

A revision of the 2004 Growth Potential of Towns in the Western Cape study

Discussion document

A research study undertaken for the Department of Environmental Affairs and Development Planning of the Western Cape Provincial Government

by

Stellenbosch University & CSIR



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EXECUTIVE SUMMARY

One of the objectives of the Department of Environmental Affairs and Development Planning (DEA&DP) is to undertake spatial planning that promotes and guides the sustainable future development of the Western Cape province and redresses spatial inequalities. This goal led to the development of the Provincial Spatial Development Framework (PSDF), which identifies the areas of growth in the province and the areas where, in terms of the sustainable development paradigm, growth should be emphasised in the future. It also addresses the form that this growth or development should take and further emphasises the restructuring of urban settlements to facilitate their sustainability. To provide guidance and support for implementing the PSDF, a thorough understanding and knowledge of the characteristics and performances of all the settlements in the province is needed.

The aim of this study was to revise and update the Growth Potential Study of Towns in the Western Cape (Van der Merwe et al. 2004), henceforth referred to as the “2004 study”. The objectives were to:

- 1) undertake a comprehensive policy assessment in the context of indicators and theoretical literature review;
- 2) revise the indicators from the 2004 study and link these to current policy;
- 3) collect relevant data from the 131 towns used in the 2004 study and develop a GIS database;
- 4) populate the revised indicators with the most recent available data to identify possible changes; and
- 5) apply the revised indicators to calculate the various indices, test for statistical significance, and compare the results with those of the 2004 study.

To reach these objectives, an interdisciplinary approach was adopted. A theoretical framework of both urban and rural development was considered fundamental to all aspects of the study. A strong emphasis was placed on the relevance and impact of pertinent local, provincial and national policies. The study has a solid quantitative foundation involving the collection of empirical data, carrying out statistical analyses and performing sophisticated spatial modelling to provide an objective overview of the growth potential of settlements in the Western Cape. Qualitative methods were also employed to contextualise and interpret the findings.

The project consisted of four broad phases: 1) Literature and policy review; 2) Data collection and analysis; and 3) Interpretation and synthesis of results. This process is outlined in Figure E-1.

