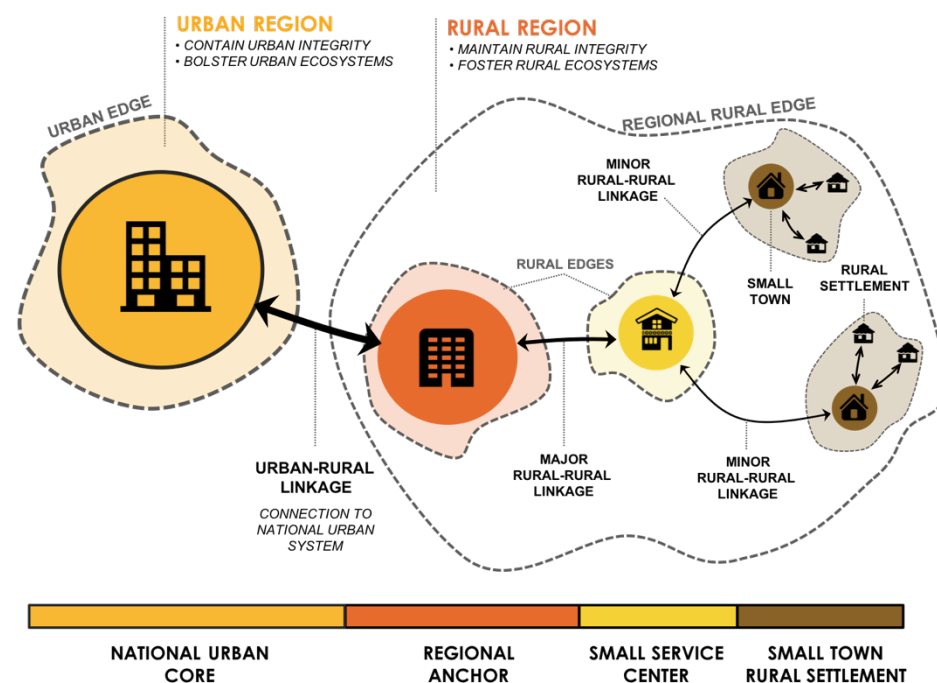
The NSDF puts forward a **Regional-Rural Development Model** (see **Figure 32**) as a third national spatial development concept. This model:

- Takes a systemic view of rural areas, and proposes the 'soft delineation' of 'polycentric functional rural regions' that have (1) at least one well-connected regional anchor, both within the region on the national transport network to 'anchor' the region in the national space economy, (2) social, cultural, historical, economic and cultural characteristics and attributes that would make the development of a 'functional rural region' possible over time, and (3) the potential for *intra-regional trade* between towns and villages in the region;
- Proposes the preparation of *regional-rural development plans*, as the DRDLR has already begun to do in rural South Africa, for these regions, and include the projects and plans that are

identified in these plans in the IDPs and SDFs of the municipalities in whose areas of jurisdiction the regions fall;

- Requires that *rural land reform* be fast-tracked and undertaken within the framework of the regional-rural development plan, to ensure that suitable and well-located (1) agricultural land, and (2) stands in towns, are sought and released for productive purposes, and that the support for beneficiaries (inputs, fencing, equipment, markets, finances, etc.) is properly planned for and undertaken in a systematic, structured and effective way;
- Requires wise *natural resource use*, management and protection;
- Utilises the **Social Service Provisioning Model** (see **Section 4.4.4** and **Figure 33**) to (1) *provide social services* in villages, towns and regional anchors in accordance with their role and place in the rural region, in the most effective, sustainable and affordable way, and (2) create at least one regional anchor/town to attract and retain professionals and entrepreneurs who would otherwise generally not move to, or stay in rural areas;
- Envisages the use of '*rural edges*' (see **Glossary of Terms**) to protect the rural regions from intrusion of non-compatible and destructive land uses that could (1) violate the rural integrity of the region, (2) compromise ecosystems on which the region relies, and (3) threaten local lifestyles and cultures in the region;
- Depends on local people being duly empowered to become active participants in the development of their areas, and hence makes a move away in rural development thinking and practice from an approach of '*transformation-from-above*' to one of '*transformation-from-below*'^{vi}.

Figure 32: Schematic Presentation of a Regional-Rural Development Model



4.4.4 A National Spatial Social Service Provisioning Model to Ensure Effective, Affordable and Equitable Social Service Delivery



The realities of (1) national fiscal constraints, (2) the high construction, maintenance and staffing costs of social services, and the (3) general inward focus in requests and proposals in municipal IDPs and SDFs for the placing of *national* and *provincial* social service facilities, require that a rational allocation of

facilities rendering social services be done in national space. In addition to this, investment in social infrastructure, if (1) planned well, (2) designed for multiple uses, and (3) placed in 'the right location/spot', e.g. on public transport routes and in a place where adequate municipal services are available, in a village, town or city, can become:

- An *attractor* for economic activities and contribute to place-making, urban densification and diversification; and
- A *catalyst* for nodal development, and assist in reducing transport costs and limiting urban and rural sprawl.

The provision of social services is also a creator of public sector jobs with secure incomes, which can assist in bringing a degree of predictability to the frequency and size of disposable income in a region or town. In rural areas, where settlement development was often not planned, the preparation of a proper 'rural design framework/plan' and the placing of government services in accordance with this framework/plan, could greatly assist in developing rural towns/settlements with solid, resilient public investment/capital structures.

The **National Spatial Social Service Provisioning Model** (see **Figure 33**) put forward in the NSDF as a *national spatial development concept*, works on a hierarchical base, with the highest order services with the largest spatial reach in each category (see **Figure 34**), being placed in the highest order places.^{vii} In for instance the case of health care, regional hospitals would be placed in '*national urban cores*' and '*regional anchors*', and mobile clinics in small villages. Likewise, universities would be located in '*national urban cores*', high schools in '*rural service centres*', and small schools and mobile libraries in villages.

While rather rigid in appearance, the model does not propose an iron-caged spatial investment model, but instead envisages a situation by which municipalities and national and provincial sector departments would use the '*national and regional settlement and service network*' or '*social service wheel*' for short, as strong indicator and guide to assist in the spatial allocation of facilities across space. In addition to this, the wheel could also be used to:

- Avoid and resolve intergovernmental disputes regarding the spatial location of social service facilities;
- Inform, structure and guide engagements by communities with government regarding the provisioning and spatial location of social services; and
- Engage and 'interrogate' spatial investment decisions by national and provincial sector departments and municipalities regarding social services in accordance with the NSDF's envisaged '*spatial accountability model*' (see **Parts 5 and 6** below).

Figure 33: A National Spatial Social Service Provisioning Model ("Social Service Wheel")

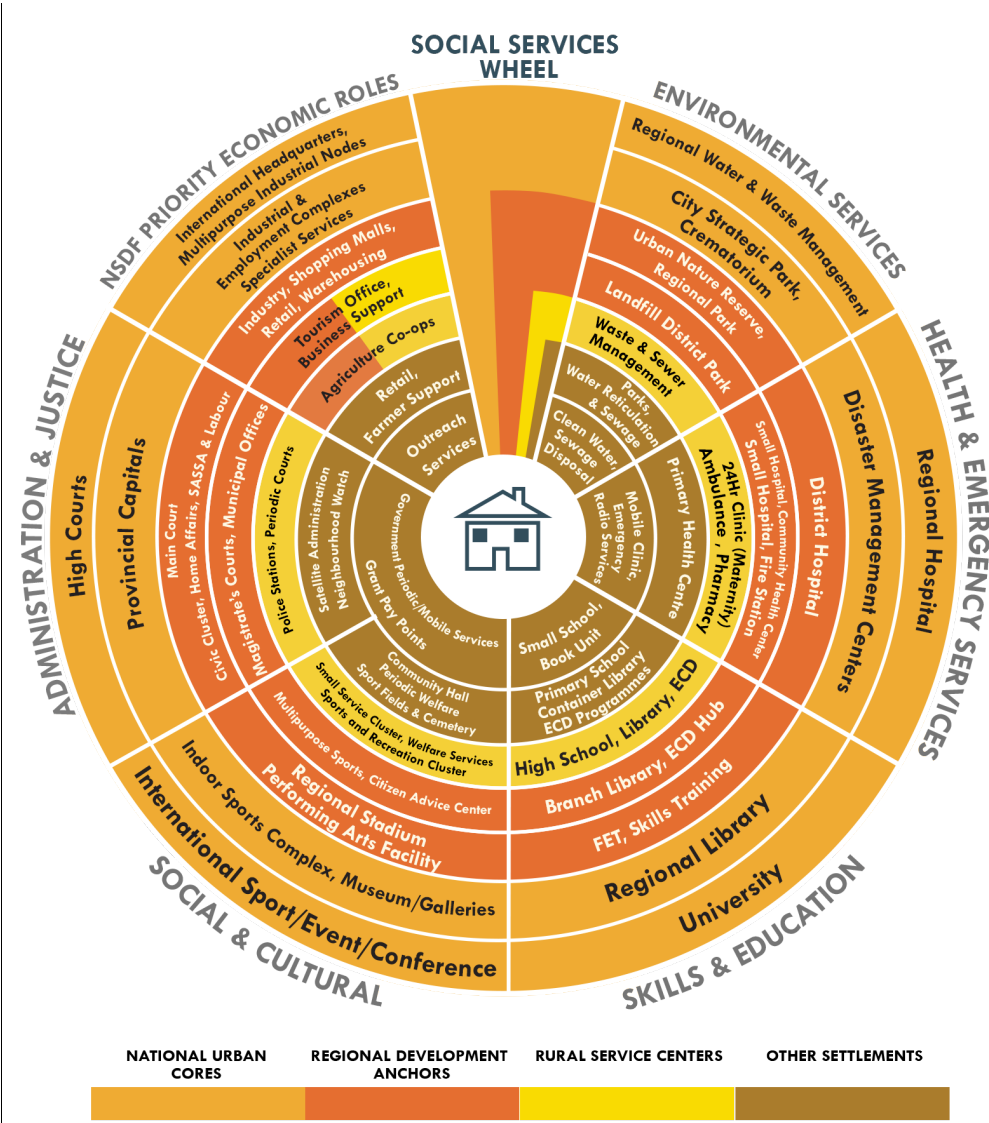
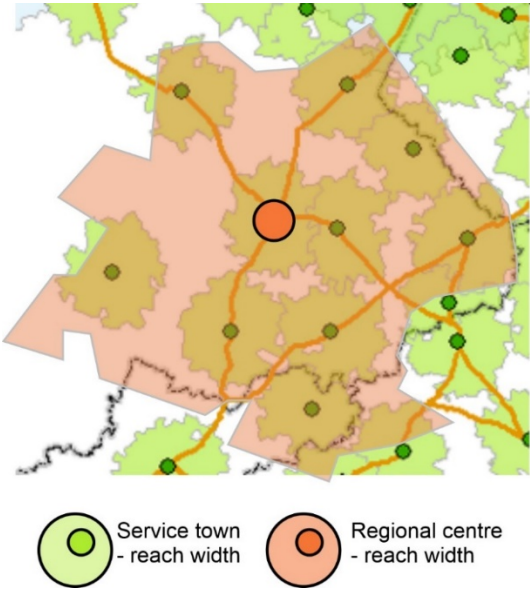


Figure 34: Illustration of Town Service Reach



4.4.5 A National Ecological Infrastructure System to Ensure a Shared, Resilient and Sustainable National Natural Resource Foundation



It is both a (1) national spatial development and (2) human rights imperative to ensure sustainable and just access to natural resources for current and future generations. The **National Spatial Development Vision** recognises this, and specifically refers to the need for our country's natural

resources to be shared and used by all in a sustainable manner. In order to give spatial expression to this imperative, the NSDF puts forward the introduction of a **National Spatial Ecological Infrastructure System** as a *national spatial development concept* in recognition of:

- The *limited availability of high-value agricultural land*, and seeks to ensure that this resource is identified and managed with the utmost of care to ensure national food security;
- The *high levels of regional interdependency between water catchment areas and the enormous volumes of water transfers* in the country, and hence the need to protect (1) surface water production catchment areas from encroachment by non-compatible land-uses, as well as (2) underground water sources from contamination by noxious economic activities;
- The major changes in *land suitability and habitability* that extreme climate change is set to bring to our country, and hence the need to identify those areas that will most likely be least affected by climate change, and reserving/protecting

these areas for (1) future (emergency) use for water and food production, and (2) the provision of crucial national ecological ecosystem services.

The national spatial development concept put forward in the NSDF in this regard seeks to (1) *identify those areas of crucial national ecological significance and (2) propose measures to ensure their protection and management, and reservation as such* in all other provincial, regional and municipal SDFs to be prepared from hence forth.

4.4.6 A National Transport, Communications and Energy Infrastructure Network to Ensure a Shared, Inclusive and Sustainable Economy



A well-functioning and well-managed *national transport and connectivity infrastructure network* that ensures and enables (1) the safe and efficient movement of people, (2) the flow of information

and communication, (3) the movement of goods and flow of services, (4) the connectivity of South Africa to the rest of the world, and (5) interaction in the global economy, is crucial to the spatial development and economic life of any country. Given (1) the *high costs* associated with the construction, upgrading and maintenance of such networks, which include airports, harbours, border posts, logistic hubs, electricity, fiber networks, broadband, natural gas pipelines, and road and rail networks, and (2) *the need to recover such costs through use*, a country has to carefully plan where these networks are to be built/installed. In the case of South Africa, *the legacy of historic national development paradigms* in terms of which such networks supported first colonial extraction and export, and later the creation of the Apartheid state for a

white minority, requires that these networks be strategically planned, built and maintained in support of *post-Apartheid spatial transformation and inclusive economic growth*.

The *national spatial development concept* put forward in the NSDF with regards to transport and communications infrastructure, seeks to ensure:

- Investment in *maintaining, strengthening and expanding connectivity*, to ensure the creation of (1) a solid transport and communications network between urban areas, regional-rural anchors and smaller towns and villages in such regions, with a focus on (2) ensuring the roll-out and continuous upgrading of broadband access to all South Africans, and (3) prioritising rail over road infrastructure;
- More *people-focused infrastructure investment*, such as (1) upgrading infrastructure networks in major urban areas and towns, to accommodate far higher densities and intensities, (2) installing and maintaining infrastructure networks in former township areas at scale, so as to develop these previously neglected areas into high-quality urban living spaces, and (3) developing quality public spaces, pedestrian walkways and efficient, affordable and safe public transport networks for use by all;
- More *upgrading of ageing urban municipal service infrastructure* and large-scale investment of municipal infrastructure in regional growth points and service towns; and
- More investment in the *enabling and catalytic infrastructure* required for (1) renewable energy generation, storage and distribution, (2) smallholder farming and agro-processing, (3) innovation, (4) tourism, culture and entertainment-led economic growth, and (5) knowledge-creation, packaging and transfer.

4.5 Putting it All Together: Life in South Africa 2050: The Long-Term National Spatial Development Vision, Logic and Concepts in Action

In this section, the **2050-National Spatial Development Vision** as tangible expression of what the desired future will entail once our *new Post-Apartheid national spatial development vision, logic and concepts* have been put into action, is presented. It reads as follows...

75 Million South Africans

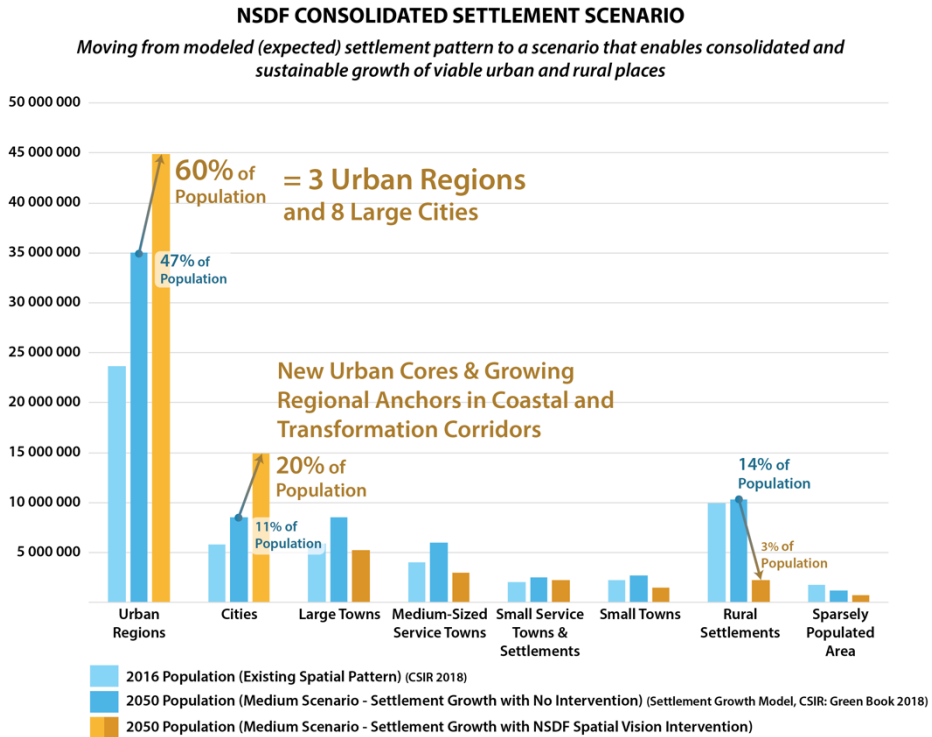
It is April 2050. A year earlier, during South Africa's 55th '27 April-Democracy Celebrations', the 75th million South African was born in the Buffalo City urban region. This massive urban conglomeration, is one of the 'big four' urban conurbations along the South African east coast, that are now jointly home to more than eight million South Africans. These four urban conurbations have grown rapidly; their growth equalling that of the Cape Town urban region, with its more than six million inhabitants. Despite their rapid growth, they are still a long way off from the Gauteng urban region with its population of more than 22 million people. Together with the booming cities Polokwane, Mbombela, Rustenburg, Msunduzi and Mangaung, each with their populations of around 1 million people, the eleven urban conurbations are now home to around 42 million people, or around 60% of the South African population (see **Figure 35**).

Eleven Urban Conurbations

In contrast to days gone by in which large parts of metropolitan South Africa were described as dreary, dull and boring, these areas are now hives of activity. Three-to-six storey mixed-use buildings are the norm in the buzzing former inner areas and along dense activity-streets in many of the suburbs of these erstwhile cities. Rooftops are in most cases used

for (1) food production, preparation and distribution, (2) pop-up music performances, (3) poetry nights, and (4) plays. Some of them are used for solar and wind energy generation, alongside a myriad of other ways of doing so (1) on buildings and verandas, and (2) in larger commercial energy farms on high-lying areas and in the ocean, alongside the numerous thriving aquaculture projects.

Figure 35: National Development Pattern Transformed



Trade with African countries along the east coast of the continent, as well as with India and China, has boomed over the last three decades. In contrast to days gone by, this is far less in the form of the export of raw commodities, some of which are no longer shipped, such as coal, due to

international carbon-trade-bans dating back to the early 2030s. These days, South Africa is a major exporter of a wide range of high-value hand-made high-fashion clothing, jewellery, art, furniture, foodstuffs and beverages, which have become highly sought after in countries where nearly everything is made by machine. A key contributor to this new dawn for South Africa was the unveiling by government in the early 2020s of its massive and hugely successful ‘*Smart Reindustrialisation Programme*’ and its ‘*Eastern South Africa Development Plan*’. Driven by (1) the evermore-pressing drought in the western and north-western parts of the country, (2) the unfulfilled and deferred promise of the democracy that was won at such a high cost, and (3) the enormous agriculture, industrial and settlement development opportunities that lay east, and that were unlocked by the massive ‘*New Land Reform Programme*’ of the 2020s, government acted swiftly and decisively. And now, 25-30 years on, this is the outcome.

Transformation at Scale

The massive national-led ‘*macro-restructuring and development plans*’ not only resulted in shared economic growth and poverty alleviation at scale, but also assisted in inculcating a culture of ‘all-in’, targeted, integrated and coordinated planning. Out the door went untargeted, unplanned and unintegrated investment by government and the private sector, and the wastage of time and money by everyone pursuing their own plans and projects in their own backyards. In contrast to the early days of SPLUMA, when the introduction of the new suite of spatial planning instruments had very little impact on ridding the country of the legacy of colonial and Apartheid planning, the Act is now used as intended, and respected by government, communities and the private sector alike.

In addition to the positive impacts the macro-restructuring and development plans had on the spatial development planning system,

the success of these plans assisted in making South Africans *believe that they can, and that it was possible to develop a truly transformed, liberated and prosperous post-Apartheid South Africa*. The fruits of this freed-up, confident country are everywhere to be seen – from the dynamic interplay between (1) well-targeted, wise government investment and (2) innovative, organic urban growth and land development by communities, to the booming SADC region. It is especially this regional bloc and the connections and free flow of goods, services and people that it has enabled, that have played a huge role in the national economic growth rate of on average between 3% and 6% since the mid-2020s. The benefits have not only been felt on the national level and in the big urban areas, as also smaller towns and rural areas have gained from it. *Thinking SADC, nationally and locally* when planning and investing in infrastructure, played a huge role in this success.

A Good Life in Urban South Africa

Life on the streets of urban South Africa is very different to the first two decades of the 2000s. In contrast to life back then, the streets are now filled with people and there is excitement in the air. There are now also far fewer cars in the streets, and all you hear is people's voices and music – walking and cycling are now the most popular means of getting around, and the electrical buses and taxis barely make a noise. Instead of pavements packed with cars, there now are (1) many small places to eat, (2) salons where you can have your hair done, (3) little shops selling anything from fresh produce to health foods, (4) research, education and innovation institutes, where knowledge and ideas flow freely, and (5) art and culture academies, where young artists are primed, and where you can enjoy music, poetry and short plays and buy paintings and sculptures. And it is here, in the vibrant streets and surrounding public spaces that never sleep, where many of the more than 75% of South Africans who now call 'the city' their home, *make a life and live much of their lives*. It is also here where South Africa and the rest of the world meet

– where you see faces and hear languages from all over the planet. Many of these voices are those of tourists who love the vibrant and unique cosmopolitan atmosphere, and who have made South Africa one of the top ten tourist destinations in the world for the last 26 years in a row. Again, it was the foresight and decisive actions of government in the 2020s that succeeded in growing the sector into one of the largest and most dynamic in the country.

A Good Life in Rural South Africa

Rural South Africa is also in a very different shape to what it was in the late 2010s when it was a hard place to grow up in, money was tight, jobs were few and government services in many places non-existent or weak. This all started changing for the better when government launched its grant-funded '*National Spatial Restructuring Priority Plans*' in the early 2020s, with their focus on developing '*functional rural regions*' throughout rural South Africa, and which entailed the carefully planned roll-out and provision of quality services in each of these regions in a systemic way in accordance with government's so-called '*social services wheel*'. In many rural towns, there are now clinics, police stations, schools, arts and culture academies and sporting facilities, and even the smallest villages have lightning-fast communication networks. Hundreds of thousands of graduates deployed over the many years as interns, researchers, and tutors to rural schools, also assisted in making these plans a success. Very soon trade connections between smaller places in rural South Africa started growing, which soon saw the development of strong rural regions in areas where once there was little else but destitution and despair. At the same time, with the growing movement of millions of retired South Africans to rural areas, the economies of these places have been given a strong and stable financial injection.

A Young, Free and Creative Country

Today, 56 years into democracy, South Africa is finally beginning to enjoy the full dividend of freedom and is fully able to (1) harness the energy, creativity and vitality of its many young people, and (2) fuse it with the innovative flares and creative blazes of young people from the rest of the continent and all over the world.





PART FIVE: National Spatial Development Framework 2050

5.1 Introduction and Use of the Guiding Frame

The **National Spatial Development Frame** and ‘**set of NSDF Sub-frames**’ set out and provide a guiding framework to achieve the desired future **National Spatial Development Pattern** for South Africa in 2050 (see **Figure 37**). In line with the purpose and role of the NSDF, as outlined in **Part One**, these frames provide:

- A **national spatial schema** to *inform, direct and guide* all future infrastructure investment and development spending decisions by government and the private sector, to (1) optimise place-based potentials and spatial interdependencies, and (2) realise the *2050-National Spatial Development Vision* and our core national development objectives;
- A carefully chosen, *distinct set of* **nationally-significant places, connectors and areas** in and around which to *align, integrate and coordinate* investment by the private sector and all three spheres of government when preparing and reviewing (1) area/place-based provincial, regional and municipal SDFs, and (2) sector-specific and macro-infrastructure national and SADC-focused investment plans; and
- A **spatially-explicit assessment and accounting frame** for *monitoring and evaluating* all spending and investment decisions by government and the private sector in *space* (specific places and interrelated spaces) and *time* (the short, medium and long-term).