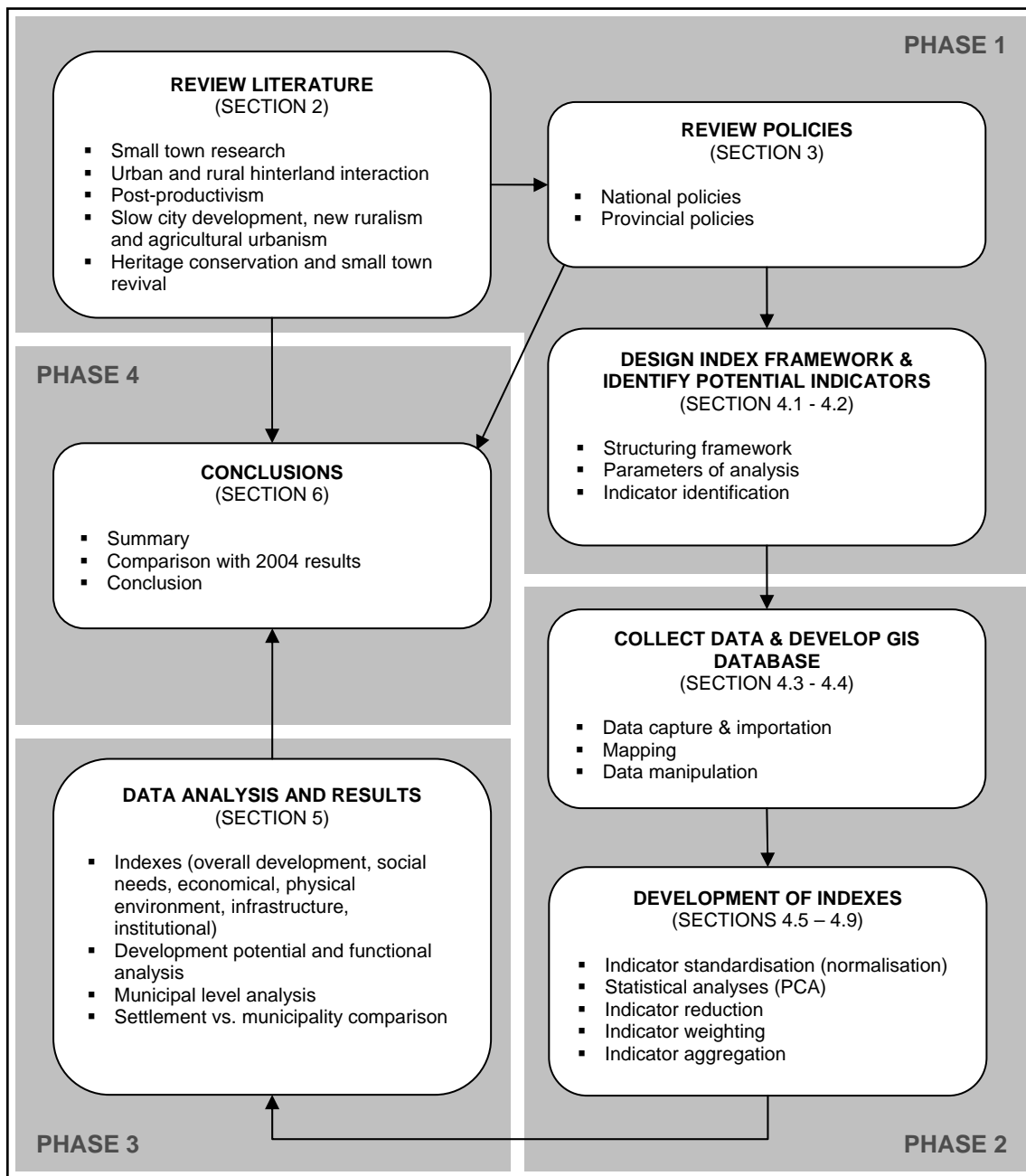


Figure E-1 Project overview

Literature review and policy contextualization

The literature review focussed on unconventional and alternative theoretical discourses on settlement growth, including rural-urban linkages, new ruralism, radical ruralism, slow city development, heritage conservation, and post-productivism. These debates were studied to instil a sense of realism and to provide a context within which the interaction between settlements and surrounding rural areas can be better understood. The literature review was followed by a comprehensive contextualization of the national, provincial and local policies. These included the Medium-Term Strategic Framework (MTSF); National Spatial Development Perspective (NSDP); The draft National Urban Development Framework (NUDP); Provincial Growth and Development Strategies (PGDSs); Provincial Spatial Development

Frameworks (PSDFs); Integrated Development Plans (IDPs); and Spatial Development Frameworks (SDFs).

Analysis methods

From the outset it was clear that some modifications of the 2004 methodology would be required to refine and improve the methodology, building on the sound basis provided by the 2004 study. The methodology applied in this study thus differed in certain aspects from the process used in the 2004 study:

- The application of data reduction techniques in the 2010 study to overcome the potential danger and inherent risk of compensability of using large numbers of indicators in composite indexes. Through the application of factor analysis, the 75 potential indicators were reduced to 20 core indicators for the town level analysis and 21 core indicators for the municipal analysis.
- The 2010 study also included an additional municipal level analysis in addition to the town level indexes.
- The allocation of weights (i.e. importance) to different indicators in the 2010 study by using statistical methods, thus reflecting the relative importance of each of the variables.
- The analysis and classification of settlements in terms of development potential and social needs according to five categories instead of a rank order classification as used in the 2004 study.
- The analysis and classification of development potential and social needs according to functional/place identity categories with a view to inform development and investment decisions that would be applicable and targeted to each group of settlements in terms of its functional classification.

The literature review and policy contextualization provided the design a framework (Table E-1) for the identification and organization growth potential indicators and indexes. The framework was also influenced by international indicator guidelines such as the United Nations Indicators of Sustainable Development; the indicator groupings of the 2004 study; and feedback received from a number of local municipalities. Five main themes, namely socio-demographic, economic, physical-environmental, infrastructural, and governance/institutional were found to be consistently present in many of the documentation studied. These themes were consequently used as main indexes of growth potential and as a framework for indicator collection. Each index in turn consists of two or more categories, each including a number of indicators. A total of 75 potential indicators were subsequently identified according to this structuring framework. A detailed description of these indicators in terms of description, rationale and data sources is outlined in the main document.

Table E-1 Structuring framework

#	INDEX	THEME	NUMBER OF POTENTIAL INDICATORS
1	Socio-demographic	Poverty, inequality and human development needs Human resource quality Population structure and growth	15
2	Economic	Extent and diversity of retail and services sector Tourism potential Economic size and growth Economic diversity Market potential Change in labour force Property market	17
3	Physical environment	Availability of water Natural potential	7
4	Infrastructure	Land availability and use Transport and communication Availability of municipal infrastructure	16
5	Institutional	Quality of governance Safety and security Administrative and institutional function Democracy Availability of community and public institutions	20

The growth potential analysis was undertaken at individual settlement level (similar to the 2004 study) as well as at municipal level. The latter analysis provides an important level of aggregation as most investment and development decisions are channelled through local municipal structures. It also provides an overview of the broader context within which individual settlements function. Both levels of analysis involved four steps, namely indicator (1) standardization; (2) reduction; (3) weighting; and (4) aggregation. Standardization ensures that indicators have the same minimum and maximum values (i.e. 0 and 100), while indicator reduction involved carrying out statistical analyses to minimise the duplication of indicators measuring the same variables. Weights were also assigned to each indicator to reflect its importance within a particular index. Next, the weights and standardized indicator values were aggregated using weighted linear combination to produce five indexes. An overall (combined) development potential index was derived by averaging the economic, physical environment, infrastructure and institutional index values per settlement or municipality, while a social needs index was developed by inverting the socio-demographic index (i.e. settlements scoring high on the socio-development index have low social needs).

Analysis results

The results (Table E-2) indicated that a total of six settlements (i.e. 5% of settlements) can be classified as having a very high development potential (leader settlements). These include George, Oudtshoorn, Paarl, Stellenbosch, Vredenburg and Worcester. A further 20 (15%) settlements fall in the high development potential category (aspirant leader settlements), and 45 (34%) in the medium development potential category (stable settlements). Many of the settlements, namely 48 (37%) fall in the low category (coping settlements). There are 12 (9%) settlements with a very low development potential (struggling settlements). Of the 131 settlements studied, 20 (15%) have very high social needs, while 9 (7%) have very low social needs. The remainder (78%) were classified as having high, medium or low social needs.

Figures E-2 and E-3 reflect the spatial representation of development potential and social needs. The maps also include the results of the municipal level analysis.

One of the challenges of comparing all settlements using a standard set of indexes is that different external factors may impact on the performance and potential of individual towns (e.g. agricultural settlements vs. tourism settlements). It can thus be argued that the interpretation of the data can be enriched by comparing the development potential of settlements that have similar functions/place identities. This will also enable the prioritisation of development and investment decisions applicable to each group of settlements in terms of its functional classification.

In order to address this challenge, all settlements forming part of this study were classified in terms of their main function and place identity. This classification was not based on quantitative methods or analyses, but was based on the settlement type classification of the 2004 study's qualitative assessment, and the project team's own subjective qualitative judgment as to which classification is most appropriate. This classification is summarised in Table E-3.