These frames spatially direct the *targeted and collective use* of the plans, budgets and actions of a wide range of public and private sector actors to, over time:

- *Capitalise* on key national spatial assets, locational potentials and agglomeration opportunities; and
- *Bring about* decisive, rapid, sustainable and inclusive national development and transformation at scale.

The frames were constructed in accordance with the *priorities* of the **National Development Plan**, the **National Spatial Development Vision** and **Logic** and after *careful consideration* of the following aspects and issues, as highlighted in **Parts Three and Four**):

- Key national spatial development *realities* and national and international *trends, movement patterns and technological advances*, and (1) the challenges they present, and (2) the opportunities they offer;
- A significant growth in our *national population* of between 17 and 22 million people between today and 2050;
- The (1) *unique development potentials of places and areas*, and (2) the *roles* they will have to play in national, regional and local economies, to realise our national development objectives of inclusive economic growth, job creation and poverty eradication;
- The need to (1) *safeguard national food security*, (2) *make the transition to a low-carbon energy future*, (3) *ensure adequate provision of safe and affordable water*, (4) *protect, manage and maintain key ecosystems and the services they provide*, and (5) *recognise the interconnectedness and interdependencies between places*; and
- The multiple threats associated with *climate change*, such as (1) *rising temperatures in the western and central parts of the country*, (2) *reduced water availability*, and (3) *growing unpredictability in the seasonal pattern of rainfall*.

To support the guidance provided by the **National Spatial Development Frame**, more detailed guidance is provided in *four Sub-Frames* (see **Figures 38, 40, 41** and **42**), as follows:

- **NSDF Sub-Frame One:** The National System of Nodes and Corridors;
- **NSDF Sub-Frame Two:** The National Resource Economy Regions;
- **NSDF Sub-Frame Three:** The National Movement and Connectivity Infrastructure System; and
- **NSDF Sub-Frame Four:** The National Ecological Infrastructure and Natural Resource System.

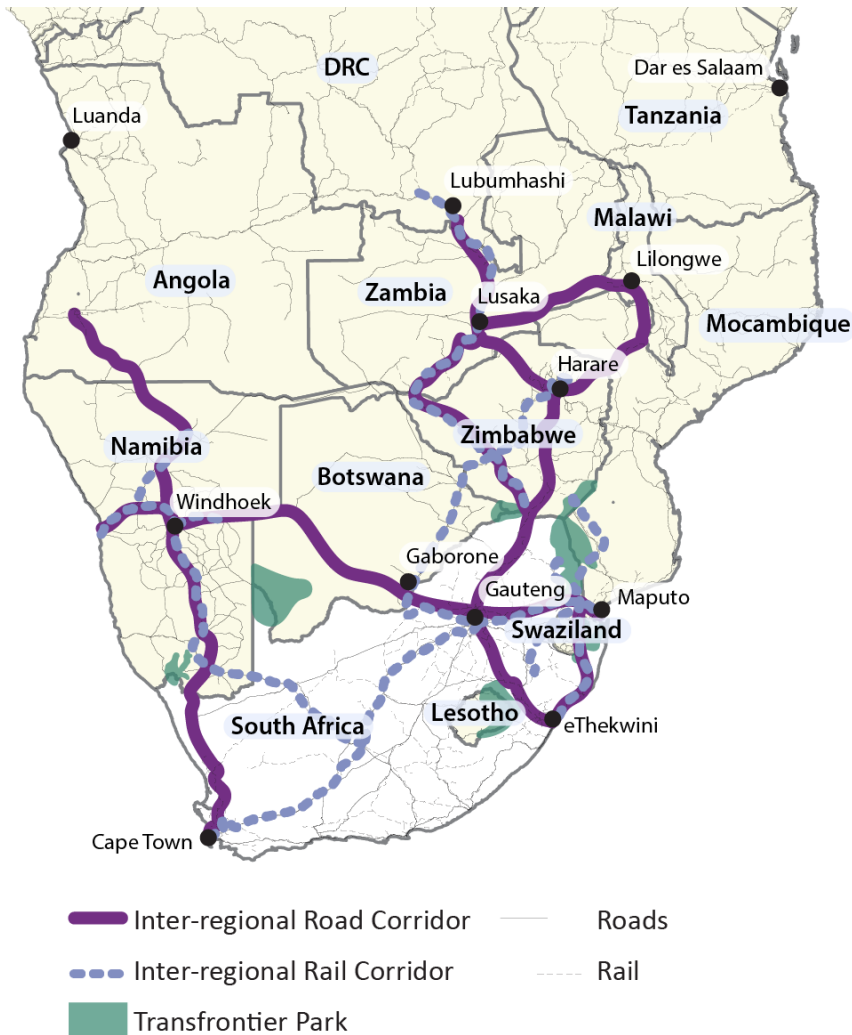
In **Sections 5.4 to 5.7** below, the following thematic information is provided regarding each of the **NSDF Sub-Frames**:

- General spatial development *guidance*;
- Spatial-specific *directives* to strengthen and develop existing and emerging roles of places in support of national development objectives; and
- A brief outline of the key role-players responsible for *driving spatial transformation, national adaptation and accountability*, as well as (1) the institutions that will be involved, and (2) the instruments that will be used in all three these regards.

Where relevant, more detail on the National Sub-Frames is provided in **Annexure B**.

5.2 Supra-National Framing

Figure 36: Supra-National Frame



Considering the importance of inter-regional connectivity and the urgent need for the provision and sharing of key regional infrastructure, three priorities are of particular importance to South Africa. These are (1) *energy supply*, (2) *transport and logistics services*, and (3) *shared water resources*:

- Renewable energy** has emerged as a rapidly-growing source that can add vastly to the energy mix in the region. Renewable energy projects have, however, faced serious challenges related to a lack of (1) policy and regulation, and (2) connecting infrastructure and financing. Through the regionally-connected electricity networks, South Africa is able to (1) buy electricity from Lesotho, Mozambique and Namibia when surplus is required, or (2) sell to Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe when it has excess production (ESKOM, 2016). The SADC *Energy Sector Plan* indicates that, apart from the infrastructure projects in South Africa, there are also a number of *planned* (or by now *current*) projects aimed at increasing power generation in the region (SADC, 2012). Nationally, these are also under consideration through the Electricity Grid Infrastructure and Gas Pipeline Extension programme, for which a national Strategic Environmental Assessment (SEA) process is currently underway.
- Transport and logistics infrastructure** has been identified as key to creating an enabling environment to (1) achieving the goal of sustainable regional socio-economic development, and (2) closing the widening gap in the provision of high-quality, efficient infrastructure, especially when considering road and rail infrastructure. In response to this, SADC adopted a spatial development corridor strategy in 2008 (see **Figure 36**). While railway lines are considered as crucial for (1) improved efficiency of movement of freight in the region, and (2) the protection of

infrastructure investment in the regional road network, the railway network has seen only minimal improvement, revitalisation and expansion. Poor road quality and lack of maintenance in certain areas remain a critical concern in the case of both regional and urban roads. Although capacity currently exists on the road network, projections for 2027 suggest the need for (1) further road-widening, (2) the construction of bypasses for major cities and passing-lanes in hilly regions, and (3) more efficient border-posts (SADC, 2012). While the SADC railways generally operate far below their original design capacities, they cannot increase their volumes because of (1) poor track condition, (2) lack of locomotive and wagon availability, and (3) low operating capital. With regards to new railway investments directly impacting upon or driven by South Africa, the TRANSNET rail investment plan indicates a new rail line to Botswana (the Lephalale-Mahalapye line) for coal transport, as well as the upgrading of several lines to the major harbours, to support mineral exports.

- **Water availability** across SADC varies. The countries with the greatest demand unfortunately also have the most limited supply. South Africa shares several water catchment basins with neighbouring countries including (1) the Orange-Senqu basin (Namibia and Botswana), (2) the Limpopo basin (Botswana, Zimbabwe and Mozambique), (3) the Inkomati basin (Swaziland and Mozambique), and (4) the Maputo-Usungu-Pangola Basin (Swaziland and Mozambique). It is projected that by 2025, two of South Africa's major river basins (the Orange-Senqu and the Limpopo basin) will be under stress, i.e. meaning they will have less than 500 cubic metres of water available per person annually (Earle & Malzbender, 2013). The SADC Protocol establishes a legally-binding framework for transboundary water management in the region. Within the context of recent water challenges to sustain livelihoods, agriculture, mining, industrial and service economies in our country, the regional importance of (1) transboundary water

management, and (2) sustained and enhanced biodiversity and natural ecosystems, including wetlands (which are also the bases for viable rural livelihoods and tourism) is clearly evident.

The priorities related to cross-border and regional inter-relations can be summarised as follows:

- Facilitation of trade and movement in the SADC trade bloc;
- Strengthening and expansion of South Africa's role in facilitating inter-regional trade and providing regional gateways (i.e. our core urban regions and nodes) (see **NSDF Sub-Frames 1 and 2**);
- Protection of strategic regional ecosystems and bio-diversity through shared management of International Transfrontier Parks; and
- Effective and efficient management of cross-border movement, service delivery and inter-regional migration.

5.3 National Spatial Development Framework

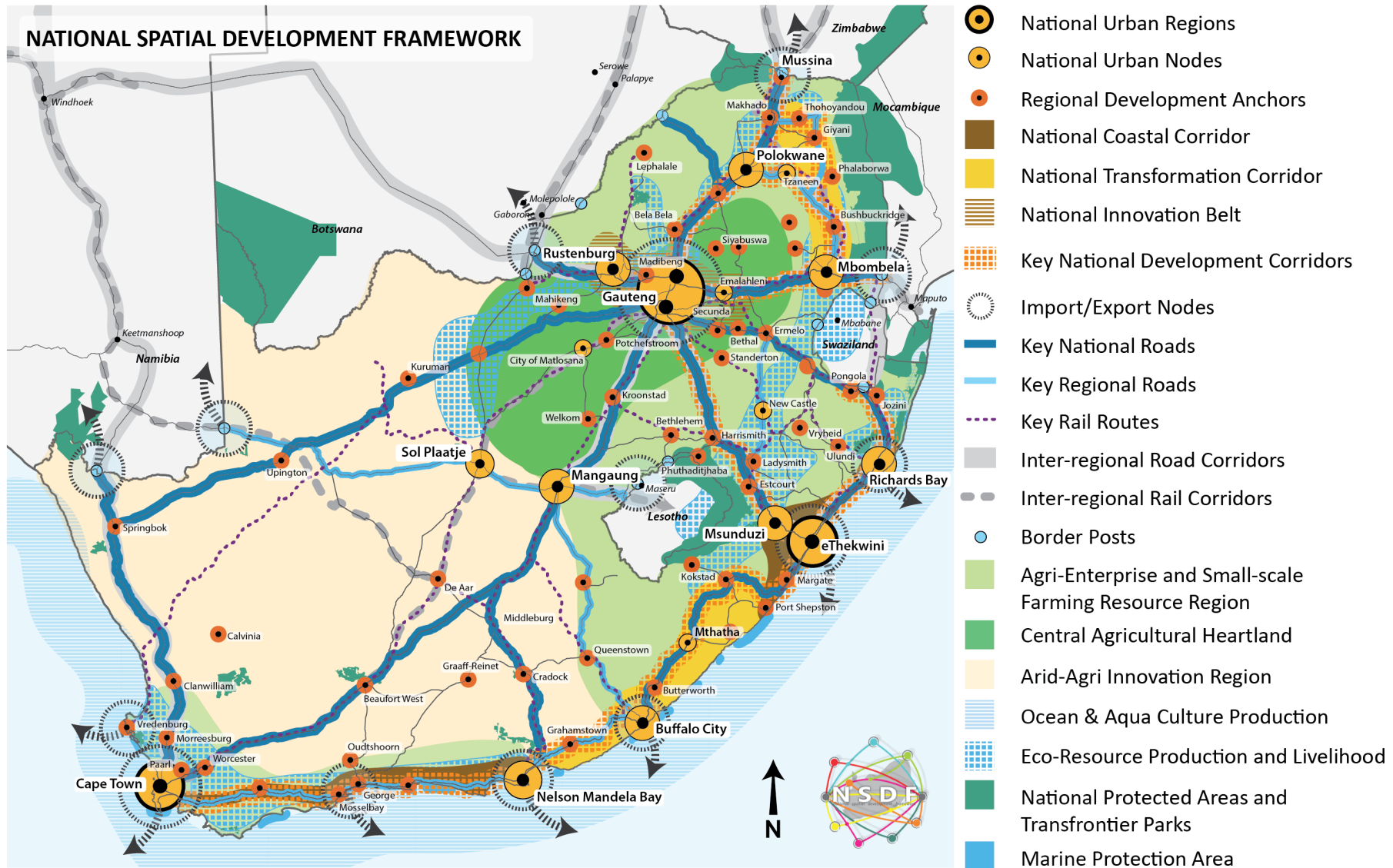
The **National Spatial Development Frame** provides the vision and directives for a resilient, sustainable and inclusive spatial pattern through a consolidated and well-connected system of international, national and regional development nodes and corridors, within a highly productive network of rural regions, where development nodes, rural regions and hard infrastructure are embedded within the limitations and interdependencies of national ecological infrastructure and natural resources.

The **National Spatial Development Frame** shown in **Figure 37** is supported by four **NSDF Sub-Frames**. It outlines a series of five strategic **National Spatial Outcomes** to (1) achieve the national development objectives as outlined in the NDP, and (2) bring about the **National Spatial Development Vision** and desired **National Spatial Development Pattern**, as outlined in this NSDF. As such, the **Spatial Outcomes** for 2050 are both *directive* and *informative*.

The four **NSDF Sub-Frames**, in turn, provide:

- An indication of nationally significant systems, networks, places;
- General spatial development guidance;
- Spatial-specific developmental guidance (with regards to what needs to be strengthened and extended, new and emerging development areas, and critical management and restriction areas);
- An indication of key national role players and initiatives; and
- The risks associated with failure to respond.

Figure 37: National Spatial Development Framework





5.3.1 National Spatial Outcome One

A network of consolidated, transformed and well-connected national urban nodes, regional development anchors, and development corridors that

enable South Africa to derive maximum transformative benefit from urbanisation, urban living and inclusive economic development.

In terms of this outcome:

- Consolidated and quality settlements are provided with the necessary social and economic infrastructure for a fast-growing population. This is to be done in a way that considers (1) all our available natural and man-made resources, and enabling and empowering technologies, and (2) the need to provide for both current and future generations.
- National urban regions and nodes act as national and global gateways for trade, tourism and national political functions, and gateways for African and regional integration (see **NSDF Sub-Frame 1**).
- High-density urban nodes provide opportunities for interaction, innovation and enterprise development within existing, as well as new, inclusive and interaction centred enterprise economies (see **NSDF Sub-Frame 1**). Embedded in the nodes are management practices that recognise the collective impact of household and business-level consumption and behaviour (notably in the areas of water use and waste generation), and ensure sustainable (1) development of the built environment, (2) service delivery, (3) use of energy and water, and (4) consumption of food.
- A well-developed service infrastructure system acts as basis for just access to high quality social and other services in a:

- A strong and well-functioning polycentric system of well-connected urban core areas within wider functional urban regions and corridors that offer a wide range of high-order medical, education, government, safety and security, as well as national administrative, trade gateway and economic services is put in place (see **NSDF Sub-Frames 1 and 2**); and
- A network of vibrant regional development anchor towns, with strong rural-rural connections to strategically located rural service towns, that act as regional service providers, is created (see **NSDF Sub-Frames 1 and 2**).



5.3.2 National Spatial Outcome Two

National corridors of opportunity enable sustainable and transformative national development, urbanisation, urban consolidation, mutually beneficial urban and rural linkages, and ecological management.

In terms of this outcome:

- Economic growth, consolidated settlement development and trade infrastructure and trade are located within well-connected inter-regional and national development corridors and routes (see **NSDF Sub-Frame 1**).
- Urbanisation, settlement growth and the dynamically changing needs of a growing population are directed and attracted to, and accommodated in the system of national urban regions and nodes, with specific emphasis on the identified:
 - Coastal Growth and Development Corridor; and
 - National and inter-regional connecting and development corridors (see **NSDF Sub-Frames 1 and 4**).

- National transformation and development corridors (see **NSDF Sub-Frames 1, 4 and 5**) provide opportunities for regional adaptation through:
 - Settlement transformation and consolidation and inclusive urban economies;
 - Effective land-management and custodianship of national strategic water production and ecological sensitive areas; and
 - Sustainable eco-agri-enterprise activities and livelihoods.



5.3.3 National Spatial Outcome Three

National connectivity and movement infrastructure systems are strategically located, extended and maintained, to support a diverse, adaptive and inclusive space economy and key national and regional gateways.

In terms of this outcome:

- The national transport, trade and communication network is aligned with, and serves the identified nodes and development corridors in a way that supports the development needs of our growing population through (1) effective support for the economy, (2) the delivery of quality services, and (3) growth in employment (see **NSDF Sub-Frames 1 and 3**).
- National road, rail, air, maritime and ICT networks and infrastructure are all aligned and prioritised, based on the demand and volume of services, as well as future growth in identified areas (see **NSDF Sub-Frame 1**). Transport and logistic links serve natural resource-based economies in areas focused on (1) the export of raw materials, and (2) processing-activities

related to mining, agriculture, forestry and manufacturing. Local freight needs, movement, passenger transport infrastructure and management skills/capabilities are spatially aligned and phased, to timeously support identified nodes and connecting corridors (see **NSDF Sub-Frames 2 and 3**).

- Effective development of all national ports (sea and air) of entry is ensured, to support the international and regional flow of goods, services and people. This includes logistics infrastructure, services and customs services (see **NSDF Sub-Frame 3**).
- National bulk infrastructure investment and maintenance in hard and ecological infrastructure is prioritised, to ensure water and energy availability, and assist in the development of international and national development nodes and corridors (see **NSDF Sub-Frames 1, 2, 3 and 4**).
- Demand-management, together with expansion, upgrading and maintenance of the national infrastructure network is done, to enable and sustain bulk water supply and energy distribution.



5.3.4 National Spatial Outcome Four

Productive Rural Regions, supported through sustainable resource economies and regional development anchors, enhance resilience in rural areas, to enable access to the dividends of urban consolidation, rural innovation and climate adaptation.

In terms of this outcome:

- National food security, rural transformation and rural enterprise development and quality of life in rural South Africa are enabled and supported through a set of strong urban-rural development

anchors (see **NSDF Sub-Frame 1**) in functional regional-rural economies (see **NSDF Sub-Frames 2 and 4**).

- Well-functioning, well-connected and productive rural regions (1) strengthen and enhance rural development and the well-being of rural communities, and (2) ensure the wise use, management and protection of nationally significant natural resources in these regions.
- Differentiated rural development (as set out in **Chapter 6 of the NDP**) entailing small, medium and large-scale agriculture, agro-processing, agro-eco enterprises, tourism, resource management and protection, play a key role in creating economic opportunities, and addressing poverty, unemployment and inequality in these regions and the country as a whole.
- Large and strategically located smaller towns in rural areas with significant rural-regional reach in terms of social service provision, tourism, personal services and administrative functions, act as **'regional development anchors'** to support functional regional-rural systems (see **NSDF Sub-Frames 1 and 2**).
- Urban consolidation and growth, innovation and context-specific access to housing and service opportunities in sparsely-populated, as well as densely-settled rural areas, is promoted and actively encouraged in a distributed regional-rural network of strategically located **'rural anchor towns'** (see **NSDF Sub-Frame 1**);
- A set of well-connected, strategically located smaller towns act as **'rural service centres'** to (1) ensure mutually beneficial *urban-rural* and *rural-rural* market linkages, and (2) provide distributed, but efficient access to critical social services and sustainable livelihood and settlement opportunities within diverse and productive rural regions (see **NSDF Sub-Frame 1**).



5.3.5 National Spatial Outcome Five

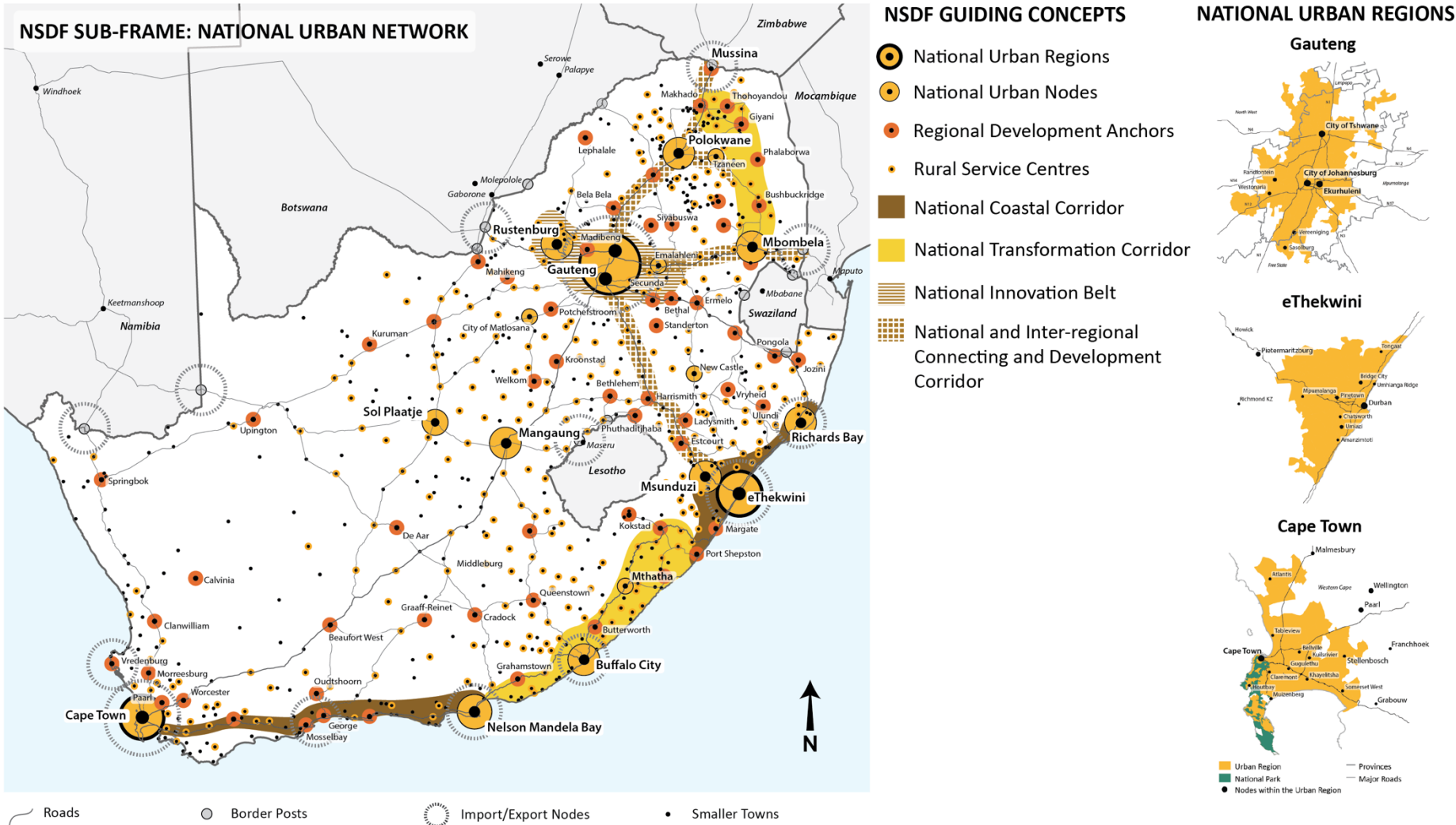
National ecological infrastructure and the national natural resource foundation is well-protected and managed, to enable sustainable and just access to water and other natural resources, both for current and future generations.

In terms of this outcome:

- The national inter-regional water transfer and storage system is well-planned and effective, and plays a critical role in ensuring national (1) water security, (2) well-being, and (3) quality livelihoods for all. National and regional collaboration ensures maintenance of our national water resources.
- Ensuring water availability over the long-term takes centre-stage in well-aligned and integrated long-term (1) national, provincial and municipal strategic and (2) sector planning processes, and includes a focus on national and supra-national regional water-interdependencies.
- National ecological infrastructure and resources are protected and well-managed in officially protected national and provincial parks and ocean areas.
- National ecological and biodiversity management areas are managed in national priority development areas, as the foundations of ecological infrastructure that sustains all life and livelihoods.
- In full recognition of the complex inter-regional and national spatial interdependencies across the national ecological infrastructure system and its importance for sustainable local and national development, the national spatial development pattern and the use of land is planned and effectively managed.