Table E-2 Settlements' development potential versus social needs

	Very high development potential <i>Leader settlements</i>	High development potential <i>Aspirant leader settlements</i>	Medium development potential <i>Stable settlements</i>	Low development potential <i>Coping settlements</i>	Very low development potential <i>Struggling settlements</i>
Very high social needs		Grabouw	Kranshoek	De Rust Doringbaai Dysselsdorp Elandsbaai Kurland Leeu Gamka Merweville Suurbraak Touwsrivier Volmoed Zoar	De Doorns Kliprand Koekenaap Murraysburg Nuwerus Rietpoort Slangrivier
High social needs			Arniston Ashton Beaufort West Franschhoek Gouda Klapmuts Rheenendal Robertson Tulbagh Villiersdorp Wolseley	Calitzdorp Ebenhaesar Genadendal Heidelberg Kalbaskraal Koringberg Laingsburg McGregor Prince Albert Riversdale Riviersonderend Saron Uniondale	Bitterfontein Matjiesfontein
Medium social needs	George Oudtshoorn Paarl Vredenburg Worcester	Hawston Hopefield Kleinmond Knysna Mosselbaai Plettenbergbaai Saldanha Wellington	Albertinia Aurora Bonnievale Botrivier Ceres Darling Gansbaai Herolds Bay Rawsonville Struisbaai Vanrhynsdorp Wittedrift	Barrydale Citrusdal Clanwilliam Elim Friemersheim Goedverwacht Graafwater Greyton Herbertsdale Klawer Ladismith Lamberts Bay Montagu Napier Pearly Beach Porterville Prince Alfred Hamlet Redelinghuys Riebeek-Wes Swellendam	Eendekuil Lutzville
Low social needs	Stellenbosch	Franskraalstrand Hermanus Jamestown Kylemore Paternoster Pniel St Helena Bay Velddrift	Betty's Bay Bredasdorp Buffelsbaai Caledon Dwarskersbos Gouritsmond Groot Brakrivier Malmesbury Moorreesburg Nature's Valley Piketberg Sedgefield Stanford Stilbaai Vredendal Wilderness	Haarlem Riebeek-Kasteel Witsand	Op-die-Berg
Very low social needs		Brenton-on-Sea Keurboomsrivier Langebaan	Jongensfontein Jacobsbaai Onrus Pringle Bay Yzerfontein	Strandfontein	

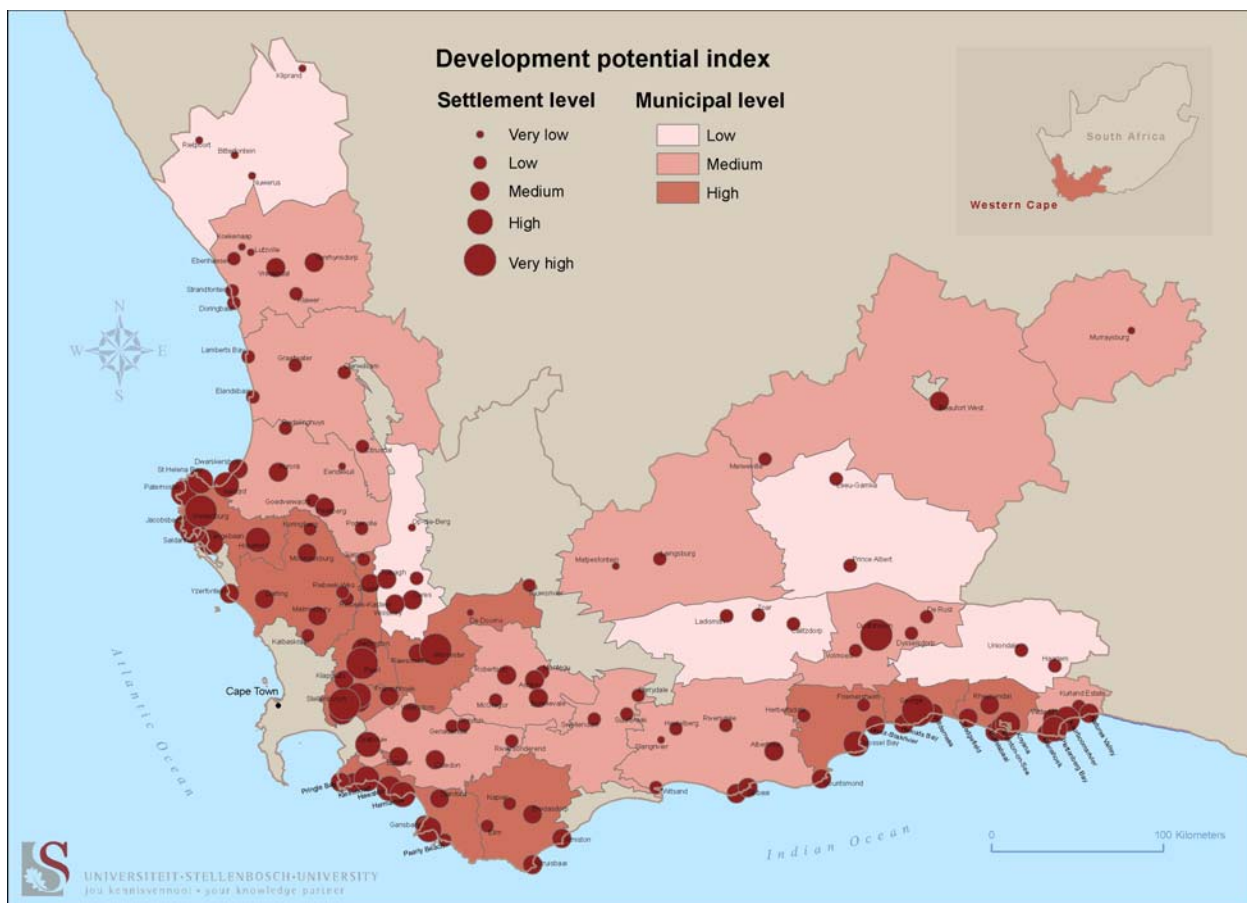


Figure E-2 Development potential index

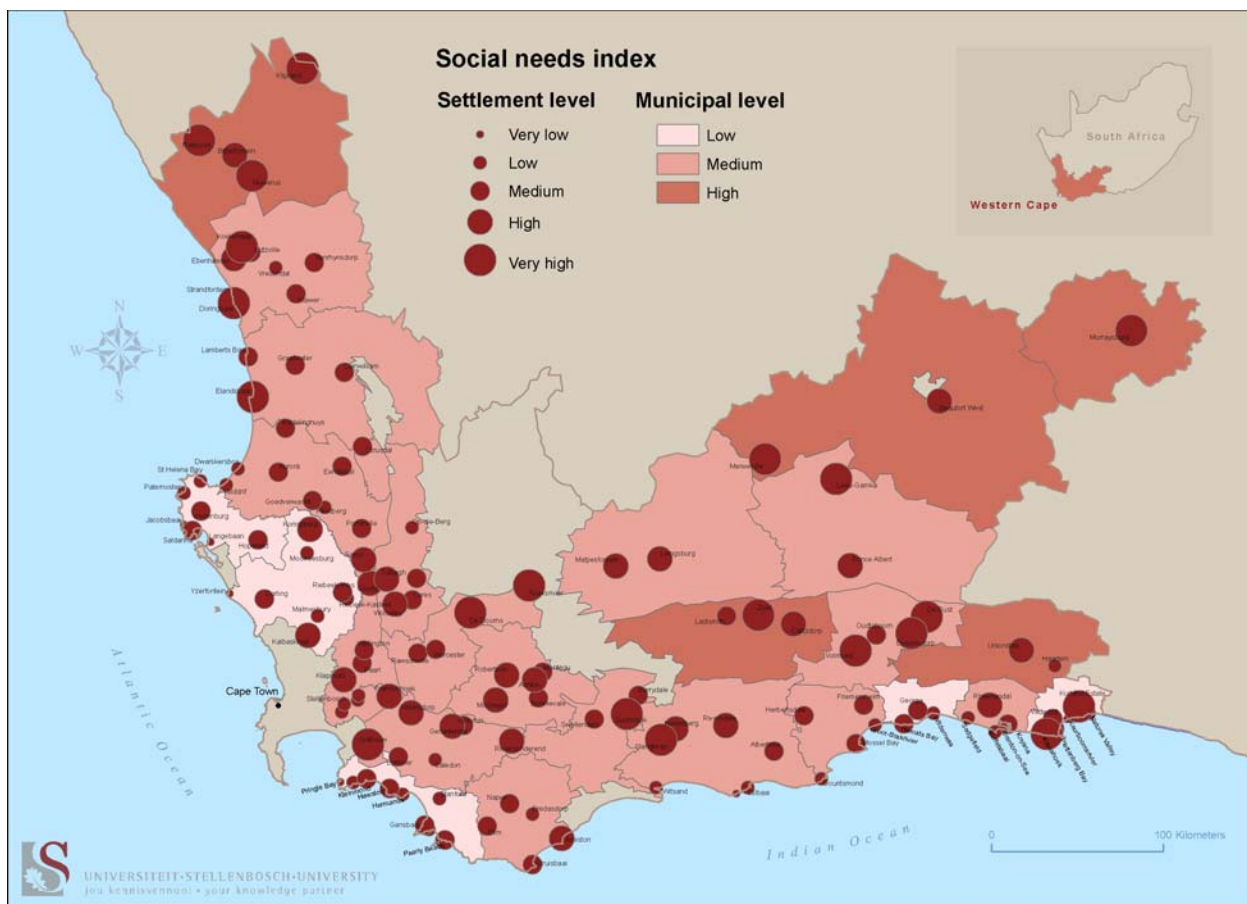


Figure E-3 Social needs index

Table E-3 Functional classification of settlements

FUNCTION CLASSIFICATION	SETTLEMENTS
Agricultural service centre	Albertinia, Ashton, Aurora, Barrydale, Bitterfontein, Bonnievale, Botrivier, Caledon, Calitzdorp, Ceres, Citrusdal, Clanwilliam, Darling, De Doorns, Eendekuil, Gouda, Graafwater, Grabouw, Heidelberg, Herbertsdale, Hopefield, Klaver, Ladismith, Laingsburg, Lutzville, Merweville, Moorreesburg, Murraysburg, Nuwerus, Piketberg, Porterville, Rawsonville, Redelinghuys, Riversdale, Riviersonderend, Robertson, Uniondale, Vanrhynsdorp, Villiersdorp, Volmoed, Vredendal, Wellington, Wolseley
Agricultural service centre/Tourism	Franschhoek, Prince Albert, Riebeeck-Wes, Swellendam, Tulbagh,
Fishing/Industrial	Saldanha
Fishing/Residential	Hawston, St Helena Bay
Fishing/Tourism	Elandsbaai, Gansbaai, Lamberts Bay, Velddrift
Regional centre	Beaufort West, Bredasdorp, George, Hermanus, Malmesbury, Mosselbaai, Oudtshoorn, Paarl, Stellenbosch, Vredenburg, Worcester