5.4 NSDF Sub-Frame 1: National Urban Network

Figure 38: National Urban Network Sub-Frame



5.4.1 General Guidance

Inclusive economic development, livelihoods, land and housing:

Settlement development, both in *urban and rural South Africa*, must be undertaken in such a way that it (1) increases development density, (2) reduces urban sprawl, (3) prevents the unsustainable use of productive land, and (4) optimises investment in infrastructure networks. As such, *municipalities, supported by provincial and national government sector departments*, must:

- Prepare and implement appropriate local and regional economic interventions;
- Enable and support a wide spectrum of livelihood opportunities;
- Ensure timeous identification, acquisition and release of well-located land; and
- Make provision for a diverse range of *housing options* for a diverse range of *household types*.^{viii}

In *rural settlements*, it is imperative that (1) environmentally-sensitive settlement planning be undertaken, (2) '*rural design*' be introduced, and (3) viable, new agri-eco-focussed enterprises be established and existing ones supported.

Social services and settlements: If South Africa is to meet the social needs of its very young, but also *increasingly older* population, then a rational process of providing social infrastructure is required. The NSDF is therefore underpinned by a '*national settlement service provision framework system*' in terms of which social services are provided in accordance with the (1) role and (2) service reach of the type of settlement on the national settlement network. This system provides the basis for guiding investment in infrastructure and social services, especially by national sector departments (see **Figure 39**). However, this system will only work if

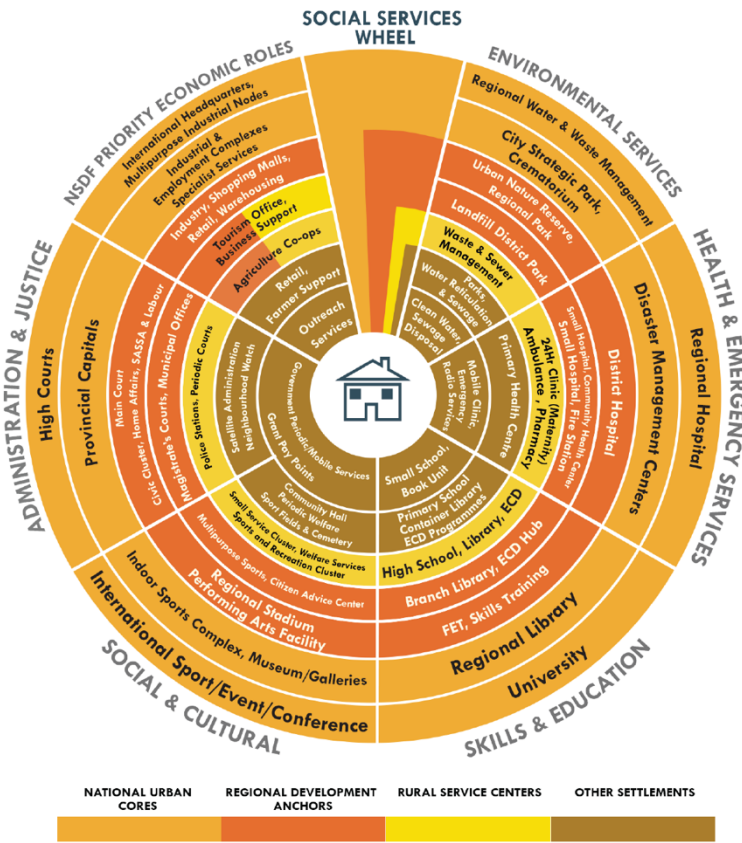
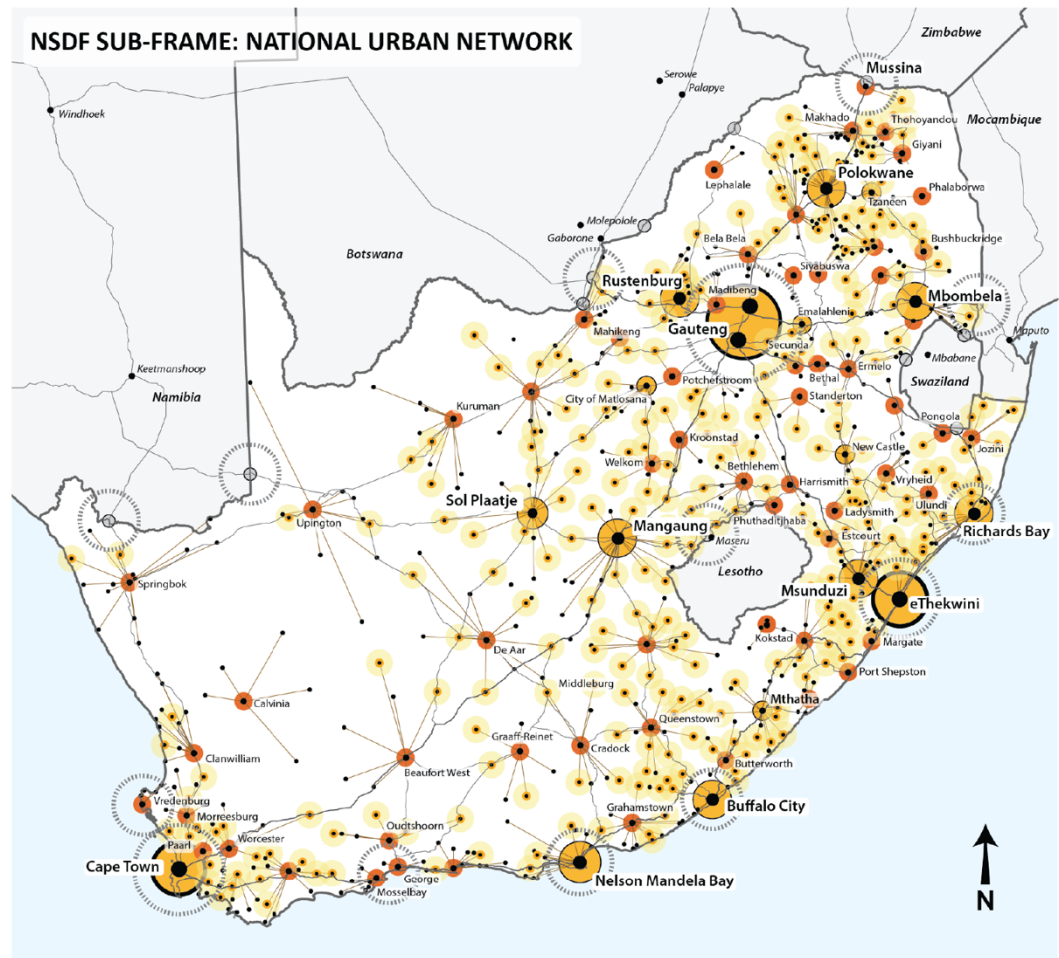
government as a whole adopts it to guide their social infrastructure planning and investment. As a starting point, it is recommended that priority be given to embedding this system in all of government.

National and regional connectivity: The national network of nodes, smaller settlements and corridors requires that (1) national nodes and smaller settlements are well-connected to each other, and (2) national nodes are well-connected to the rest of the world through a range of transport modes and communications networks. This requires that:


- Road and rail routes that are of national importance be built, maintained and/or upgraded;
- Rail be prioritised over road for freight movement; and
- The availability, affordability, safety and quality of mass public passenger transport be drastically improved.

Water availability: Given our dire water situation, water demand must be curbed, water sources must be augmented, and the little water we have, protected from loss through well-maintained infrastructure. In addition to this, (1) our ecological infrastructure must be protected and its use be well managed, and (2) new settlement development must be restricted and existing settlement growth carefully managed in water-stressed catchments and regions.

Figure 39: National and Regional Settlement and Service Network



5.4.1 NATIONAL URBAN REGIONS

GUIDELINES	SPATIAL REPRESENTATION	LOCATION SPECIFIC GUIDELINES
<ul style="list-style-type: none"> • Consolidate urbanisation in compact, productive, sustainable, inclusive and well-governed urban core regions. • Prioritise infrastructure maintenance to mitigate against the expected impact of natural and climate change-related hazards on large numbers of people, especially the poor and most vulnerable members of society, and avoid repetitive infrastructure-repair costs. • Prioritise infrastructure (ports, harbours and logistics infrastructure) and efficient operations of nationally significant trade and movement networks. • Manage demand and maintain, expand and refocus our infrastructure network to enable and sustain bulk water supply and energy distribution <i>within</i> and <i>to</i> urban regions. • Effectively utilise, protect and manage high-value agricultural lands, ecological infrastructure and national manmade and natural environmental assets, and mitigate down-stream impacts on water bodies, water catchments and other natural resources. • Actively support national and international programmes aimed at climate change mitigation of CO2-emissions, and introduce local policies and measures to assist such programmes. • Utilise innovation, enterprise development and job creation opportunities in (1) agro-eco-industries, (2) tertiary and service sectors, (3) tourism, (4) knowledge-creation, and (5) cultural and entertainment industries. • Maintain and upgrade road and rail routes. Prioritise rail for bulk freight, and improve the affordability of intercity public passenger transport. • Maintain and strengthen international gateway ports and airports to improve trade efficiency and international exchange and travel. 		<div data-bbox="1400 344 1467 411"> </div> <p data-bbox="1507 363 1935 395">EXISTING TO BE STRENGTHENED</p> <ul style="list-style-type: none"> • Gauteng Urban Region. • eThekweni Urban Region. • Cape Town Urban Region.

5.4.2 NATIONAL COASTAL CORRIDOR

GUIDELINES

The **Coastal Growth and Development Corridor** along the eastern and south coasts (N2) is supported as an area of strong interconnection between high-value rural resource production, ecological resource regions, tourism development, comfortable climatic zones and urban nodes. This corridor also provides opportunities for consolidation of existing cities, and the development of 'new' cities supported by well-developed multi-modal connectivity infrastructure. This requires that:

- Port and airport development be strengthened in support of inter-regional trade flows and efficiency.
- Small harbour development in support of the fishing, tourism and maritime economy at identified Coastal Regional Anchor and Rural Service Centres be maintained, expanded and accelerated.

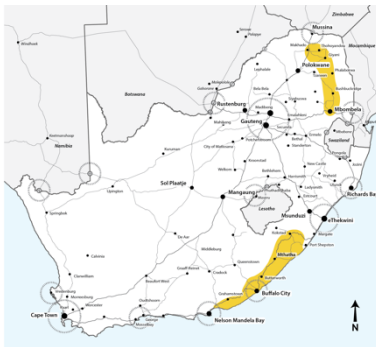
SPATIAL REPRESENTATION



EXISTING TO BE STRENGTHENED

- KwaZulu-Natal Coastal Corridor (Port Shepstone to Richards Bay).
- Garden Route (Mossel Bay to Nelson Mandela Bay).

5.4.3 NATIONAL TRANSFORMATION CORRIDORS

GUIDELINES	SPATIAL PRESENTATION	LOCATION SPECIFIC GUIDELINES
<ul style="list-style-type: none"> • Consolidate settlement development and support development of new cities in areas (1) of significant population growth, and (2) that are facing significant challenges and offer sizeable opportunities for transformation. • Develop regional and municipal urban-rural and eco-agri development strategies in strategic national water and agriculture production regions. • Accelerate small harbour development in support of the fishing, tourism and maritime economy in Regional Development Anchors and Rural Service Centres along the coast. • Undertake integrated human capital development, to enable a generation of young people to reap the benefits of urbanisation through (1) human capital development, and (2) the opening-up of urban economies to enable and support a multiplicity of livelihood options. • Use land administration and urban land reform to guide the interface between settlement planning, land-use, development and infrastructure planning in fast-growing formal and traditional settlement areas. • Introduce and upgrade sustainable built environment infrastructure as stimulus to enterprise development, with a focus on (1) housing, (2) basic service delivery, (3) public transport, and (4) rural-urban connections. • Introduce and/or strengthen effective regional collaboration, partnerships and cooperative governance models, to ensure (1) mutually beneficial natural resource use and land-development, and (2) optimise national, regional and local economic development benefits. 		<div data-bbox="1395 344 1473 411" data-label="Image"> </div> <div data-bbox="1496 363 1933 395" data-label="Section-Header"> <h4>CREATE NEW AND TRANSFORM</h4> </div> <ul style="list-style-type: none"> • Eastern Coastal Transformation Corridor: Nelson Mandela Bay via Mthatha to Port Shepstone. • Eastern Escarpment Transformation Corridor: Mbombela to Thohoyandou.

5.4.4 INTER-REGIONAL AND NATIONAL FREIGHT AND DEVELOPMENT CORRIDOR

GUIDELINES

- Adequately plan for and enable trade with SADC, which includes (1) a focus on SADC corridors, and (2) improving cost and efficiency at border and port facilities to handle greater international and regional trade flows.
- Strengthen trade and flows on existing corridors, to assist in the strengthening of the cities and towns on these corridors.

SPATIAL PRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Existing **national and inter-regional freight and development corridors** along significant export and import trade routes (from Gauteng (1) via Witbank to Komatipoort N4, (2) via the N3 to eThekweni, and (3) the N1 north to Musina).

5.4.5 CENTRAL INNOVATION BELT

GUIDELINES

- Consolidate and re-focus growth, undertake re-skilling, and support and pursue innovation and economic transformation throughout the region/area, but with a *carefully targeted approach* in accordance with unique local strengths and opportunities.

SPATIAL PRESENTATION



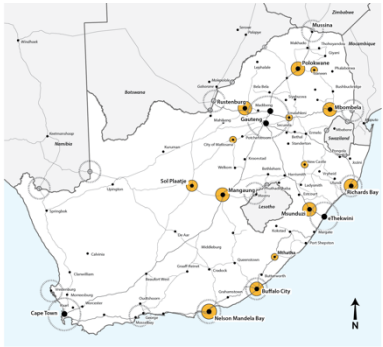
LOCATION SPECIFIC GUIDELINES



SUPPORT IN STRESSED

- The **densely developed polycentric transition economy belt surrounding the Gauteng urban region** where growing cities and towns are facing significant decline in their economies and are at risk of an increase in unemployment, due to a variety of local and global factors (e.g. technological shifts, climate change concerns, and declining demand in economies dependent on resource extraction).
- This includes key towns around Gauteng, such as Rustenburg, Sasolburg, Witbank and the City of Matlosana/Stilfontein.

5.4.6 NETWORK OF NATIONAL URBAN NODES

GUIDELINES	SPATIAL REPRESENTATION	LOCATION SPECIFIC GUIDELINES
<ul style="list-style-type: none"> Consolidate and direct the rapid population growth in the eastern half of the country to national urban nodes, clusters and corridors by (1) creating quality human settlements and (2) centres of human capital excellence, innovation, trade, inclusive green economies and regional enterprises, and in the process <i>reaping the urban dividend</i>. Consolidate settlement growth in (1) <i>growth regions</i> in emerging and fast-growing urban nodes, and (2) <i>distressed and sparsely populated areas</i> and areas that are becoming increasingly more arid in existing large urban nodes. 		<div data-bbox="1400 344 1467 411"> </div> <div data-bbox="1503 363 1935 392"> EXISTING TO BE STRENGTHENED </div> <ul style="list-style-type: none"> Existing and fast-growing cities in identified corridors, e.g. Mbombela, Richards Bay, Buffalo City and Mangaung. <div data-bbox="1400 547 1467 614"> </div> <div data-bbox="1503 566 1798 595"> SUPPORT IN STRESSED </div> <ul style="list-style-type: none"> National urban nodes in economically declining or environmentally-stressed regions, e.g. Kimberley and Rustenburg. <div data-bbox="1400 759 1467 826"> </div> <div data-bbox="1503 778 1930 807"> CREATE NEW AND TRANSFORM </div> <ul style="list-style-type: none"> In National Transformation Corridors, e.g. Mthatha, Hazyview and Tzaneen. In new resource production regions, e.g. Lephalale.

5.4.7 NATIONAL NETWORK OF REGIONAL DEVELOPMENT ANCHORS

GUIDELINES

- Identify, support and strengthen strategically located regional anchor towns through (1) targeted settlement planning and development, (2) higher-order social infrastructure provision, (3) focused support for small and medium-sized enterprise development, industrialisation and economic diversification.
- Use the investment and enhanced social service provision in regional anchors to encourage officials working in these rural regions to stay in these settlements and contribute to the local economy, instead of commuting to larger towns or cities on a daily or weekly basis.
- Clearly identify the role of specific settlements as gateways and interchanges on the regional public transportation network, and incorporate these as such into the planning of functional rural regions.
- Strengthen the connectivity of traditional areas and rural settlements with (1) higher-order urban settlements, and (2) economic systems in functional rural regions by making use of road and rail network and regional corridor development.
- Plan social infrastructure provision within a regional-rural setting using the 'social services wheel', and use such investment to establish and create well-functioning, compact, lively, rural settlements and regional rural systems (see **Annexure B**).

SPATIAL PRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Nodes on strategic routes, e.g. Harrismith, Estcourt and Clanwilliam.
- Bigger nodes in denser regions, e.g. Phalaborwa, George and Mossel Bay.



SUPPORT IN STRESSED

- Support fast growing towns and extended service delivery demands in densely-developed border regions, e.g. Musina, Pongola, Mmabatho, Mokopane, Tzaneen and Makhado.
- Consolidation and infrastructure maintenance and management support for nodes in arid, environmentally vulnerable regions, e.g. Upington and Kuruman.
- Nodes on strategic routes, e.g. Beaufort West and Vryburg.
- Smaller nodes in sparsely populated regions, e.g. Springbok and Calvinia.



CREATE NEW AND TRANSFORM

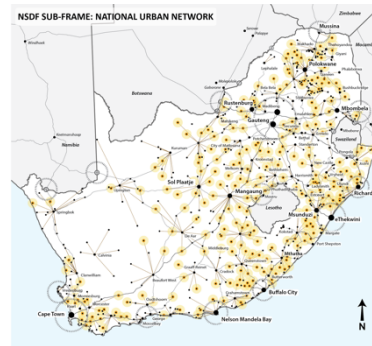
- Regional Anchor towns in National Transformation Corridors, e.g. Giyani, Thohoyandou, Bushbuckridge, Jozini, Ulundi, Kokstad and Butterworth.

5.4.8 REGIONAL NETWORK OF RURAL SERVICE CENTRES

GUIDELINES

- **Rural development** must be supported through a hierarchical network of prioritised service centres where people in rural areas and settlements can optimally be provided with core municipal services, social and government services, and where rural logistics and support can be provided to optimally support rural development.

SPATIAL REPRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Towns that act as border and trade posts need special attention, e.g. Manguzi, Komatipoort, Ladybrand and Kamaqhekeza.



SUPPORT IN STRESSED

- In arid areas and areas experiencing a decline in population, settlements must be consolidated and maintenance prioritised in such core towns, e.g. Victoria West, Carnarvon, Groblershoop and Koffiefontein.



CREATE NEW AND TRANSFORM

- In dense rural settlement regions, consolidation within nodal centres and rural design is required, e.g. in the towns of Barkley East, Bizana, Dundee, Madibogo and Flagstaff.

5.4.9 OTHER SMALL TOWNS AND NODES IN SOUTH AFRICA

GUIDELINES

- Consolidate and provide basic services to the local population in a network of small towns and settlements (see **Annexure B** for a list of these towns).

SPATIAL REPRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Urban consolidation and basic service delivery in growing regions to keep pace with development, e.g. Qumbu and Pomeroy.
- Specific support must be provided to (1) towns that act as border towns and trade posts, and (2) growing towns in border regions, e.g. Alldays, Clarens, Maluti and Rhodes.



SUPPORT IN STRESSED

- In arid areas and areas experiencing a decline in population, settlements must be consolidated and maintenance prioritised in the core towns. In areas that are ecologically-sensitive and that experience harsh climatic conditions, new settlement must be discouraged, e.g. Reivilo, Sannieshof and Pofadder.
- Decouple mining development from settlement development.



CREATE NEW AND TRANSFORM

- In densely populated and growing rural regions, (1) settlement must be consolidated in nodal centres, and (2) spatial planning and rural design done to ensure managed and quality future settlement development, e.g. Modjadjiskloof, Maclear, Marblehall and Paul Pietersburg.

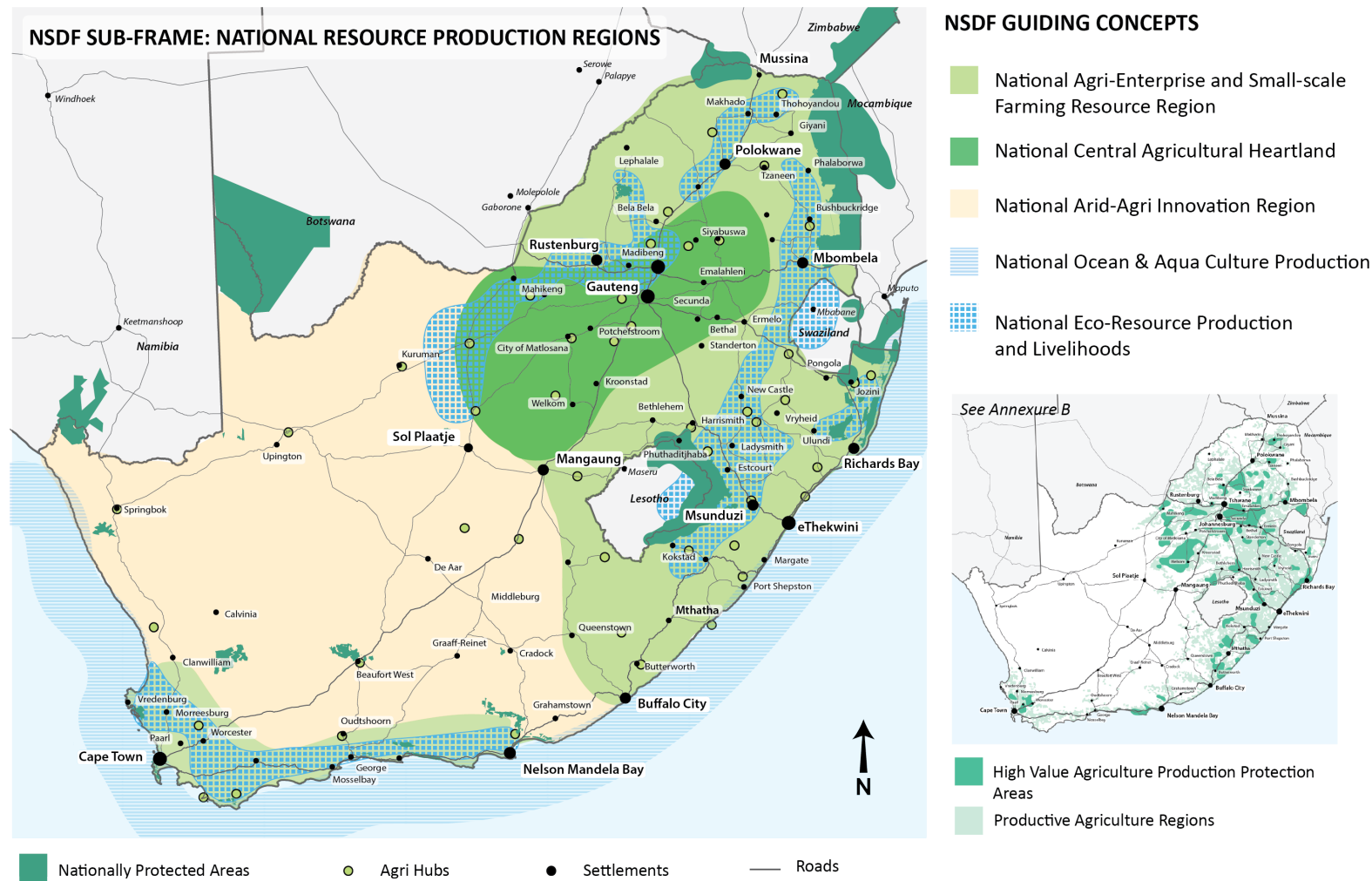
5.4.10 National Action and Key Role-Players

Strategic investment in national urban growth regions will require (1) high levels of intergovernmental coordination and alignment, as well as (2) the introduction of 'joint accountability' in terms of the achievement of national spatial development outcomes. Crucial actions that will have to be undertaken in these regards are the following:

- Urban areas experiencing large-scale urbanisation will need (1) the support of initiatives such as the IUDF and the DHS Master Plan, *with a focus on ensuring financial viability in human settlement development*, and (2) regional-scale collaboration, *with a focus on private sector, civil society and city government involvement*.
- Coordination between long-term infrastructure planning, implementation and maintenance, with a specific focus on (1) national water storage, allocation and availability, and (2) the national rail and road network, which necessitates harmonisation between IPAP, NATMAP 2050 and the NSDF, will be required.
- Capacity shortfalls in the construction, maintenance and upgrading of bulk water, energy and transport infrastructure at local level will require dedicated support from the national and provincial departments responsible for municipal and spatial planning. Care will need to be taken to ensure that such support assists in the creation and maintenance of resilient and sustainable urban regions.
- Urban land reform and the timely release of suitable land in the right places is imperative. Municipalities may require support in the identification, acquisition and release of such land, and its use in ensuring catalytic development, spatial transformation and inclusive growth.

5.5 NSDF Sub-Frame 2: National Resource Production Regions

Figure 40: National Resource Production Regions Sub-Frame



5.5.1 General Guidance

Rural regions and regional anchors: The development of productive, functional rural regions throughout South Africa requires:

- The (1) 'delineation' of functional rural regions, and (2) the identification of regional anchors in such regions that are located on the *national transport network*;
- High levels of (1) *national-regional connectivity* between such regional anchors, and urban nodes and regions, and (2) *regional-local connectivity* between such anchors and the towns and villages in their respective regions;
- The development of *viable, robust and resilient regional rural economies* that recognise and respect the limitations and interdependencies of the national ecological infrastructure and natural resources on which they depend; and
- Sound spatial planning, consolidation of the urban development, and minimisation of the urban footprint, in such regions.

Diversities, strengths and cautions: While the concept of regional rural development is a generic one, the spaces in which it is to be utilised are far from that. When considering the diverse endowments and assets of these rural regions, it emerges that:

- The *eastern half* of the country has areas with moderate to high levels of '*agricultural potential*'. Although agriculture has been developed in many of the areas where this potential exists, there still remain areas of high agricultural potential that have not yet been fully utilized. At the same time, there are also significant areas of dense human settlement on high-value agricultural land.
- The *western half* of the country has less agricultural potential, primarily due to far less annual rainfall in these areas than in the

eastern half of the country. Regions in this half of the country do, however, have a range of other opportunities, notably tourism, conservation and mineral-resource extraction.

- Both halves contain much of the key national ground and surface water production areas which are critical for water supply to the country's major urban regions, cities and towns, and, as such necessitates spatial planning, wise use of natural resources and effective land use management.
- A number of key national conservation areas also feature prominently in the areas identified as productive rural regions. Although some communities already do benefit from these resources, much more can be gained from this relationship, notably in the area of eco-tourism.

Sustainable resource use and land-use management: Intergovernmental cooperation and collaboration in (1) the development of productive rural regions, and (2) the management of natural resource use in such regions will be required. This is especially important in municipalities with significant parcels of high-value agricultural land that are under pressure from human settlement and/or mining. The focus of such collaboration, which should have a (1) spatial planning, (2) land use management and (3) inclusive growth component, must *at least* be on:

- *Water security*, including the mitigation of the impacts of regional rural development on national water resource availability and quality;
- *Food security*, including (1) the sustainable use of high-value agricultural land, and (2) the protection of national food production areas; and
- *Land reform*, including (1) the pursuit of justice in access to high-value agricultural land, and (2) the provision of support to new and emerging farmers in such areas.

Climate change adaptation: Climate change in the form of less rain, greater unpredictability in rainfall, higher temperatures, more very hot days and a greater risk of veld-fires, has far-reaching implications for agricultural produce and habitation in all of South Africa's productive rural regions. Even in regions where the impacts of climate change will be less severe, the more severe impacts in other regions will lead to increased pressure on the use of land and other natural resources in such 'less severely affected regions'.

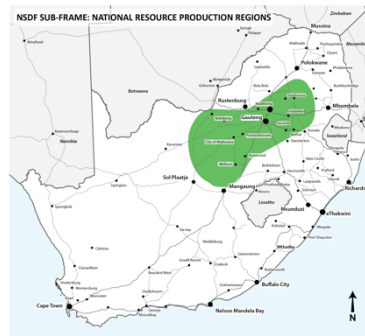
In order to counter and mitigate the impacts of climate change, *innovative agricultural adaptation*, involving a move to (1) *agricultural commodities* that are more resistant to extreme and harsh conditions, and (2) *agricultural practices* that are better suited to the anticipated adverse climatic conditions, will be required. At the same time, climate change may open up opportunities for new economic activities in some regions, notably in the *area of solar energy generation*.

5.6.2 CENTRAL AGRICULTURAL HEARTLAND

GUIDELINES

- Protection of high-value agricultural land through the use of 'rural edges' at the interfaces of regional rural regions with urban regions and nodes (see **Annexure B**).

SPATIAL REPRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Protect high-value agricultural land and manage (1) productive use, and (2) competition for development on such land in 'the Central Heartland' and the Gauteng Urban Region, in support of national food security, economic growth and social stability.



SUPPORT IN STRESSED

- Intensive rehabilitation and strict control will be required in mining areas to limit water, air and soil pollution and land degradation.



CREATE NEW AND TRANSFORM

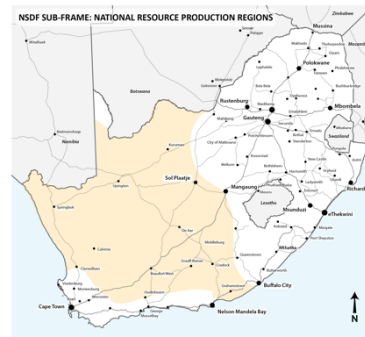
- Manage development of land with high agricultural production potential, and encourage small-scale agriculture and resource enterprise development. Support and encourage urban agriculture and intensive agri-enterprise production in cities, towns and urban regions.

5.6.3 ARID-AGRI AND INNOVATION REGION

GUIDELINES

- Primarily extensive agricultural activities, with (1) pockets and stretches of intensive irrigation-farming, (2) mining clusters, (3) renewable energy farms/plants, and (4) small, compact settlements in an arid region.

SPATIAL REPRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Encourage regional development initiatives to share capacity, research and innovation in support of specific regional development. A good example of this is the **Nama-Karoo Regional SDF Initiative** and the intensive multi-stakeholder engagement and collaboration around it.



SUPPORT IN STRESSED

- The impact of changing climatic conditions in the already drier and hotter western parts of the country (where large areas of locally-significant agriculture employment and production are located) will require regional agricultural adaptation support and effective land use management.



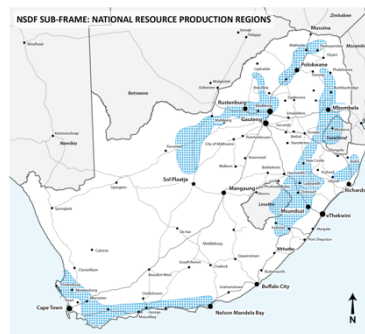
CREATE NEW AND TRANSFORM

- 'Irrigation innovation areas' must be developed in the arid west and increasingly arid central areas of the country through wise use of existing and new dams, irrigation schemes and canals.
- Experimental land development practices must be introduced and supported in selected arid and semi-arid areas of the country by making use of groundwater and/or water transfers.

5.6.4 ECO-RESOURCE PRODUCTION AND LIVELIHOOD REGIONS

GUIDELINES

- Enhance (1) productive capacity, (2) environmental and livelihood quality, (3) cultural heritage, and (4) natural resource access, through effective agrarian practices and enterprises that are focussed on natural resource restoration and custodianship.
- Discourage further land and settlement development, and carefully manage existing settlements and land uses in productive agricultural regions that play a crucial role in *national strategic water production, national food security and rural livelihoods*.
- Pursue effective management and custodianship of national strategic water source production regions.
- Ensure efficient rural-to-rural connectivity in rural regions, to enhance the prospects of making a life in these areas.



SPATIAL PRESENTATION

LOCATION SPECIFIC GUIDELINES



SUPPORT IN STRESSED

- The South-Western Region (Western Cape) where changing climatic conditions will (1) significantly impact on national food production and (2) require regional agricultural adaptation and effective land use management.
- The Central (Gauteng and Limpopo) Regions where nationally significant water and food production are impacted by human settlement and mining activities, and require effective land-use management.



CREATE NEW AND TRANSFORM

- The densely settled Eastern and Northern (Eastern Cape, KwaZulu-Natal and Limpopo) Regions require rehabilitation of degraded land, effective land use management, settlement consolidation, improved rural connectivity and an eco-resource related enterprise focus, to (1) provide opportunities for livelihoods and industries, and (2) support national water availability.
- Enhance and further expand the value and contribution of the Oceans' and Aqua Economy Areas to local livelihoods and regional and national economic development.

5.6.5 AGRI-ENTERPRISE REGIONS

LOCATION SPECIFIC GUIDELINES

SPATIAL REPRESENTATION



EXISTING TO BE STRENGTHENED

- Productive use of high value agricultural land to support national food security.



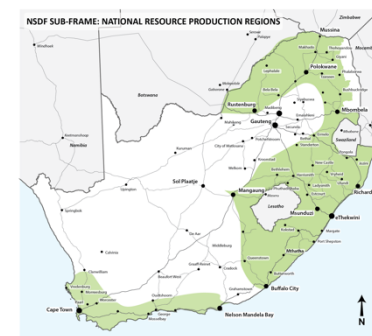
SUPPORT IN STRESSED

- Densely settled Eastern and Northern (Eastern Cape, KwaZulu-Natal and Limpopo) Regions.
- Rehabilitation of degraded land.
- Effective land-use management.
- Improve rural-to-rural connections, market accessibility and necessary agricultural production infrastructure.



CREATE NEW AND TRANSFORM

- Enhance connectivity through well-planned infrastructure investment and settlement consolidation in well-connected regional anchor towns.
- Enhance and extend the role of small-and-medium scale farming through rural land reform, to alleviate unemployment and poverty, and contribute to national food security.



5.6.6 MINING AND ENERGY PRODUCTION AREAS AND SUPPORTIVE INFRASTRUCTURE

GUIDELINES

- Collaborative, long-term regional development in new mining exploration areas is required, which includes (1) scenario development, (2) population migration projections, (3) diversification strategies, (4) cost/benefit-modelling of regional infrastructure provision, municipal service delivery, and the cumulative impacts of the mining activities, and (5) the optimisation of regional and local development opportunities.
- Rehabilitation and negative impact mitigation must extend beyond agreements on paper and be enforced on the ground.
- In the case of new mines, where (1) the levels of automation and mechanisation are low, and (2) sizeable numbers of workers will still be required, housing provision and/or settlement expansion must take place in *regional development anchors or existing small towns where adequate social services are available*. In deciding on the licencing of such new mining operations, (1) national and regional development priorities, and (2) the cumulative impacts of the envisaged mining activities and further such activities on the creation of functional rural regions must be considered. Where possible, mining companies should become far more involved in the development of functional, resilient rural regions, which may include investments in (1) hard, transport and connectivity, and (2) soft, social services infrastructure.

LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Long-term infrastructure planning must be informed by changes in the mining industry.
- Regional development and resource management must be used to support further mining and associated activities in the northern mining regions.
- In national urban regions, enterprise opportunities, large scale innovations in service delivery and disruptive technologies need to be researched and explored, to support urban economies and national well-being.



SUPPORT IN STRESSED

- Limit development of new mining-dependent towns.
- Support and diversify economies in declining mining towns and regions.
- The Mpumalanga Coal Mining and Coal Fired Power Plant Region will be under increased pressure (1) as a result of environmental concerns, (2) a possible decline in the demand for coal, and (3) large-scale employment losses. This requires regional-

scale and industry-orientated innovation. Measures must also be introduced to reduce emissions.

- Within remote and arid regions in the west, the cumulative impact of a growing number of wind farms, solar plants, mining and energy related projects should be carefully evaluated in regional context. The growth of existing towns close to these areas is supported, but new and on-site settlement far away from existing towns should not be.



CREATE NEW AND TRANSFORM

- Incentivise the use of renewable and clean energy in coal mining regions.
- Regional Economic Innovation to mitigate the impact of declining demand and employment in mining areas in the Central Innovation Belt.

5.5.7 National Action and Key Role-Players

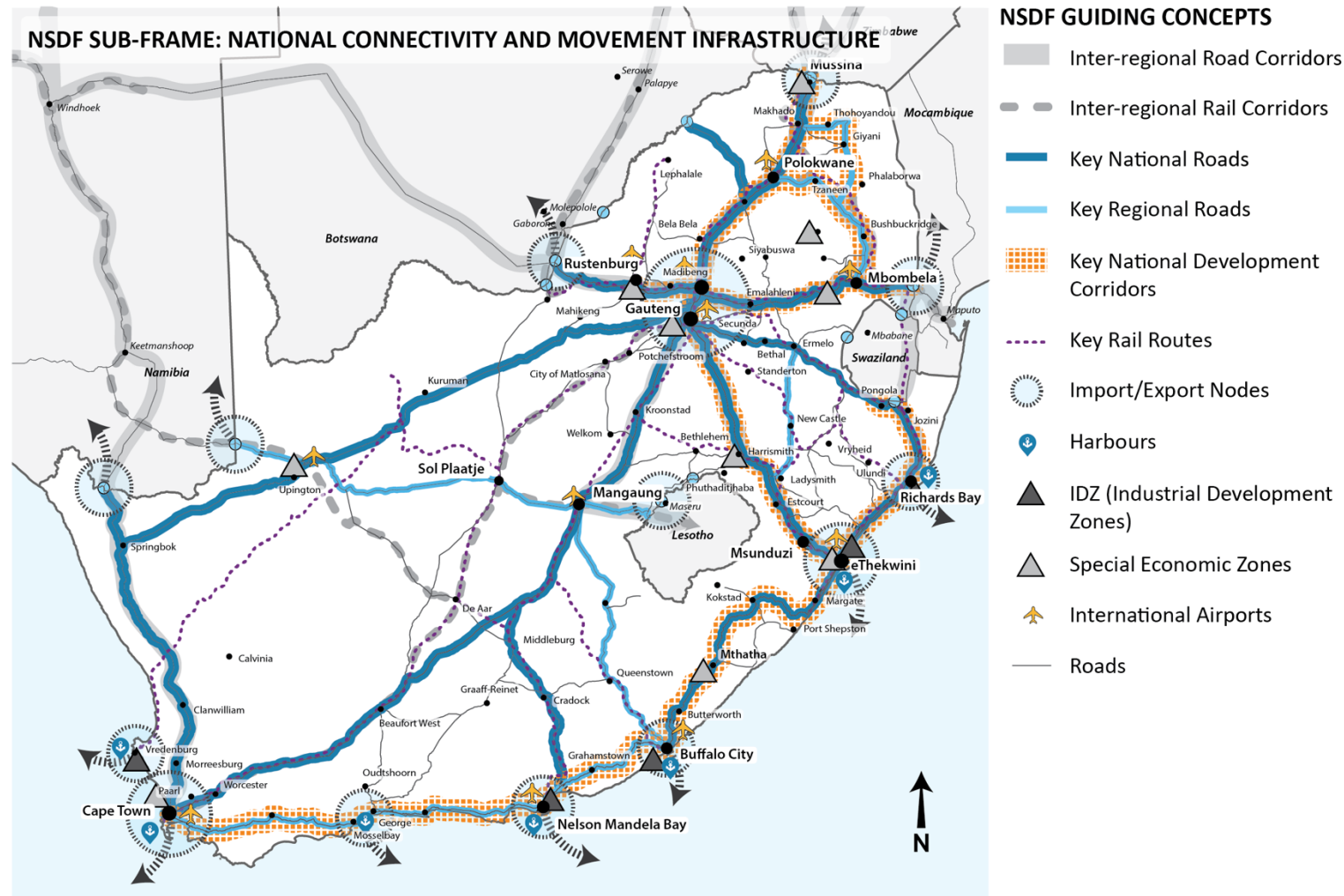
The strategic development of productive rural regions and regional anchors, and the consolidation of regional settlement patterns, will require (1) high levels of intergovernmental coordination and alignment, as well as (2) the introduction of 'joint accountability' in terms of the achievement of clearly defined regional spatial development outcomes. Crucial actions that will have to be undertaken in these regards are the following:

- Ensuring *broad-based support for the concept of regional-rural development*, and *sustained, active collaboration* by national and provincial sector departments, traditional leaders, municipalities, the private sector and communities in (1) undertaking the necessary regional-rural planning and related long-term infrastructure investment, (2) tying in key settlement development plans and initiatives, such as the IUDF, the DHS Settlement Master Plan and municipal IDPs and SDFs to these regional-rural plans, (3) implementing the plans in a coordinated and integrated manner, (4) monitoring the implementation of the plans, and (5) building the necessary capacity to undertake such regional rural planning and development;
- Supporting national food security through the *protection and productive use of high-value agriculture land*, as identified and directed by DAFF, and ensuring that all relevant national and provincial sector departments and municipalities account for their use and management of high-value agricultural land; and
- Pursuing and assisting with initiatives aimed at regional economic diversification and transition in *mining-dependent areas*, which may involve scenario development, research, piloting of proposals, enterprise development and support, and include a range of role-players, notably the mining industry, organised

labour, municipalities, traditional leaders, SALGA, universities and research councils.

5.6 NSDF Sub-Frame 3: National Connecting and Movement Infrastructure

Figure 41: National Connectivity and Movement Infrastructure Sub-Frame



5.6.1 General Guidance

Long-term planning and investment: Given the high costs and long life-cycles involved in large scale infrastructure investment, timeous planning, evaluation and design of appropriate geo-specific national economic infrastructure is critical. Transitions in (1) national settlement patterns, (2) major economic activities and sectors, (3) climate change, and (4) technological advances, notably in transport, energy generation and communication networks need to be planned for well in advance, and modes and patterns of infrastructure investment adjusted accordingly. This includes (1) the *phasing* of new connections and extensions, and the maintenance of existing infrastructure, and (2) the initiation of *collaborative long-term planning* with regards to national and inter-regional land and sea-based connecting and enabling infrastructure.

Movement and connection infrastructure networks: These networks are fundamental to (1) national spatial development, (2) the utilisation of national economic opportunities, (3) the creation of a national system of national urban cores, smaller settlements and national spatial development corridors, and (4) international, continental and SADC trade and connectivity. The effective functioning of these networks requires that:

- Investment in rail is prioritised over road for economic, ecological and efficiency reasons;
- Rail infrastructure is rehabilitated and expanded to support national freight movement and trade with SADC;

- All the roads in the core national network are appropriately surfaced and the key routes prioritised for regular maintenance;
- Logistics hubs, ports (airports and harbours) and border posts are maintained and expanded, as and where necessary, to keep pace with national economic growth and reduce delays at ports; and
- ICT networks are extended to the whole country with national corridors, urban regions, cities, regional anchors rural service centres being prioritised, and the rest of the country incrementally covered over time.

Energy transmission networks: Maintenance of the national electricity grid infrastructure is crucial and timeous expansion of the network must be done as and where required from a national development perspective. Where new sources of energy are to be introduced to the national energy mix, the following should be observed:

- *Solar and wind:* Production is to be located in close proximity to the national grid or users, and in distributed networks in low density areas/small remote towns where it should be delivered through small-scale distributed networks;
- *Nuclear:* Nuclear power stations must be located in close proximity to large water bodies (for cooling) and the existing national distribution network; and
- *Gas:* Gas pipelines must be spatially located in such a way that they do not encumber, but support national economic development.

5.6.2 INTER-REGIONAL AND NATIONAL DEVELOPMENT CORRIDORS (ROAD AND RAIL)

LOCATION SPECIFIC GUIDELINES

SPATIAL REPRESENTATION



EXISTING TO BE STRENGTHENED

- The Maputo Corridor (N4) between Gauteng and Maputo.
- The N4-west, leading to the Trans Kalahari-corridor, and passing through Botswana and Namibia to the port of Walvis Bay.
- The National routes in South Africa from Gauteng to the Durban port (N3).
- Gauteng to Musina and the Beitbridge border on the N1 north into Zimbabwe.
- Gauteng to Cape Town on the N1 south.
- The N2 Coastal Corridor.



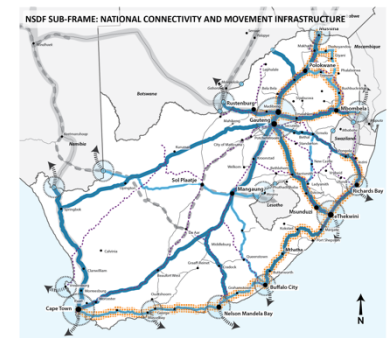
SUPPORT IN STRESSED

- N2 from Nelson-Mandela Bay, via Mthatha to Port Shepstone.
- From Richards Bay to Pongola.






CREATE NEW AND TRANSFORM

- From Mbombela to Makhado and Polokwane.



5.6.3 ACCESS ROADS TO SERVICE TOWNS AND HINTERLAND (RURAL TO RURAL)

LOCATION SPECIFIC GUIDELINES			SPATIAL PREPRESENTATION
 EXISTING TO BE STRENGTHENED <ul style="list-style-type: none"> Maintain existing connectivity between urban regions, cities, new cities, regional development anchors, and resource production areas in the sparsely populated west, and the well-connected southern and central parts of the country. 	 SUPPORT IN STRESSED <ul style="list-style-type: none"> Improve rural-rural connectivity in National Transformation Corridors, and Eco-Agro Resource Production areas in the eastern and northern parts of the country. 	 CREATE NEW AND TRANSFORM <ul style="list-style-type: none"> Maintenance of access roads and strategic infrastructure to ensure resilience of regional development anchors and rural service centres in areas where increased temperature and increased flooding, due to climate change, are predicted to impact negatively on infrastructure networks. 	NA

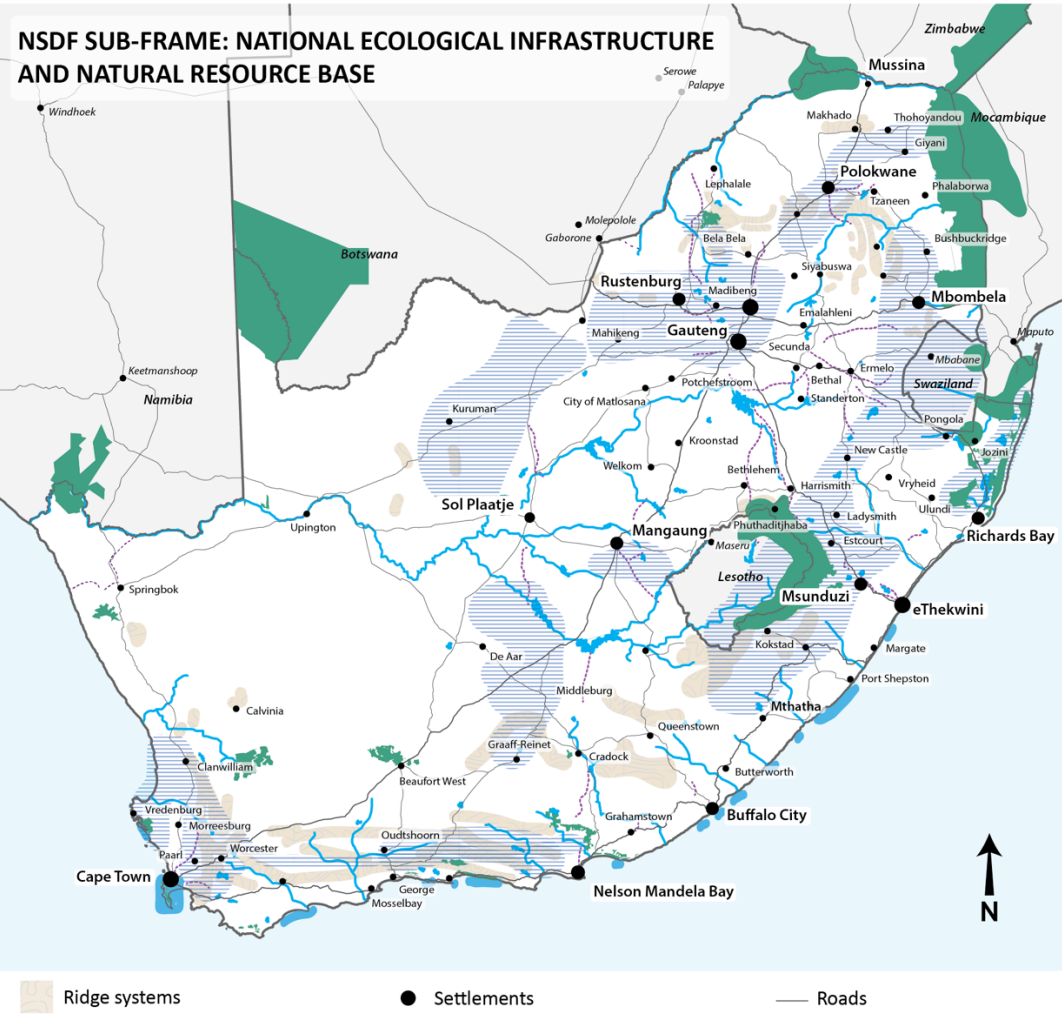
5.6.4 National Action and Key Role-Players

The maintenance, expansion and upgrading of the country's national transport and communications network will require coordination and collaboration from a variety of role-players, notably the NDoT, the DMR, the DoE, the DWS, the NPC, the PICC, ESKOM, SANRAL, PRASA, provincial sector departments responsible for long term infrastructure planning and development, municipalities, mining companies, organised labour and community representatives. The huge costs involved and the many other pressing development needs may lead to it being neglected. Ways in which timeous planning, budgeting and investment can be secured are as follows:

- Preparing a national, long-term national infrastructure plan that is aligned with the NSDF, (1) using the appropriate scenario development modelling techniques, (2) with involvement of a wide range of role-players and interest groups, including communities, and (3) introducing a phased approach to spread the cost of time;
- Creating a broad-based awareness of national and supra-national interdependencies and the need for investing in the network;
- Building the necessary capacity amongst the key role-players;
- Introducing a coordinating and monitoring institution, and providing regular updates as to the state of the network; and
- Using the 'spatial accountability system' to monitor the contribution of key role-players in the maintenance, expansion and upgrading of the network in accordance with the national plan.

5.7 NSDF Sub-Frame 4: National Ecological Infrastructure and Natural Resource Base

Figure 42: National Ecological Infrastructure and Natural Resource Base Sub-Frame



NSDF GUIDING CONCEPTS

National Protected Areas:

- National Protected Parks and Transfrontier Parks
- Marine Protected

■ **National Ecological and Biodiversity Management Areas**

Strategic Water Source Areas (See map to right)

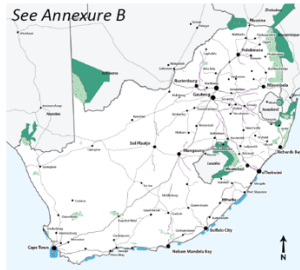
Critical Biodiversity Area 1 (See map to right)

National Water Reticulation and Resource Infrastructure:

- Inter-basin Water Transfer Line
- Rivers and Dams

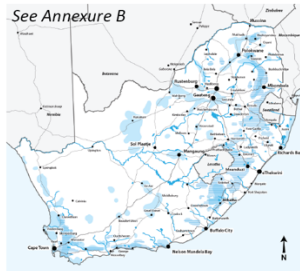
NATIONAL PROTECTED AREAS

See Annexure B



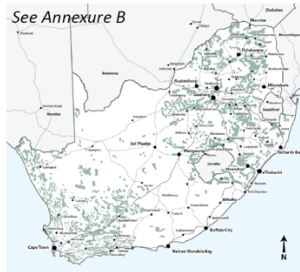
STRATEGIC WATER SOURCE AREAS

See Annexure B



CRITICAL BIODIVERSITY AREA 1

See Annexure B



5.7.1 General Guidance

Protecting the national ecological infrastructure and natural resource base: This 'base' provides a natural resource foundation that (1) enables all human life and activities in the country, and (2) should be used, shared and protected by all who live in the country. As such, it includes areas regarded as strategic assets within the national and international biodiversity, ecology and tourism areas (including Ramsar Sites and Transfrontier Parks). The protection of this base requires that:

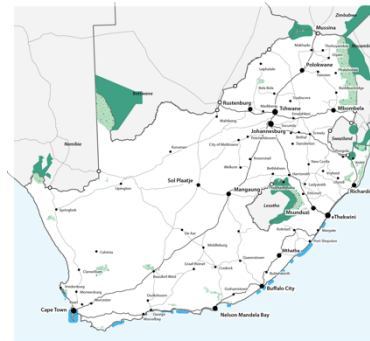
- National spatial development is well-planned and well-managed to (1) limit negative impacts on the ecological infrastructure base, (2) ensure that urban growth and land use fits within national and regional water resource availability profiles, and (3) ensure that it does not threaten or compromise strategic surface and groundwater water production areas (see **Annexure B**);
- National water use is curbed through effective water demand management, recycling, infrastructure maintenance and augmentation projects; and
- The strategic national water resource infrastructure system is well-maintained and the restoration of degraded water areas is prioritised.

5.7.2 NATIONAL PROTECTED AREAS

GUIDELINES

- Protection of our national ecological resources and national heritage areas.

SPATIAL REPRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Transfrontier Parks, Major National and Provincial Parks, National Fresh Water Protection Areas, and Marine Protected Areas.

5.7.3 NATIONAL ECOLOGICAL AND BIODIVERSITY MANAGEMENT AREAS

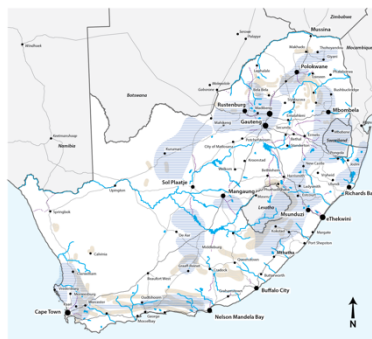
GUIDELINES

Critical Biodiversity Areas (CBAs) and Strategic Water Source Areas (SWSAs) have been identified as Priority National Ecological Infrastructure Regions that are of national importance and development. Management, productive use and restoration of these areas (1) is a joint responsibility, and (2) could also be used for the socio-economic benefit of people, cities and economies in the regions in which they are located.

Land-uses that reduce run-off or stream flow, or affect water-quality (e.g. mining, plantations, crop production and overgrazing) should be avoided in SWSAs, wetlands should be kept in good condition or rehabilitated, and invasive alien plants should be cleared. To support this:

- The natural resource foundation and bio-diversity must be conserved in these areas of national and international significance; and
- CBAs should remain in natural or near-natural ecological condition, i.e. no intensive land uses should take place in these areas (see **Annexure B**).

SPATIAL PRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Effective management and protection of national protected areas. Use and restoration of relevant water bodies and fresh water production areas.



SUPPORT IN STRESSED

- Effective land management and productive development of CBAs and SWSAs in Eco-Urban Resource Production and Livelihood Regions (densely settled small holder farming and livelihood regions). Strategic Ground and Surface Water Production Areas have been identified, but must still be formally delineated and proclaimed. SWSAs need to be effectively restored, used and managed to support enterprise and livelihood opportunities and eco-industrial activities. New developments and related enterprises must adhere to national development and management guidelines that have been (and are being) developed.



CREATE NEW AND TRANSFORM

- Effective land-use management and productive development of CBAs and SWSAs in dense clusters of urban, agricultural, industrial and mining areas in the Central Heartland area.
- Effective management of SWSAs in Agri-Arid Regions (Groundwater Production Areas).

5.7.4 NATIONAL WATER RETICULATION AND RESOURCE INFRASTRUCTURE

GUIDELINES

- Maintenance, extension and upgrading of the strategic water resource infrastructure network (including dams, reservoirs and transfer pipelines) is prioritised to support nationally significant spatial development areas (see **Annexure B**).

SPATIAL PRESENTATION



LOCATION SPECIFIC GUIDELINES



EXISTING TO BE STRENGTHENED

- Water pipelines must be maintained and extended to key urban cores, anchor towns and geo-specific production sites in line with national priorities and/or trade-offs.



SUPPORT IN STRESSED

- Maintenance of water transfer infrastructure that supports crucial national urban concentrations, nodes and development corridors.
- Settlement growth in areas that are arid and increasingly under pressure in terms of water availability, have to be well-managed and further growth not encouraged, or even restricted, should water availability not improve.



CREATE NEW AND TRANSFORM

- Create developmental co-benefits through effective management and use of strategic ecological and biodiversity management areas, to support rural livelihoods, especially with regards to custodianship and tourism opportunities.

5.7.5 National Action and Key Role-Players

Regulatory implementation with regards to SWSAs is imperative. While *guidelines for the management of development in such areas* have been prepared, further actions have to be taken to see them implemented, i.e. (1) an intergovernmental team led by DEA and SANBI has to be put together, (2) awareness of the guidelines must be raised, and (3) the guidelines must be finalised and promulgated. In the interim, awareness of these guidelines *can and needs to be raised*, specifically with regards to:

- Activities such as (1) agriculture, (2) mining, (3) land and settlement development, (4) infrastructure investment, and (5) spatial planning and land use management in areas experiencing significant development pressures, such as the two National Transformation Corridors; and
- Category 1 of the CBAs, and the implications of this 'CBA-status' for land development and land use management in such areas.

With regards to *spatial accountability* for the protection of environmental quality in SWSAs, CBAs: Category 1, and National Fresh Water Protection Areas, both (1) provinces that are responsible for *the management of these areas*, as well as (2) provinces responsible for *upstream impacts*, will have to account for their actions. In addition to this, provincial and municipal SDFs must ensure that development in such key ecological areas is (1) not to their detriment, and (2) *enhances* their ability to provide their crucial life-enabling and ecological support services. The *capacity, monitoring and support-implications* of these roles and duties are significant, and will need to be attended to by the national sector departments responsible for environmental affairs and spatial planning.

5.8 Strategic Spatial and Implementation Action Areas

Following on from the *directive in the NDP*, the NSDF identifies areas of *significant national risk and potential*. In sharp contrast to the *centrifugal forces* (i.e. 'outward-pushing forces away from the core') that shaped Apartheid national spatial development planning, the NSDF provides a development perspective aimed at '*drawing all South Africans closer to the core*':

- *Nationally*, in the form of a shared and smaller, yet more viable, more sustainable and more resilient national spatial footprint that places less pressure on our core national natural resource areas and ecological systems, and is more affordable to service and sustain;
- *Regionally*, in functionally integrated areas focused on regional development and wellbeing that (1) are supported by regional development collaboration agreements between of State and non-State actors, and (2) provide an interface between 'the national and 'the local; and
- *Locally*, in high-quality, serviced, compact, diverse and connected places with viable, robust and resilient economies.

In order to create such a '*shared, smaller, better connected and more sustainable South Africa*', the NSDF identifies the most urgent short-term, strategic spatial development catalysts to (1) bring about radical spatial transformation at scale, and (2) manage and mitigate rising national risks. These are called *Strategic Spatial and Implementation Action Areas*. Concerted and sustained intergovernmental collaboration is required in these areas in the short term to:

- Focus development interventions; and
- Start the process of aligning plans, budgets and departmental plans in and between spheres of government around *national spatial development priorities*.

These *national spatial development priorities* are informed by:

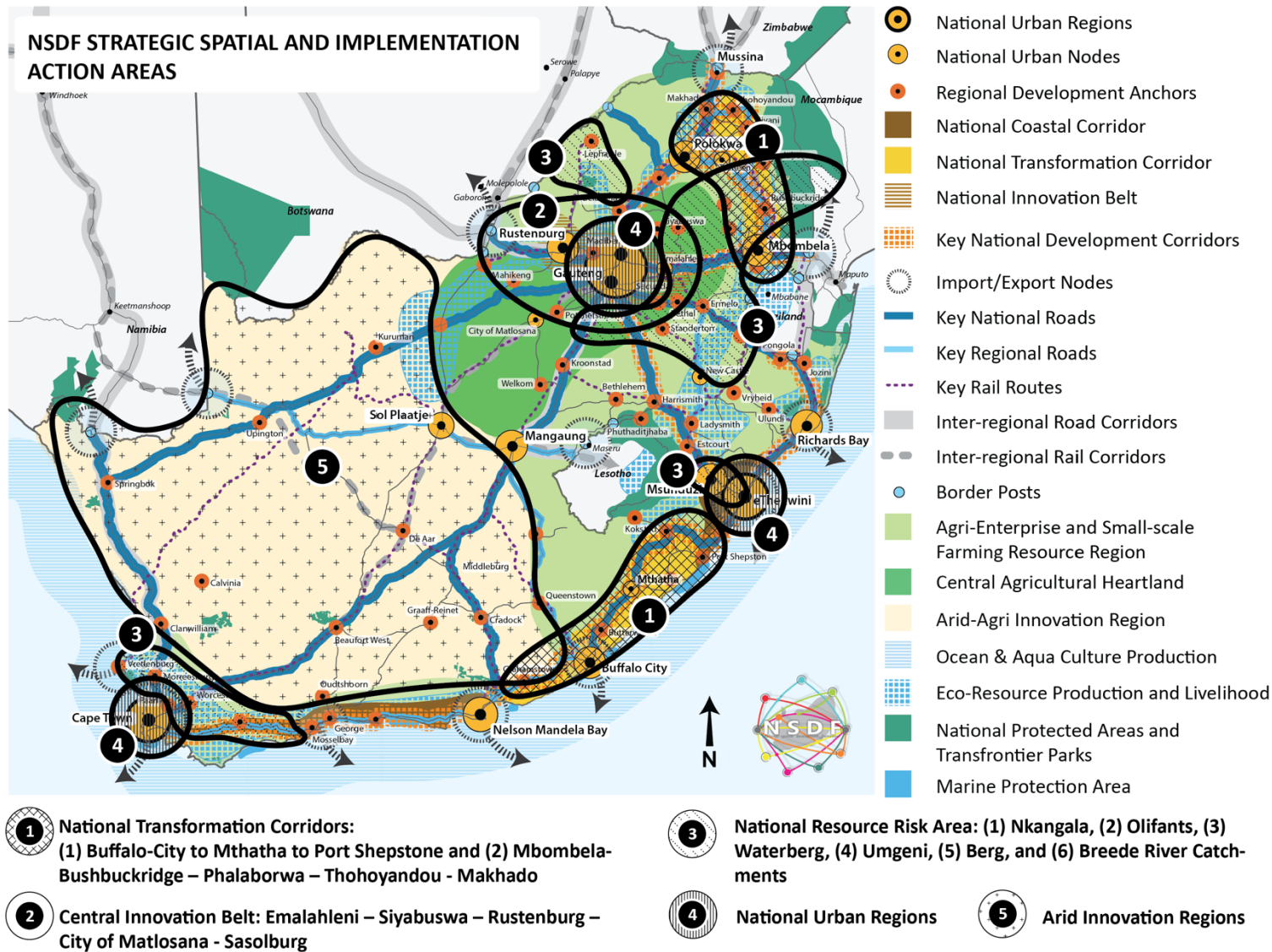
- The challenges and trends that are most likely to impact our country in the immediate and medium and longer-term future;
- The stated development objectives in national and provincial development and sector plans; and
- The gap between our national spatial development vision and the status quo.

The priorities do not propose an overhaul or detailed spatial alignment of every existing planning instrument or initiative. Instead the introduction of these *priorities* seeks to impact government processes by:

- Identifying (1) urgently required interventions in national space and (2) priority spatial development enablers for accelerated development impact in this space; and
- Restoring and managing the sustainable utilization of our country's rich natural resource foundation and ecological infrastructure.

In the following section, these priorities are briefly outlined and key action areas and role players identified. In **Part Six**, the **Implementation Framework** of the NSDF, proposed *supportive institutional mechanisms and processes* are outlined.

Figure 43: Strategic Spatial and Implementation Action Areas



5.8.1 National Transformation Corridors: (1) Buffalo City via Mthatha to Port Shepstone and (2) Mbombela-Bushbuckridge-Phalaborwa-Thohoyandou-Makhado

Challenges and Opportunities in Regional and National Context

These are densely settled, priority spatial transformation areas with:

- Growing and highly vulnerable populations with high numbers of young people, and limited opportunities to reap the urban dividend;
- High levels of inter-regional mobility, with increasing numbers of young people moving out, but also increased investment in rural homes; and
- High-value national agriculture and strategic water source production regions that are expected to play an increasingly important role in (1) the future development of these areas, and (2) ensuring national water security.

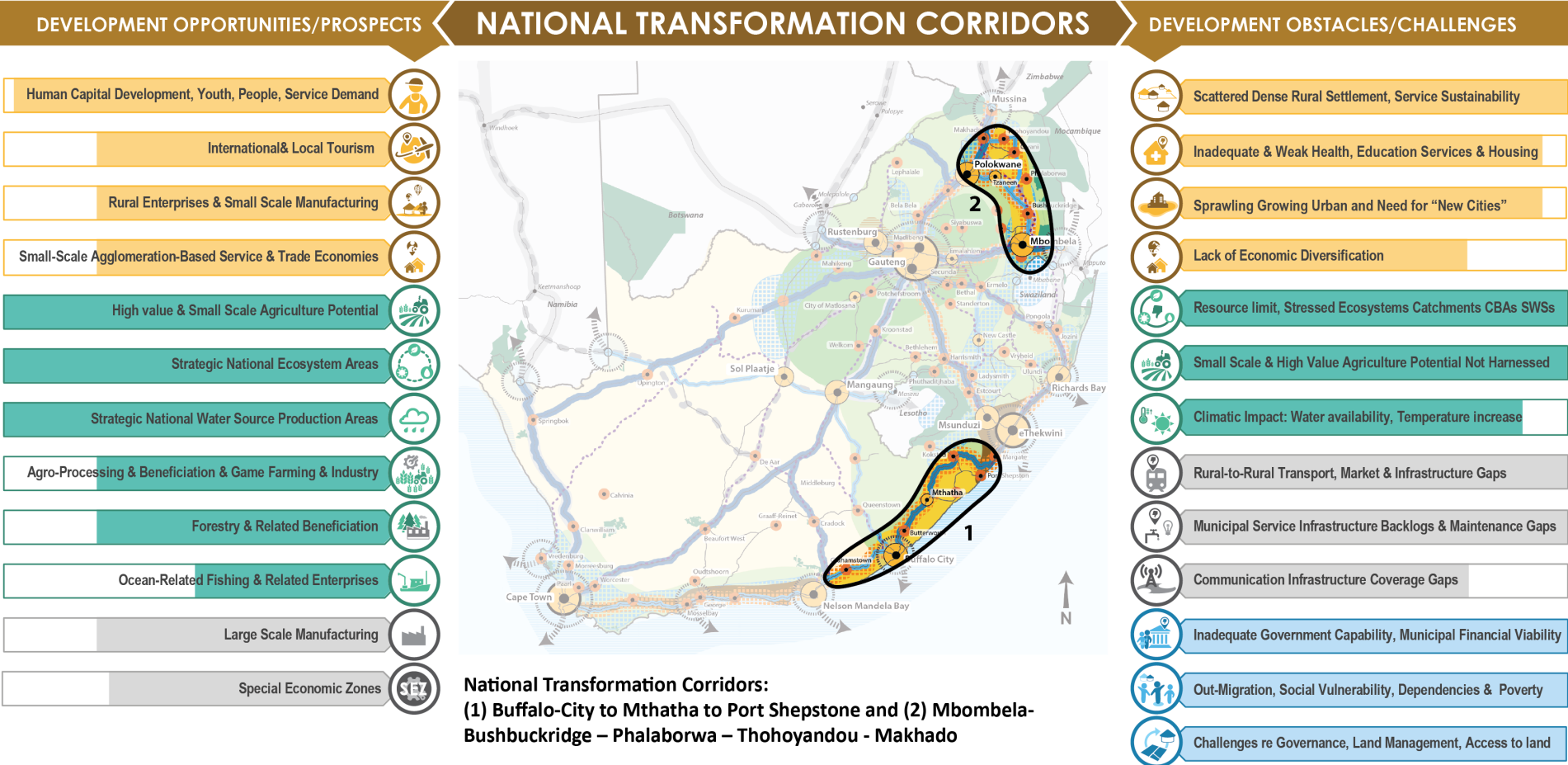
In spite of significant service delivery gains, a continued focus on service delivery and business as usual will not enable systematic change in these regions' futures, and most likely result in a persistence of the colonial and Apartheid legacies. Failure to protect strategic ecological infrastructure in these areas will not only have severely negative impacts on (1) local and regional livelihoods, (2) service delivery, and (3) economic development, but also on national development as a whole, due to significant regional interdependencies. Changing course is imperative.

Proposals

Guided by the NSDF National Frame and Sub-Frames, the following proposals are made:

- Enhance regional, cross-provincial and cross-municipal boundary collaborative spatial development planning and governance;
- Establish strong *regional growth and development compacts*, including all role-players, i.e. the three spheres of government, traditional leaders, communities (notably youth), the private sector, CBOs, NGOs and organised labour;
- Strengthen small-and-medium-sized farming activities, agri-eco production and agri-led industrialisation;
- Prioritise human capital development and people-centred enterprise development, such as arts and culture, tourism, education and innovation;
- Ensure the protection and management of ecological infrastructure, including SWSAs and high-value agricultural land and introduce green building and green service-related innovations;
- Create strong and vibrant national urban nodes and cities, viable regional development anchors and well-capacitated rural service centres;
- Use rural design, rural edges, land administration and urban land reform to ensure innovative settlement planning, well-managed land-use and enabling infrastructure investment, and prevent sprawl through the use of urban edges;
- Enhance public transport and rural-urban and rural-rural connectivity and investment in high-speed ICT infrastructure;
- Plan for and ensure regular maintenance and upgrading of existing infrastructure, notably roads; and
- Introduce catalytic, innovative and contextually-suitable sustainable infrastructure, social service and basic service investment and delivery, to support enterprise development, well-being and inclusive growth with both an ecological and human-focussed approach.

Figure 44: National Transformation Corridors Overview



5.8.2 Central Innovation Belt: Emalahleni-Siyabuswa-Rustenburg-City of Matlosana-Sasolburg

Challenges and Opportunities in Regional and National Context:

This area is characterised by:

- A long history of high-value mining and industrial production that is, and has been experiencing significant shrinkage and job losses, with more very likely to come, primarily due to changes in the demand for resource-based commodities and the costs of resource extraction;
- Intensive agriculture and related agro-enterprises, as well as tourism activities that are not necessarily at odds, but also not enhanced by the mining and industrial activities in the same area;
- Sustained strong natural population growth and in-migration, much of it driven by the prospect of employment in the mining and industrial sector; and
- High levels of regional economic and socio-economic vulnerability, due to the economic decline and job losses and uncertainties about the future of especially mining in the area.

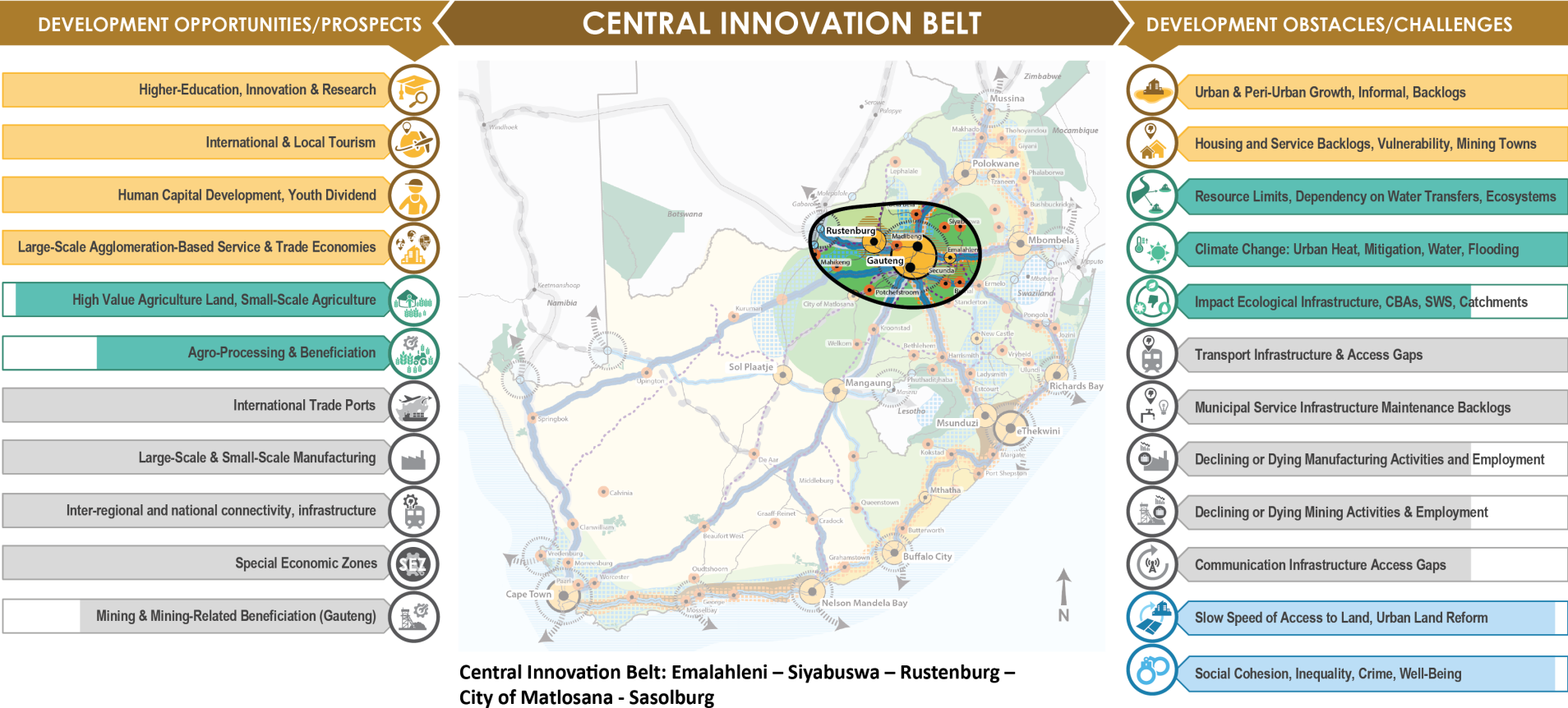
The area also intersects with the National Resource Risk region in Mpumalanga, where similar changes in the mining and energy-generation sectors also require a transition in the regional economy.

Proposals:

Guided by the *NSDF National Frame and Sub-Frames*, the following proposals are made:

- Support large-scale regional economic and employment change in the region through innovation, diversification, adaptation and the repurposing of existing industrial land and associated infrastructure;
- Expedite urban and rural land reform, consolidate existing small-and-medium-scale agriculture support programmes, protect and optimise high-value agricultural land, and strengthen the focus on job-intensive agro-processing in the area; and
- Introduce a special collaborative programme in government (including DMR, DTI, CoGTA, DRDLR, DPME, NT, provincial sector department and municipalities) with a specific focus on ensuring (1) innovation and economic diversification, and (2) quality human settlement development in the region, and involve universities, research councils, the private sector, communities and organised labour in this urgent initiative.

Figure 45: Central Innovation Belt Overview



5.8.3 National Resource Risk Area: The (1) Nkangala, (2) Olifants, (3) Waterberg, (4) Umgeni, (5) Berg, and (6) Breede River Catchments

Challenges and Opportunities in Regional and National Context

These are areas that are both *nationally significant*, and *under severe stress from an ecological perspective*, while also being ‘*resource critical regions*’ for other economic sectors, such as mining and agriculture: Water is not only a vital resource for (1) the mining activities that drive the energy sector, but also for (2) the strong agricultural sector in these areas. Keeping these economies going, and expanding them further, as is currently happening in a number of these catchment areas, (1) poses a serious risk to the quantity and quality of the water supplied by these areas to the country as a whole, and (2) presents the country with a serious conundrum and set of trade-offs. At the moment, however, these trade-offs between water, food and energy security in these areas (and the knock-on effects in other places) are playing out in a largely ad hoc way. It is however, not due to lack of awareness and concern, as numerous plans refer to the challenge. The problem is just that not much has been done to date, with *urgent engagement now being required* with regards to the following trade-offs:

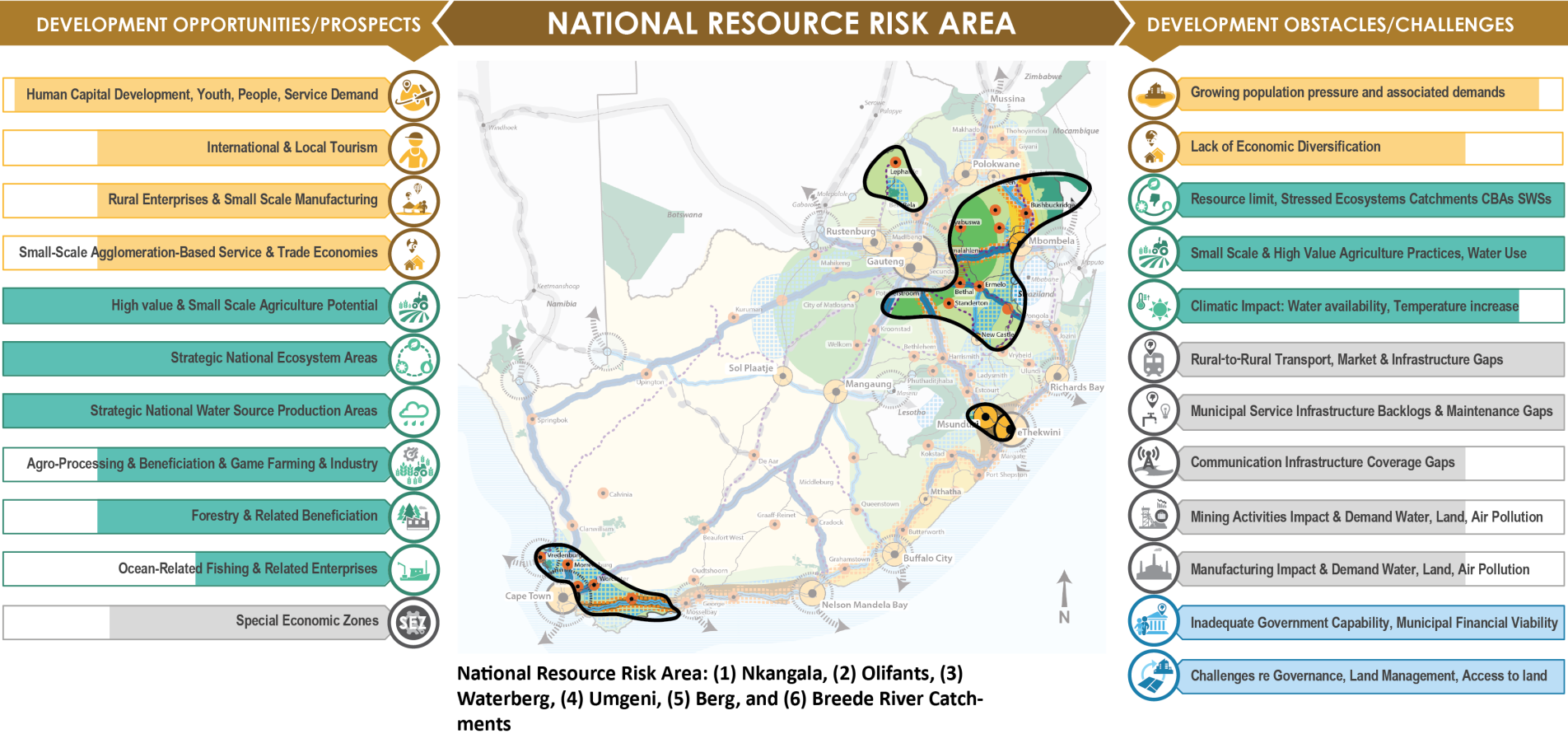
- *Ekangala region (Mpumalanga)*: Coal mining, SWSAs and high-potential agricultural land;
- *Greater uMgeni region*: Water supply for eThekweni, intensive agriculture and expanding settlements;
- *Waterberg region (Limpopo)*: Mining, water and future expansion of the area driven as a national priority;
- *Olifants Water Management Area (Mpumalanga and Limpopo)*: Irrigation schemes, major water quality issues and pressure from mining activities; and
- *Berg and Breede River Catchments (Western Cape)*: High-production agriculture, food security and water supply for the Cape Town urban region.

Proposals:

Guided by the NSDF National Frame and Sub-Frames, the following proposals are made:

- Attend, as a matter of urgency, to areas where land-use and water competition and pollution are (1) causing severe risks to stressed catchments in fulfilling their roles, and (2) placing downstream dependent regions at risk;
- Rehabilitate degraded and/or contaminated areas to play their crucial roles in national (1) food production, and (2) surface and ground water production and supply;
- Plan and prepare for climate change, not only in the areas themselves, but also for the knock-on effects of climate change in other parts of the country and in neighbouring countries;
- Attend to capacity and resource-constraints at provincial, regional and local levels, with national sector departments responsible for environmental affairs and spatial planning playing a key role in this regard;
- Avoid approving applications and proposals for land-uses that reduce stream flow or affect water quality (e.g. mining operations and huge plantations) in SWSAs;
- Keep wetlands in good condition, rehabilitate ones that are in need of this, and clear invasive alien plants from these areas;
- Restore, manage and wisely use CBAs and SWSAs to support eco-enterprise activities and related livelihood opportunities;
- Prepare an integrated development and resource management plans with an explicitly (1) spatial approach and (2) a strategic national perspective, for each of these areas, possibly a Regional SDF;^{ix} and
- Ensure coordinated State intervention in these areas, with provincial governments, in collaboration with the Institution responsible for NSDF implementation, spearheading such action.

Figure 46: National Resource Risk Areas Overview



5.8.4 National Urban Regions

Challenges and Opportunities in Regional and National Context

More than half of our country's population already live in urban regions and cities, with this trend is set to continue well into the future. In addition to being 'home' to millions of our people, these spaces are also where:

- The bulk of our economic activities, and those activities of highest value, are concentrated;
- We must ensure our national transition into a high-value service-based economy;
- Prospects for job creation through upstarts, small-scale activities and the arts, culture and entertainment industries are greatest;
- Our youth dividend must be reaped; and
- The bulk of (1) our imports and exports, and (2) tourists visiting our country, pass through.

As such, these spaces, small in size, but huge in terms of population, economic activity and opportunity, are fundamental to the future of our country. Powerful as they are, they are struggling to deal with the challenges of service provision, housing, unemployment, crime, environmental degradation, transport and infrastructure maintenance. This warrants national priority focus.

Proposals:

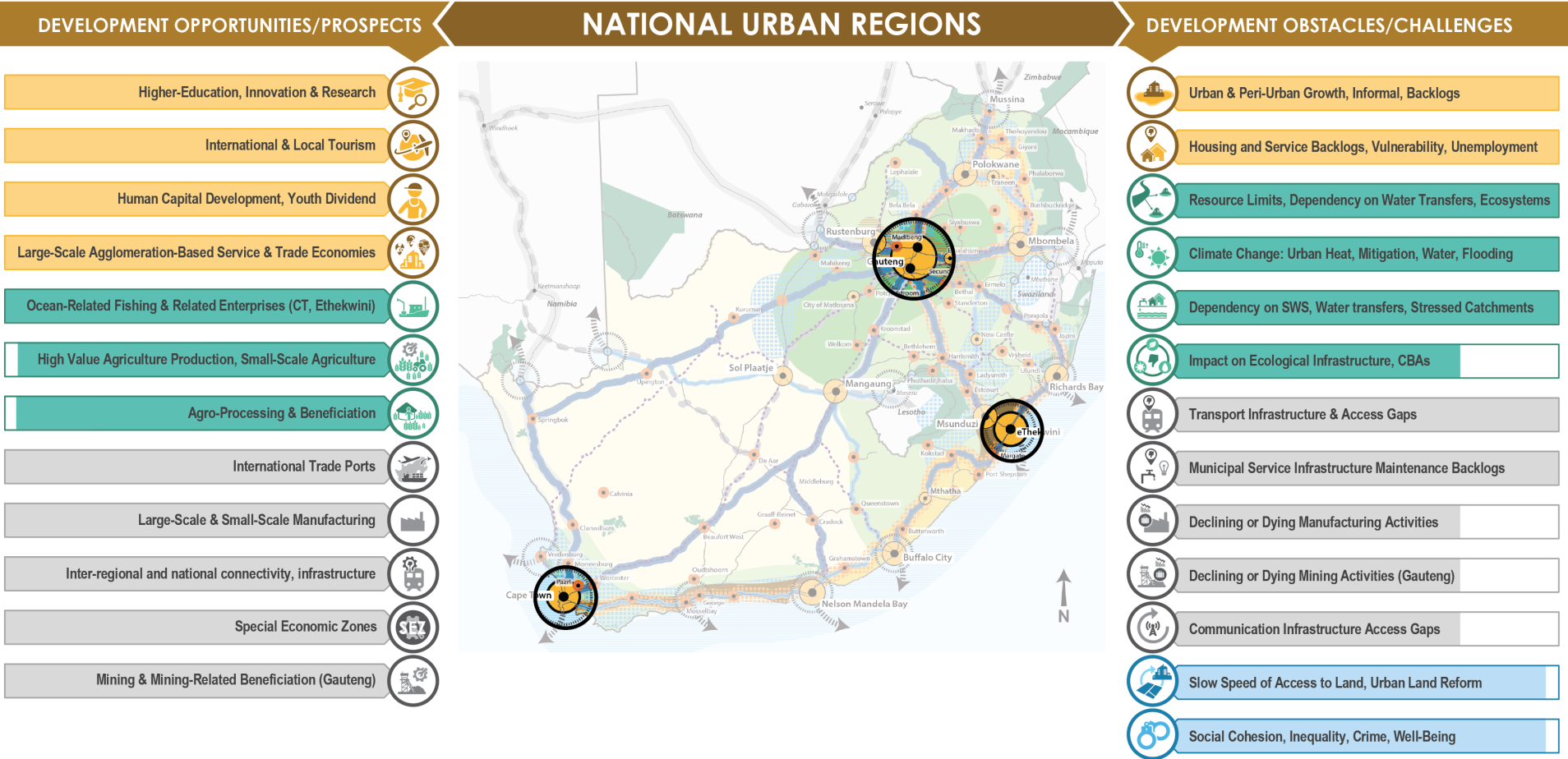
Guided by the *NSDF National Frame and Sub-Frames*, the following proposals are made:

- Plan for and undertake infrastructure maintenance at scale to (1) ensure economic vitality, and (2) avoid human health risks because of ageing infrastructure, lack of maintenance and damage by

climate change-related hazards on water, sanitation, stormwater, transport and electricity networks;

- Develop specific funding, land access, land tenure and service provision mechanisms to (1) enable higher residential densities, (2) provide a range of housing options, (3) alleviate pressure on basic and social service provision, (4) optimise all urban land reform dividends, (5) manage urban growth, and (6) provide effective mass public transport;
- Support innovation and skills development in growing economic sectors, with a focus on youth development and employment at scale; and
- Prepare for climate change by amongst other measures, initiating an in-depth study of *the long-term impacts of climate change on the core urban areas of the country*, and developing mitigation and adaptation strategies, e.g. desalination, urban food production, and low/no-carbon energy generation, based on the findings of the study

Figure 47: National Urban Regions Overview



5.8.5 Arid-Innovation Region

Challenges and Opportunities in Regional and National Context

This national priority focus area relates especially to the arid and sparsely populated western parts of the country. In these areas:

- Towns, their inhabitants, their own economies and those of the wider regions in which they are located, are under constant threat from a limited availability of water; and
- Most of the towns are heavily reliant on a single economic sector, typically agriculture or mining, which makes them very vulnerable to (1) *external factors*, such as currency fluctuations, trade disputes and the demand for commodities, and (2) *more local factors*, notably climate change in the form of a significant rise in temperature, more very hot days, a greater risk of veldfires, and the advent of even drier conditions.

Proposals:

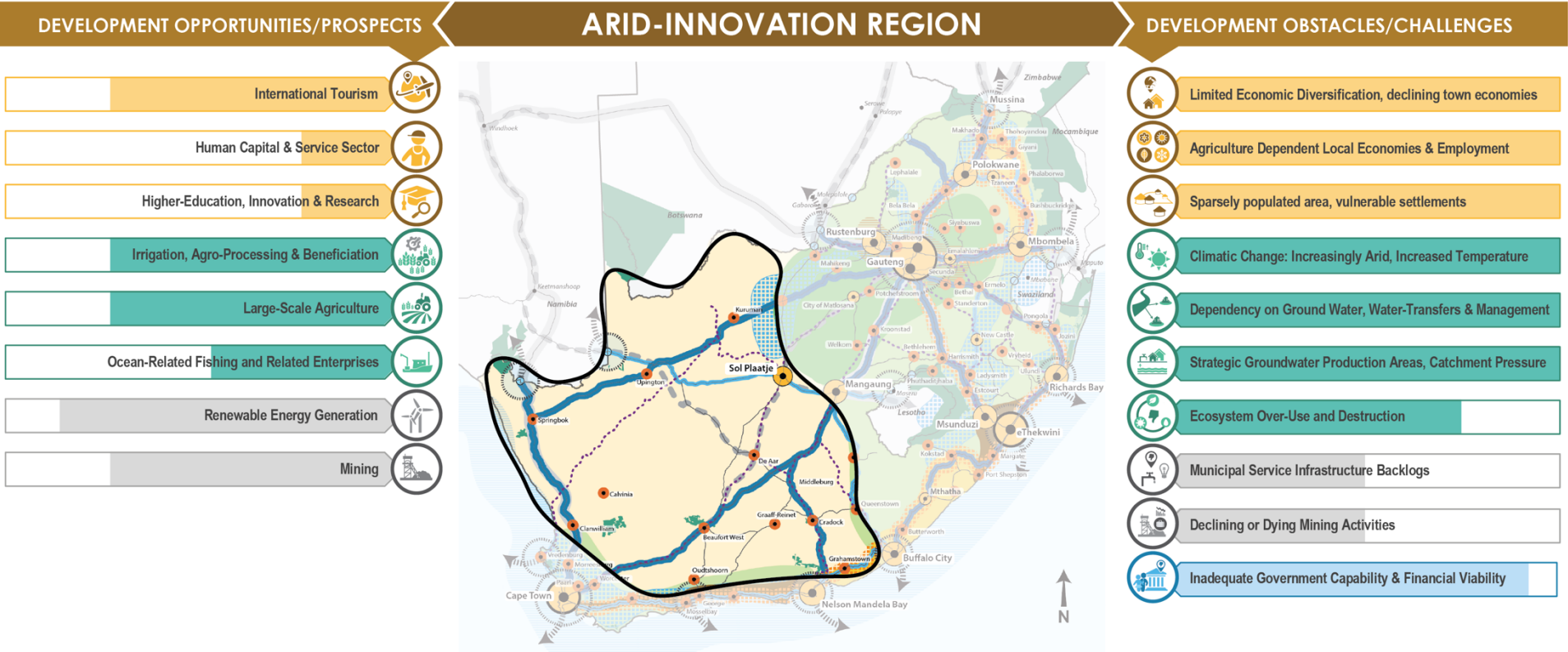
Guided by the *NSDF National Frame and Sub-Frames*, the following proposals are made:

- Pursue regional adaptation, economic diversification and agri-innovation at scale, to ensure greater resilience of livelihoods in the region;
- Limit expansion and development of new settlements in very arid areas and pursue and support compact settlement development around social service nodes and taxi routes in towns and villages;
- Enhance regional, cross-provincial and cross-municipal boundary collaborative spatial development planning and governance;
- Establish strong *regional growth and development compacts*, including all role-players, i.e. the three spheres of government,

traditional leaders, communities (notably youth), the private sector, CBOs, NGOs and organised labour;^x

- Encourage and support inhabitants of such towns to become self-sufficient and 'go off the grid' with regards to (1) water, electricity and sanitation services, and (2) food production;
- Enhance ICT linkages, to support distance-learning and provide access to other social services; and
- Discourage temporary settlement formation for mining or large-scale construction projects (e.g. the building of a solar-plant) by facilitating housing-provision in existing regional anchors and/or regional service towns.

Figure 48: Arid-Innovation Region Overview



5.8.6 Strategic Implementation Action Areas

Notwithstanding the priority interventions to kick-start action identified in the *NSDF Sub-Frames*, the following five aspects will require focused attention and satisfactory resolution:

(a) Water

As noted at numerous instances in the NSDF, South Africa is critically water-stressed, with many settlements relying on water transfers from stressed catchments. Water is a critical bottleneck and *water security needs to take priority as a long-term developmental objective*. In order to effectively respond to and deal with the matter, a national dialogue is required to (1) build a shared agreement and (2) focus concerted State action on addressing these issues in the light of the growing water demands of urbanisation, industry, agriculture and land-reform. As such, it is recommended that, using the *Draft National Water Plan* as a basis, a national dialogue be convened. The Phakisa methodology/approach could be considered. This should be led by DWS working closely with DPME. It is of course equally important that the key water management agencies and bodies at sub-national level are included.

(b) Urban land reform and management

The expected continued high level of urbanisation, especially in metros and large cities, requires focused state action to *unlock and make available well-located land (relative to existing work opportunities, infrastructure and services) for social and affordable housing*. The current process coordinated by the IUDF Working Group regarding urban land reform has been noted and is strongly endorsed. Large-scale inclusive growth and spatial transformation programmes tied to catalytic land development in prioritised cities, should be developed to (1)

accommodate future growth, and (2) create viable and dynamic economies in well-located urban areas.

(c) Land administration in traditional authority areas

The NSDF made numerous statements and proposals in accordance with the Constitutional obligation to ensure access to land for all South Africans. A key concern in this regard is the issue of communal land. The NSDF proposes that an agreement be reached, as a matter of urgency, with traditional leaders on a *nationally uniform system of granting and recording access to communal lands by traditional leaders*. This system needs to provide for legally sound security of tenure in line with the Constitution. Given the significance of these areas for future food and water security, putting in place a system of land administration to enable rural development, whilst still recognising traditional values, systems, customs and practices, is imperative.

(d) Urban and rural nodal network

If South Africa is to meet the needs of its growing urban and rural populations, then a process of maximising the impact of social and economic infrastructure investment is required. The NSDF is therefore underpinned by a system of carefully considered roles for settlements. This system provides the basis for guiding investment in infrastructure and services, especially by national sector departments. For example, *social service facility norms and standards* should be matched to settlement roles in 'functional regional rural systems'. However, this system will only work if government as a whole adopts it to guide their investment and planning. As a starting point, it is recommended that priority be given to embedding and consolidating this system throughout government.

(e) National connectivity and long-term infrastructure investments

The introduction of a 'spatial accountability system' to assess (1) national, regional and place-based developmental impact and/or (2) the contribution of national connectivity and long-term infrastructure investments to national development, is long overdue. In introducing such a system, (national) awareness needs to be raised on regional interdependencies. A phased approach to introducing the system would require at least transparency with regards to (1) priorities, plans and phasing, as well as (2) anticipated impacts and associated risks to national and regional livelihoods and economies. A coordinating institution and ongoing process will be a priority in this regard. In addition to the SIPS programme's focus on tracking implementation, there is also a need to establish collaborative long-term, future-orientated, futures-probing planning processes, backed up by solid modelling and scenario capabilities, in government.

5.8.7 National Risk of Non-Action

The NSDF seeks to fundamentally and decisively change and transform South Africa from a country shackled by its past, into a truly free and just country that offers a (1) decent quality of life, and (2) a fair chance to make a life, to all who live in it. To this effect it put forward a series of proposals to bring this transition about, and identified the *five strategic action areas*, as briefly described in **Section 5.8.6**. Yet, it may be that there is a reluctance, slowness or unwillingness to implement the proposals. The table below (**Table 1**) sets out the risks associated with failure to act *in* and *on* the *key/strategic action areas*.

Figure 49: Risks on Non-Action in/or Strategic Action Areas

HIGH RISKS OF NON-ACTION IN/ON STRATEGIC ACTION AREAS	RESULTANT IMPLICATIONS
Lack of development management in national ecological and biodiversity management areas	<ul style="list-style-type: none"> • Unmanaged urban growth and land-use in coastal development corridors with resultant negative impacts on (1) sensitive ecological infrastructure, (2) the tourism sector, and (3) other economic opportunities of national significance. • 'Running out of water', which will have detrimental effects on (1) all inhabitants of these urban regions, but notably so vulnerable communities, (2) job creation, (3) agriculture and food production, and (4) living costs. • Continued settlement development infiltrating high-value agriculture and strategic national surface water production areas. • Due to the population size and scale of settlement in national urban regions, massive losses of biodiversity and crucial ecosystems services for urban regions, the country at large, and the globe.
Lack of action in areas where land-use and water bodies and production are in competition	<ul style="list-style-type: none"> • Will most likely cause severe risks to stressed catchments in fulfilling their roles, and place downstream dependent regions at risk. • Could lead to costly pollution and life-threatening toxicity of water bodies and streams with a resultant threat to human and animal life and enormous financial expenses to resolve the matter.
Failure to maintain and improve international trade and movement infrastructure (routes and ports)	<ul style="list-style-type: none"> • A loss in South Africa's competitive advantage with regards to infrastructure. • Restricting growth and limiting national, SADC, African and global integration. • An increased burden on road networks if the rail network is not attended to.

HIGH RISKS OF NON-ACTION IN/ON STRATEGIC ACTION AREAS	RESULTANT IMPLICATIONS
Failure to improve and extend the N2 and develop the two National Transformation Corridors	<ul style="list-style-type: none"> Increased sprawl, loss of high-value agricultural land, loss of surface water production areas, an increase in joblessness and growing frustration and associated risks to national cohesion and stability. A squandering of a real opportunity to turn around the dreadful spatial, social and economic legacies of Apartheid in what includes large swaths of former Bantustan areas.
Lack of future-orientated, nationally directed urban growth in areas of opportunity	<ul style="list-style-type: none"> Urban and settlement growth merely following existing trends (as illustrated through spatial modelling of most likely trends without intervention), which will severely reduce our ability to create viable livelihoods at scale, threaten our natural resources and reduce government's ability to provide sustainable services in towns. The legacies of the colonial and Apartheid pasts will become even more deeply entrenched across the national urban-rural landscape. Towns in arid areas with unfavourable climate conditions will become ever-more exposed to risks that they will most likely not be able to counter or manage.
Ineffective governance, funding shortfalls in provision of municipal infrastructure, and a lack of a nationally targeted, systematic, systemic and long-term developmental focus on large urban areas, towns and national development corridors with large urban concentrations	<ul style="list-style-type: none"> A loss of the opportunity to harness the 'triple dividend' of a youthful population, many of whom are located in urban areas. A serious likelihood of unmanaged urban growth and land use in coastal areas with devastating effects on sensitive ecological infrastructure, and related tourism and economic activities and opportunities. An increasing inability of even large municipalities to meet the growing demands of a fast-growing population, and provide services and sustain environments in which economies in can take root and grow, leading to (1) outbreaks of disease with associated chronic public health risks, (2) business closures, (3) more unemployment and more crime, (5) a loss in the quality of life in urban areas, (6) massive social unrest and an increase in xenophobic attacks and violence, (7) the collapse of the Rand and the large-scale departure of local and foreign investors, and (8) the mass emigration of millions of especially young South Africans.



PART SIX: Implementation Framework

6.1 Introduction

Part 1 of the NSDF set out the **national transformation logic** and the role of spatial development and framing in this regard. It highlighted the complex, iterative and adaptive process of changing our **national spatial development patterns** to match the vision set out in South Africa's **national development paradigm**. It also provided evidence of the costs associated with failing to decisively break with past patterns and logics. Notwithstanding the widely shared appreciation of the importance and significance of national spatial transformation, there are, as yet, no coherent and sustained initiatives at national level to coordinate and lead this, with the exception of the *IUDF* and associated programmes.

The NSDF now provides a solid foundation for this to take shape across national space. The overview of the national spatial development dynamics, challenges and opportunities in **Part Three**, articulated the challenges and future potentials, while **Parts Four** and **Five** provided the **post-Apartheid national spatial development vision, logic** and **pattern**, and the associated necessary and priority interventions and actions.

However, for the NSDF vision and goals to be achieved, along with the desired national spatial transformation, there are enabling activities, institutional mechanisms and capability enhancements that need to be considered for the national planning system to operate. As argued in a recent DPME report, *“The imperative for institutionalisation is derived from identified gaps and the need to build the planning system by introducing a stronger and explicit developmental focus. In this context, institutionalisation means developing and strengthening the institutional, technical and administrative foundations (capacities, systems and processes) for a coordinated and responsive state that would be*

effective in promoting the structural changes required for inclusive growth, developing the country's human resource base and a stronger democracy”.^{xi} Capability enhancements to the spatial planning system include building spatial literacy within government and enhancing the coordination and alignment roles traditionally played by spatial planners in intergovernmental systems.

Given that the capability of the state is a key enabler of effective planning, governance and implementation, the implementation of the NSDF (1) is intrinsically tied to government's institutional, organisational and individual capabilities, and (2) rests on two interrelated components:

- The use and application of the NSDF to guide action and spatial investment; and
- The building of 'national spatial planning and transformation capability' to undertake, manage and develop the benefits of spatial planning at an institutional, organisational and individual level within government and more broadly, across society.

The promulgation of *SPLUMA* has clarified the role of spatial planning and land-use management. At the same time, the systems and frameworks for intergovernmental planning and budgeting are being institutionalised and improved. Implementation, like planning, is, however, not a once-off step. In the case of the NSDF, it is also a continuous process of mobilising resources and action, guided by the objectives and desired outcomes of the NDP. Improvements and refinements are also made through monitoring and review, to (1) improve approaches and understandings, and (2) overcome obstacles on a continuous basis.

The NSDF has identified **five areas** for action that need to be considered. These consist of *three enabling components* and *two change and*

transformation-driving components.

The *three enabling components* are:

- A *championing capability*, with associated programmes for building spatial transformation capability and supporting behaviour change;
- Supporting the '*centre of government*' institutions in improving developmental outcomes through the system of planning, budgeting, implementation, monitoring and evaluation; and
- Guiding the *alignment and coordination* of investment spending and planning capacity development, both (1) within government spheres and sectors, and (2) through broader private sector, civil society and learning organisation support and involvement.

The *two change and transformation-driving components* are:

- Communicating and sharing the NSDF, to ensure that it is broadly understood, and its use is enabled; and
- Specific and priority spatially targeted initiatives that (1) are of national significance, and (2) draw from the core components of the NSDF, as set out in **Part Five**

The *five action areas* would, taken as a whole, enable *the NSDF and national spatial planning* to be:

- *Championed*: National spatial planning is championed, researched and continually refined and developed, and national spatial planning capability and support systems are built across society, to ensure the desired national spatial development patterns and outcomes;
- *Communicated*: The NSDF is broadly shared to ensure awareness and buy-in across society;

- *Institutionalised in centre of government systems*: National spatial planning (1) supports and responds to the developmental agenda of the state, as articulated in the NDP, and (2) is articulated through key national planning, budgeting, implementation, monitoring and evaluation systems;
- *Embedded*: The NSDF is well-understood and actors can (1) respond to it, and (2) utilize it to guide and coordinate investment to transform space through provincial, regional and municipal SDFs and sector plans; and
- *Actioned*: Strategic spatial initiatives and priorities within the NSDF are acted upon and implemented (1) in a systemic way, and (2) by appropriate champions and role-players who have a direct mandate relating to each priority.

Each of these aspects is discussed in more detail below:

6.1.1 Championing and Guiding NSDF Implementation

A key capability is a national institutional home for spatial planning and spatial transformation. As a matter of urgency there is a need to resolve the issue of '*the home of spatial planning nationally*'. Consideration should also be given to establishing a dedicated '*unit*', staffed with the necessary technical and administrative expertise. The aim of this *Unit* would be to:

- Provide *advice and guidance* on how to maximise spatial impacts and transformation across government;
- Actively *coordinate* across government for better spatial outcomes;
- Report on *implementation* of the NSDF, and the extent to which outcomes are achieved; and
- Build spatial literacy within government and strengthen the capacity and capability of planners and the spatial planning system.

Three functions would be important, amongst others. *First*, to work across government to align spatial action to the NSDF and support spatial transformation more broadly. This would be both at the strategic levels of the MTSP/MTSF and MTEF and other associated centre of government coordinating mechanisms and through national sector, provincial and local planning. *Second*, to champion research into, and around spatial planning and improving its utility to government. This could include working with learning organisations, civil society and other bodies to improve spatial planning capability. *Third*, to, through a consultative process, develop a framework for monitoring and evaluating the efficacy and realisation of spatial transformation, and in particular focusing on the priority actions associated with the NSDF frames.

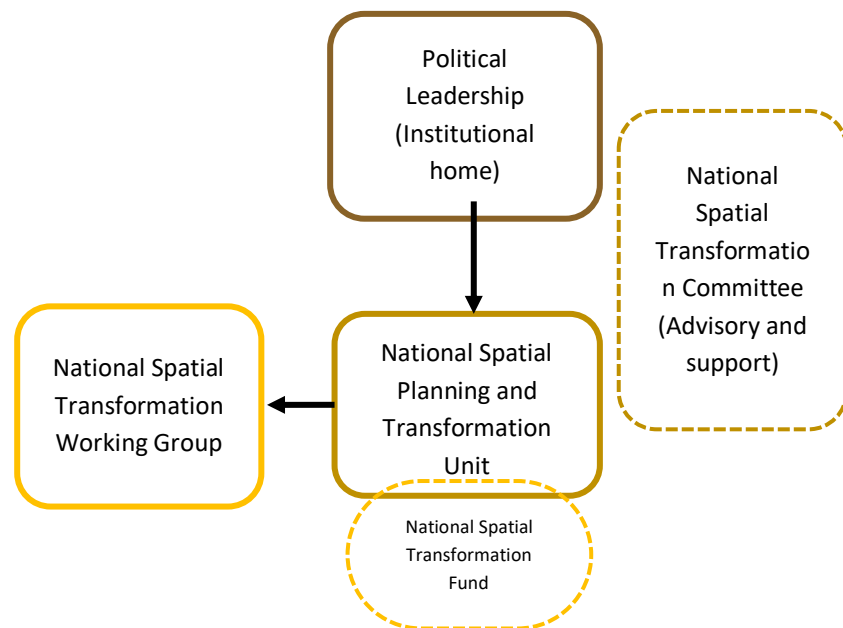
To facilitate this role, it is proposed that consideration be given to establishing two supporting structures. Firstly, a '*National Spatial Transformation Working Group*' chaired by a/the lead spatial planning

department. The aim of this working group would be to coordinate national action around spatial transformation. Second, a '*National Spatial Transformation Committee*'. This advisory and support committee should comprise representatives of the three spheres of government, the private sector, academia and professional bodies. Although drawing on the NSDF, this committee would have a broader focus and be composed with the aim of informing the spatial transformation agenda of government and society. Given the important role of evidence, monitoring and knowledge-sharing, this capacity needs to be enabled. As such, it could also guide the building and deepening of 'spatial literacy' and spatial planning capabilities amongst the built environment professions and within government.

The detailed terms of reference for the proposed *Unit*, *Working Group* and *Committee* would have to be developed while taking cognisance of existing structures and current processes, to avoid duplication and to ensure alignment, e.g. with the *IUDF Working Group*.

A priority for the proposed *Unit*, should be to engage in discussions with National Treasury on the development of a fund under the jurisdiction of the *Unit* to support transformation objectives. The scope of the fund would need to be developed in consultation, but aspects could include those relating to supporting spatial transformation initiatives of national significance (especially around coordination and alignment in space and time), spatial planning and transformation

Figure 50: Championing of Spatial Transformation



6.1.2 Communication of Shared Action

Communication is an essential and often neglected aspect of implementation. It is also a cost-effective way of building understanding and shared action. People and institutions can only act on, and invest in, a plan they know and understand. An effective communication strategy that targets all spheres of government, the private sector, academia and civil society will have to be put into place. The proposed *Spatial Transformation Unit* should be tasked with developing and implementing this, and the requisite funding provided.

This communications strategy would need to work across a range of platforms. Consideration should be given to professional communications support, to develop and, as and where necessary, implement certain components of the communications strategy. Two key components should be included in such a strategy:

- A strong web-presence and profiling on key government websites, and in particular, ‘centre of government departments’^{xii}, which includes The Presidency, DPME, CoGTA, DRDLR, and NT; and
- The use of existing inter-governmental engagement platforms to profile and explain the NSDF, including key government partners, such as SALGA, who would be a crucial ally in introducing and communicating the NSDF to municipalities.

6.1.3 Institutionalisation of the NSDF into Centre of Government Planning, Budgeting, Implementation, Monitoring and Evaluation System

Consideration needs to be given as to how the NSDF will link to the broader systems of planning, budgeting, implementation, monitoring and evaluation in government. This includes discussion as to how the NSDF could, amongst others:

- Support and strengthen the Medium-Term Strategic Plan (MTSP) and Framework (MTSF);
- Inform and help strengthen the ‘Budget Mandate Paper’;
- Improve alignment of sector and sphere budgeting, especially as related to spatially-targeted capital spending (and long-term infrastructure spending in particular);
- Contribute, through its implementation processes, to capacity building that impacts and supports spatial transformation; and
- Assist in identifying where special grants or other funding mechanisms

could be considered to support spatial targeting, regional planning and other programmes aimed at spatial transformation

Figure 51: Clear Line of Sight



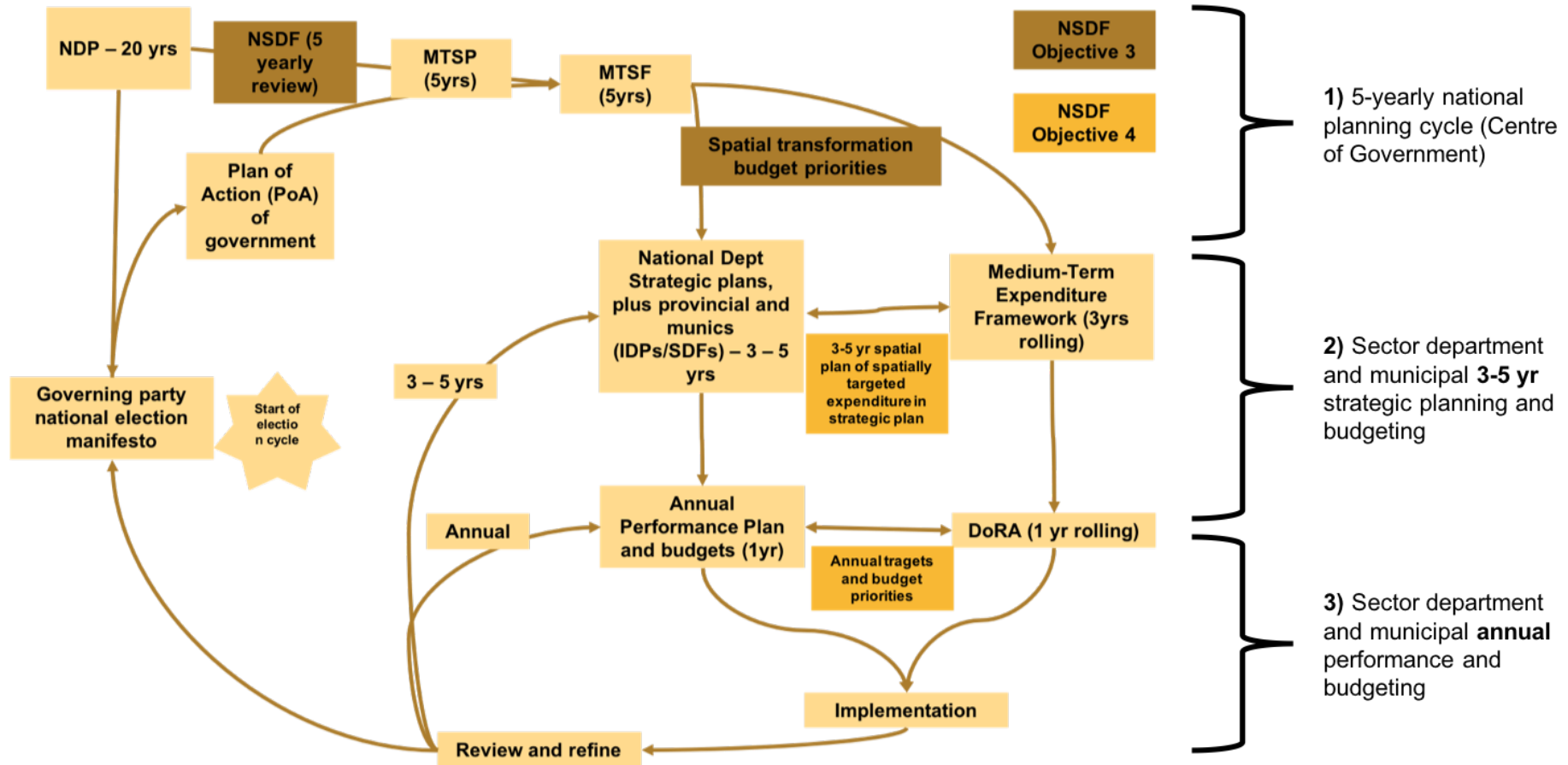
Suggestions for discussion include:

DPME
<ul style="list-style-type: none"> • DPME utilizes the NSDF to provide the spatial lens to the Medium-Term Strategic Plan (MTSP). • In line with the above, the DPME utilizes the NSDF as the spatial representation of the Mandate Paper (annually) prioritization and the MTSF (five-year cycle). • That DPME monitor the alignment of sector budget spending in physical space in line with the NSDF.
National Treasury
<ul style="list-style-type: none"> • In recognising the role of the NSDF in coordinating spending in space, NT could consider ways to use it to guide national sector department budgets (especially long- term infrastructure) and check that programmes align to and reinforce the objectives of the NSDF. • That this spending and prioritization is monitored and reported on.
COGTA
<ul style="list-style-type: none"> • That CoGTA supports the developmental, place-based and regional approach of the NSDF through capability- building and other related initiatives. This approach could take the form of regional intervention starting with PGDSs and PSDFs (and possibly associated RSDFs).

DRDLR
<ul style="list-style-type: none"> • That DRDLR (or the department responsible for spatial planning) establish a well-resourced and capacitated Spatial Planning Support Agency (or similar) that sees to, and if necessary, funds the placement of accredited spatial planners in every municipality. • That DRDLR (or the department responsible for spatial planning) considers how to empower planners and support them in building and enabling cross-sphere alignment with spatial planning.

Figure 52 below illustrates conceptually the interface of the NSDF with the national system of planning, budgeting, implementation and monitoring as discussed above and in the following section. Milestones of the implementation and monitoring system are as follows:

Figure 52: National Role in System of Planning, Budgeting, Implementation and Monitoring



1.) Five-year national planning cycle: After a national election a five-year plan of action is developed. Given the status of the NDP, this draws from the NDP, a shared plan. This plan is used to inform the MTSF of government as a whole. The NSDF is aligned to the NDP and is likewise reviewed every five years. It must also find expression in the MTSP. Annually the Mandate Paper identifies key priorities, likewise, there should be spatial investment priorities identified drawing on the MTSP.

2.) Three-to-five-year actions: Taking their cue from the MTSF and NDP, sector departments and municipalities formulate their strategic plans (three-five years) and National Treasury developments the budget and MTEF to the same logic. National sector departments and municipalities must then utilise the NSDF to develop their own spatial depiction of their strategic plans and link these to their budgets (the spatial investment components).

3.) Annual actions: Annual performance plans and budgets then need to set targets for each against the long-term strategic plan.

6.1.4 Embedding Implementation and Collaborative Action

All government departments preparing sector plans need to consider their spatial impact, especially as related to capital and infrastructure spending, and such plans must be aligned with the spatial priorities outlined in the NSDF. The aim is to achieve crucial urban, rural, municipal, provincial, regional and national development goals and objectives. This discussion needs to be focused on the procedures to facilitate and promote cooperative government and intergovernmental relations in respect of spatial development planning.

This aspect needs to explore the way in which this is done through:

- National sector departments;
- Provincial government plans;
- Municipal planning;
- Sub-national or regional planning;
- The private sector;
- Civil society; and
- Learning organisations.

Suggestions for discussion include:

National and Provincial Sector Departments

It is suggested that national sector departments and their provincial counterparts add a spatial component to their strategic plans that (1) is aligned to the NSDF, and (2) depicts the location of their spending, especially those components with a specific spatial and/or capital/infrastructure expenditure component. In doing so, they should also indicate how they will engage with the unique attributes of the places where the investment will 'land' in a sub-national space in such manner that it (1) responds to the unique regional and local challenges (as articulated in the IDP and SDFs), and (2) supports regional and local development in the area concerned.



When new national policy or legislation is contemplated, a Socio-Economic Impact Assessment

System (SEAIS) is required. The suggestion is that an indicative *capital expenditure spatial* framework be incorporated as part of the Socio-Economic Impact Assessment System (SEAIS).

Provincial Government

That Provincial Governments explore practical ways of utilizing the NSDF as an important contextual frame for the preparation of their PGDSs and PSDFs.

Regional Development Collaborators

The NSDF could identify, make use of and co-ordinate relevant regional collaboration, and/or spatial development planning initiatives. Recent examples are the Nama Karoo and the Northern Free-State Regional Initiatives, and associated RSDF processes.

Local Government

That consideration be given by municipalities to practically using the NSDF as a 'crucial frame' in the preparation and review of their IDPs and SDFs, and any other form of long-term strategic planning.

Citizens and Civil Society Organisations & the Private Sector

That citizens, civil society organisations and the private sector are encouraged to engage proactively and on a continuous base with the NSDF, to ensure that their investment and spending decisions (1) respond to, and support national, regional and local needs, and (2) actively contribute to national spatial transformation and inclusive economic growth.

Learning Institutions and the

Capacity building on national (1) trends, dynamics, challenges and opportunities, (2) sense-making, and (3) spatial development concepts and plans is important. Learning institutions are encouraged to

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follow, analyse and constructively critique the implementation of the NSDF with a view to offering reflections and insights on how it might be improved and/or refined when it is next reviewed.

Research Institutions and Initiatives

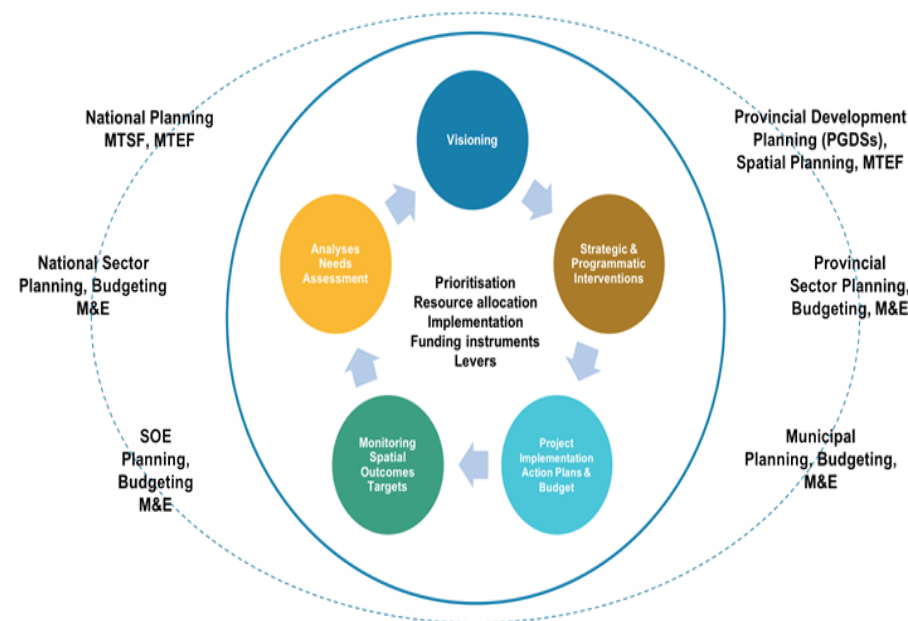
Ongoing research on national spatial development and inter-regional dynamics and spatial development scenarios is imperative. These entities are ideally placed to initiate and undertake and sustain such research.

6.1.5 Sector Specific and Spatially Targeted Priorities Actioned

This objective is the most important for spatial transformation. All the preceding objectives ultimately need to focus on the sector specific and spatially-targeted priorities identified in the NSDF's Frame and Sub-Frames.

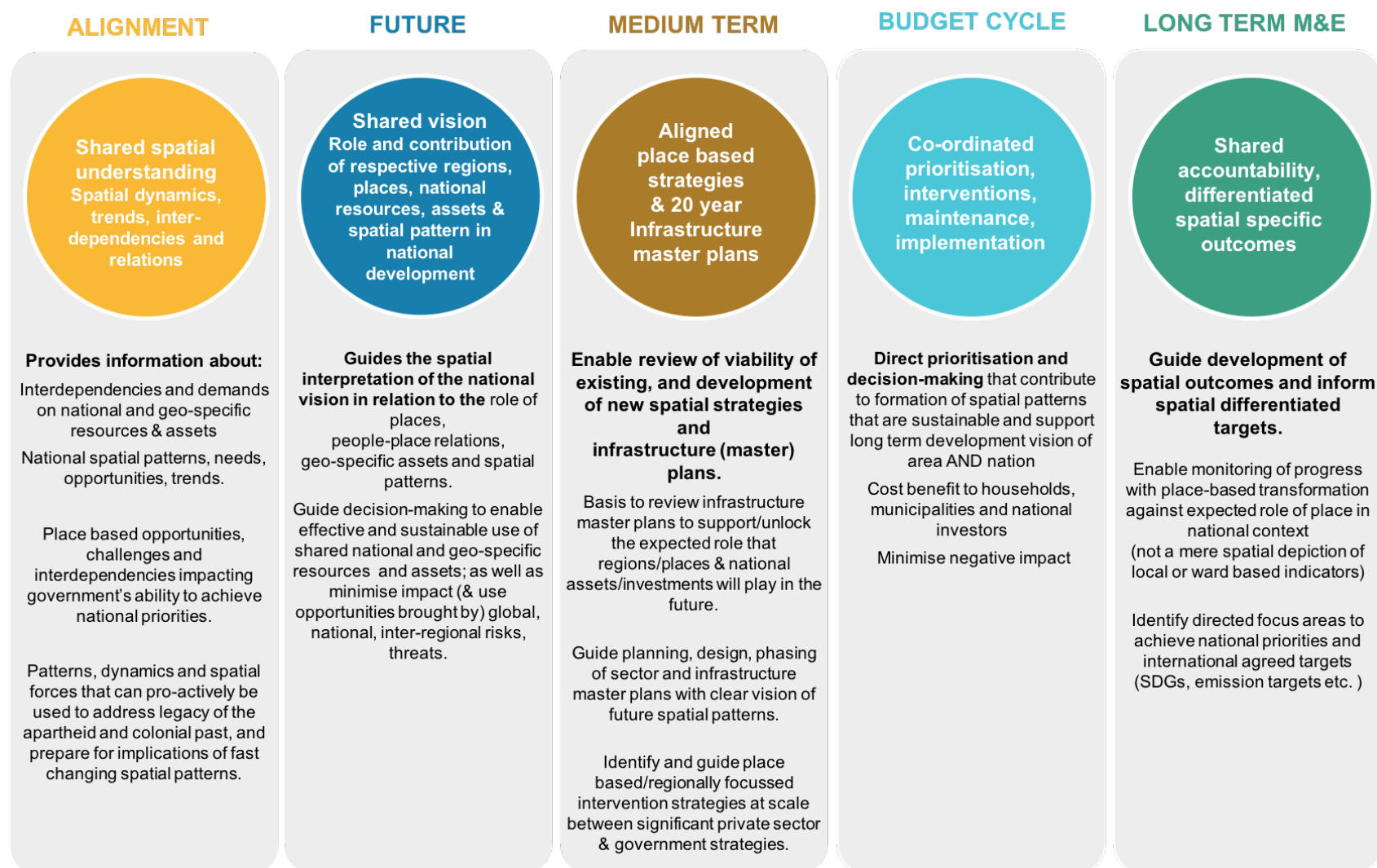
The NSDF seeks to support *improved investment impact and alignment* of (1) national integrated and sector plans, and (2) provincial and regional plans and strategies within the context of government's five-year planning and review cycle and process. As indicated in **Figure 53** below, this it does by (1) being *informed*, and taking its cue from the NDP and a myriad of other multi-term, multi-sector, multi-sphere spatial-decision-making processes and plans, frameworks, strategies and programmes, and in turn (2) *guiding* many of these, and a range of other such plans, frameworks, strategies and programmes when they are being prepared, implemented and/or reviewed.

Figure 53: The Envisaged Role of the NSDF in Plan Preparation, Budgeting, Implementation and Review Cycles in Government



The envisaged role of the National Spatial Development Frame and Sub-Frames in the spatial alignment of Government's planning instruments and cycles is set out in **Figure 54**.

Figure 54: The Envisaged Role of the National Spatial Development Frame and Sub-Frames in Spatial Planning



6.2 Implementation Planning

The NSDF has two key *target dates*:

- **2030:** In alignment with the NDP; and
- **2050:** In recognition of (1) the long-term infrastructural, and (2) other investments required over time to completely transform our society and country from colonialism and Apartheid to a truly democratic Post-Apartheid society.

Implementation of the NSDF has three 'cycles':

Cycle 1: Initiation 2019 to 2023

- Within this cycle the focus is on alignment of long-term plans, vision and shared understanding.
- This is achieved through building the championing capability and ensuring broad communication and awareness.
- The key targets for this phase include:
 - Establishment of a championing capability that is well resourced and enabled (measured by establishment of institutional capacity with this mandate); and
 - Awareness of the NSDF and its implications across all three spheres of government, learning organisations, civil society and private sector (measured by acknowledgement in the MTSP/MTSF and MTEF and use of and reference to the NSDF vision in alignment of national sector plans, PGDSs and municipal SDFs/IDPs).

Cycle 2: Alignment, budgeting and execution 2024 to 2043

- Here the focus is on alignment of spatial strategy and medium-term plans.

- This cycle is broken up into four five-year cycles corresponding with the five-year government planning cycles. In this phase the aim is to build on the foundation laid in the initiation phase.
- In the first five-year cycle (2024 to 2028), the main focus would be on Institutionalisation of the NSDF and embedding the NSDF in national, provincial and municipal planning. The key targets in this phase include:
 - Use of the NSDF in the MTSP/MTSF and MTEF, and other centre of government planning, budgeting and implementation tools (measured by the use of the NSDF in guiding priority actions at a national level to align and guide spatially targeted investment); and
 - Use of the NSDF in the Sector Plans, PGDSs and SDFs/IDP to enable greater cross-country coherence, whilst still respecting provincial and local contexts and challenges (measured by use of and reference to the NSDF).
- In the next three five-year cycles, the aim is to see a refinement and deepening of the institutionalisation and embedding, but with greater emphasis being placed on the execution of the spatial priorities identified in the NSDF Spatial Frames (measured by project progress on priorities and budget allocations).

Cycle 3: Renew and re-do 2044 to 2049

- In the last five-year cycle, it would be expected of implementation to continue, but for a full evaluation to be undertaken and the preparation for the compilation of the next NSDF to begin.

The Implementation Cycles are shown in **Figure 54** below, and the shifting focus of NSDF implementation over time is shown in **Figure 55** on the following page.

Figure 55: NSDF Implementation Cycles

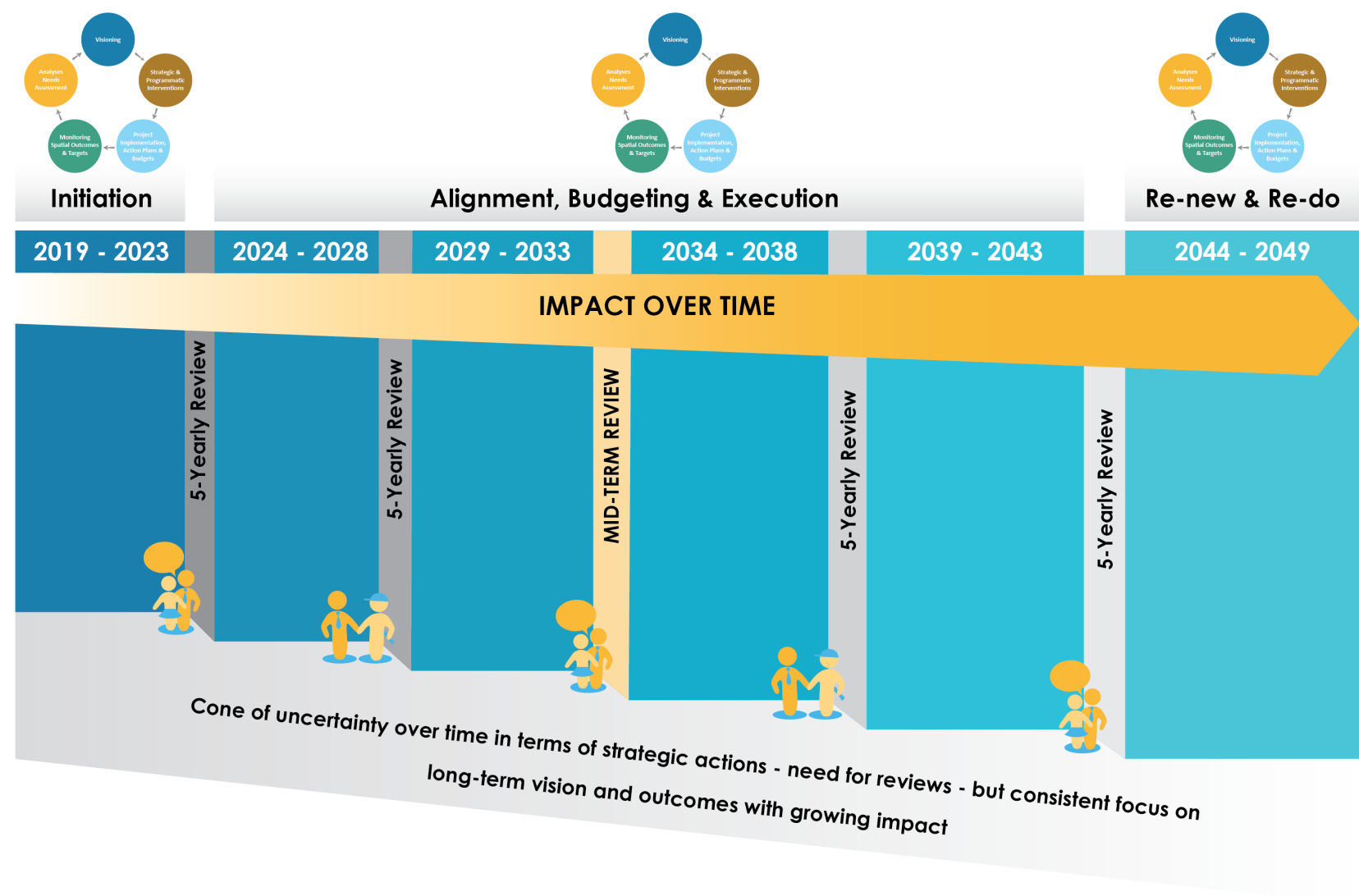


Figure 56: NSDF Implementation Cycles Overview

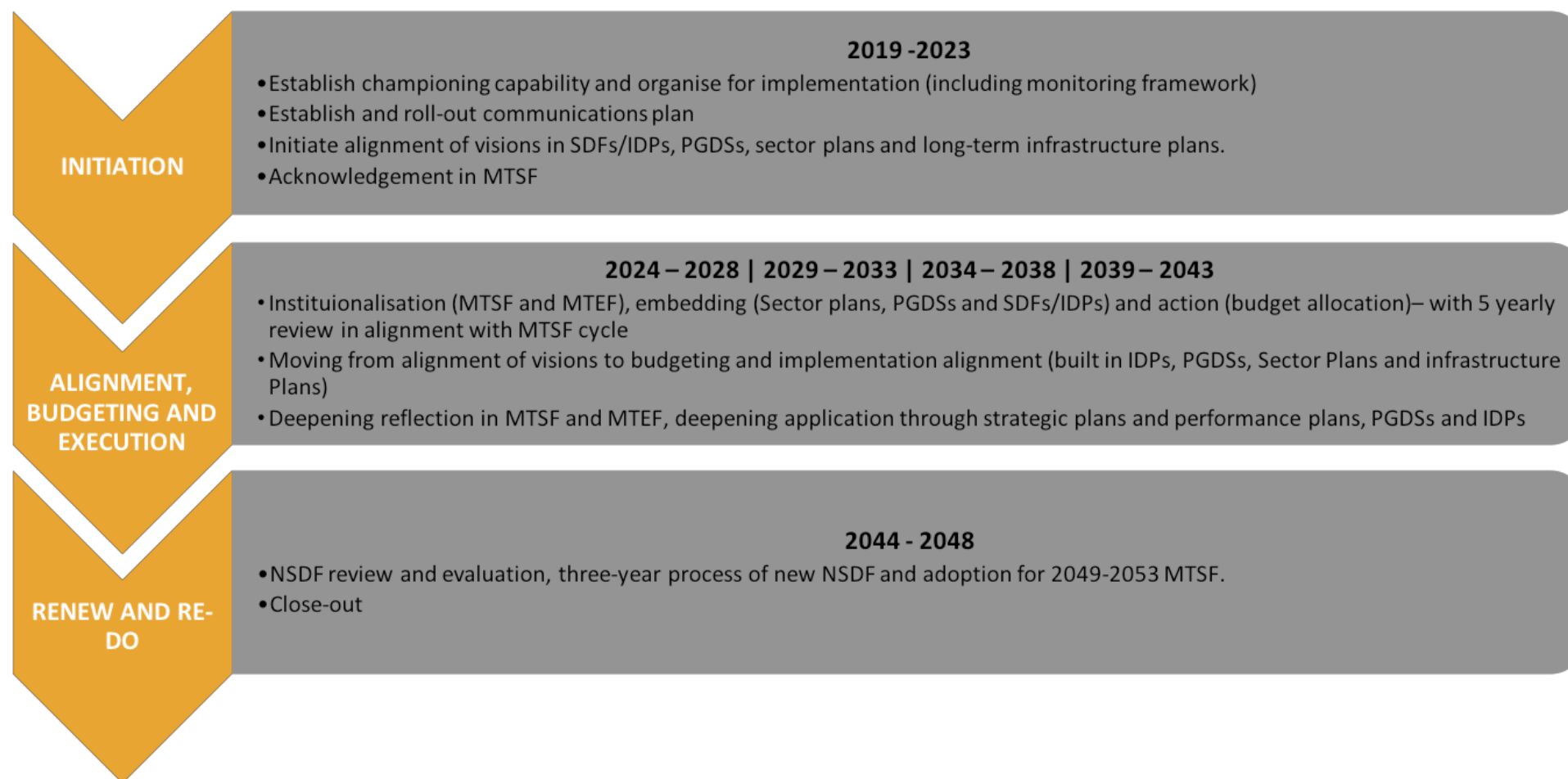
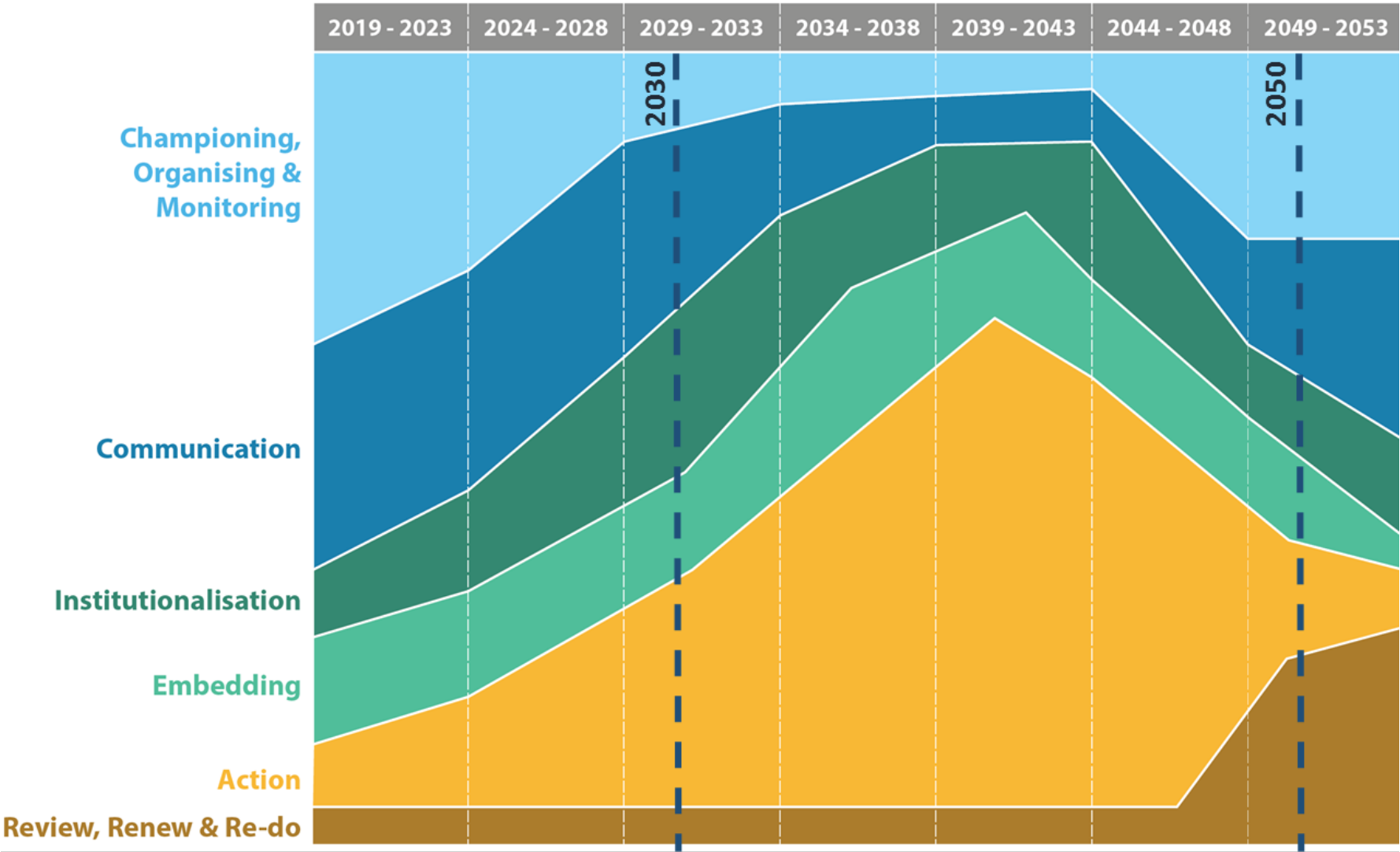


Figure 57: NSDF Implementation – Level of Focus over Time



6.3 NSDF Review

As indicated in **Section 6.2**, the NSDF takes a long-term view with both a 2030-horizon and a 2050-horizon. However, reality dictates that there will many changes and impacts over the course of this period which cannot be foreseen. The five-yearly reviews, in accordance with SPLUMA, are sure to result in shifts in the Frame, Sub-Frames, desired National Spatial Outcomes and Priority Actions. It is, however, expected that the key transformative elements of the Vision and Logic will hold true, and continue to guide action

6.4 Monitoring and Evaluation

The regular process of five-yearly review, along with a mid-term review of the NSDF and its impacts, will require a monitoring and evaluation framework to be developed. Some indication has already been given as to the broad indicators and measurement of the NSDF. However, this monitoring and review framework needs to specifically address the achievement of the NSDF transformational changes and impacts. This will need to be an important focus of the championing agent in the initiation phase. The development of the framework is also an opportunity to contribute to deepening the understanding of the NSDF and its intended outcomes. It should thus be used as an opportunity to (1) engage the three spheres of government and other civil society, learning and private sector bodies, and (2) continue the discussions started *in* and *through* the compilation of the NSDF.



PART SEVEN: Conclusion

This Draft NSDF highlighted the persistence of colonial and apartheid spatial patterns and their detrimental impact on the ability of government to meet its national development objectives of reducing poverty, inequality and unemployment. To rid the country of this stubborn historical spatial stranglehold, a theory of change was developed that relies on, and proposes radical and decisive intervention in the national:

- Spatial development logic and pattern;
- Natural resource use and maintenance profile; and
- Patterns of ownership of, and access to, land and other resources.

The desired national spatial development vision, logic, and pattern, as put forward in the NSDF hold out the real promise of a very different South Africa by 2050. While providing overarching national spatial direction, catalytic impetus and guidance in moving the country towards the 2050-vision, the realisation of this desired South Africa will require of the NSDF to be:

- Championed;
- Communicated;
- Institutionalised;
- Embedded; and
- Actioned.

These five actions demand equally radical and decisive change in the way investment and spending is planned, budgeted for and done in the national space. While these changes will not always be easy, and entail very different ways of engaging, collaborating and acting, the rewards

of doing so will far outweigh the sacrifices – *a peaceful, prosperous and truly transformed South Africa by 2050!*

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- Department of Water and Sanitation. National Water and Sanitation Master Plan. Draft 2.6. 2017.
- Department of Transport (DoT). 2015. National Transport Master Plan 2050. Pretoria, South Africa.
- National Climate Change Adaptation Strategy

Location Specific Investment Infrastructure (Map of Current)

- Strategic National South African Infrastructure network and plans, including: Strategic freight, heavy haul and passenger railway networks, Road network, Ports,
- Industrial Development Zones
- Special Economic Zones,
- ESKOM, 2017. Hydro Electricity, hydro-electricity, biomass electricity and co-generation electricity, and coal fired power generation sites
- Ports Regulator of South Africa (PRSA). 2015. South African port capacity and utilisation report 2015/16. Accessed 06 July 2016 at www.portsregulator.org.

Significant environmental protection areas:

- Nine World Heritage Sites - <http://whc.unesco.org/en/statesparties/za>
- Nineteen National Parks - <https://www.sanparks.org/>
- Strategic Water Source Areas - <https://www.csir.co.za/strategic-water-source-areas-combining-surface-and-groundwater-enhance-water-security>
- National Freshwater Ecosystem Priority Areas – <http://bgis.sanbi.org/nfepa/project.asp>
- Coastal Protection Zones – 100m from the high-water mark in Urban, 1000m in non-urban. - https://www.environment.gov.za/sites/default/files/docs/guideto_icm_act.pdf
- Wetlands of International Importance in SA (Ramsar sites) - <http://www.saramsar.com/p/possibly-most-important-factor-in.html>
- High Water Mark - https://www.environment.gov.za/sites/default/files/docs/guideto_icm_act.pdf
- Twelve Proclaimed Fishing Harbours - <http://arnistonalive.org.za/wp-content/uploads/2013/10/Arniston-Harbour.pdf>

National Government Spatial Specific Investment Initiatives

- Strategic Infrastructure Investment Projects (SIPS)
- Integrated Urban Development Framework Implementation: 37 Intermediary City Municipalities
- Department of Human Settlements Spatial Master Plan (guiding land release and investment through the Housing Development Agency)
- Renewable Energy Development Zones - as identified investment areas for renewable energy resource investment.
- PAKISHA's: Aqua culture and Ocean's Economy
- City Support Programme & BEPPs: Grant alignment and incentivisation
- Significant programmes, principles, policies or projects relating to environment:
 - Grasslands Programme (SANBI) - <https://www.sanbi.org/biodiversity-science/science-policyaction/mainstreaming-biodiversity/grasslands-programme>
 - Freshwater Programme (SANBI) - <https://www.sanbi.org/biodiversity-science/science-policyaction/mainstreaming-biodiversity/freshwater-programme>
 - Succulent Karoo Programme (SANBI) - <https://www.sanbi.org/biodiversity-science/science-policyaction/mainstreaming-biodiversity/succulent-karoo-programme>
 - Ecological Infrastructure (SANBI). - <https://www.sanbi.org/biodiversity-science/science-policyaction/mainstreaming-biodiversity/ecological-infrastructure>
 - CAPE Programme (SANBI) conservation of the Cape Floristic Region - <https://www.sanbi.org/biodiversity-science/science-policyaction/mainstreaming-biodiversity/fynbos-programme>

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ⁱ From: <http://www.businessdictionary.com/definition/economic-sector.html>.

ⁱⁱ State of the Nation Address by the President of the Republic of South Africa, Mr Cyril Ramaphosa, 16 February 2018, Parliament.

ⁱⁱⁱ Report of the High-Level Panel on the Assessment of Key Legislation and the Acceleration of Fundamental Change. (2017). Page 32.

^{iv} As quoted in The National Development Plan (2012). Page 24.

^v Summarised from the IUDF, the publication "*South Africa's national urban development policy – the IUDF*", both published by CoGTA and the publication "*Localising the New Urban Agenda: South Africa Discussion Document*" (2018).

^{vi} See Greenberg. 2013. Institute for Poverty, Land and Agrarian Strategies, UWC. Page 18, 19; See Cousins (2015), Aliber et al (2017).

^{vii} The level of service per settlement typed indicated in the "Service Wheel" is based on the following previous work that is documented in:

- Green, Cheri; Mans, Gerbrand; Ngidi, Mawande; Sogoni, Zukisa; & Maritz, Johan. Using Catchment Areas Analysis and GIS based Spatial Analysis for Prioritising Spatial Investment in Non-Metro South Africa- 2016. ISOCARP Durban, 12-16 September 2016. (Short title 'Prioritisation of Towns for Social Investment').
- Green, CA & Argue, TC. 2012 CSIR Guidelines for the Provisions of Social Facilities in South African Settlements. August 2012: ISBN 978-0-7988-5603-4. (Short Title CSIR Social Facility Standards).
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- CSIR Town Area Typology 2018

^{viii} As such, the process coordinated by the *IUDF Working Group* to expedite urban land reform is noted and strongly endorsed.

^{ix} A Regional Spatial Development Framework, which serves as an example of such an initiative, is being proposed for the Vaal River area in the Northern Free State.

^x The Nama Karoo Regional Spatial Development Framework driven by SALGA, is a good example of such an initiative.

^{xi} DPME, 05-10-17. Towards Institutionalising Planning, Monitoring and Evaluation: An overview Document Prepared for the MP&E Forum of 12 to 13 October 2017, DPME Report, pg. 6.

^{xii} Departments tasked with and engaged in activities that aim to support the work and impact of sector departments and spheres with specific public service delivery mandates.