Residential	Dysselsdorp, Ebenhaesar, Friemersheim, Goedverwacht, Haarlem, Jamestown, Kalbaskraal, Klapmuts, Kliprand, Koekenaap, Koringberg, Kranshoek, Kurland, Kylemore, Leeu Gamka, Op-die-Berg, Pniel, Prince Alfred Hamlet, Rheenendal, Rietpoort, Saron, Slangrivier, Struisbaai, Suurbraak, Touwsrivier, Wittedrift, Zoar
Residential/Tourism	Doringbaai, Elim, Genadendal, Greyton, Groot Brakrivier, Herolds Bay, McGregor, Montagu, Napier, Riebeeck-Kasteel, Sedgfield, Stanford, Stilbaai, Wilderness
Tourism	Arniston, Betty's Bay, Brenton-on-Sea, Buffelsbaai, De Rust, Dwarskersbos, Franskraalstrand, Gouritsmond, Jacobsbaai, Jongensfontein, Keurboomsrivier, Kleinmond, Knysna, Langebaan, Matjiesfontein, Nature's Valley, Onrus, Paternoster, Pearly Beach, Plettenbergbaai, Pringle Bay, Strandfontein, Witsand, Yzerfontein

This categorisation was then used to classify settlements into five broad functional/town identity categories:

- regional centres (purple on scatter plot);
- agricultural service centres (red on scatter plot);
- fishing/industrial (yellow on scatter plot);
- residential (blue on scatter plot); and
- tourism (green on scatter plot).

A summary of the development potential and social needs of settlements within each of these categories is outlined in Figure E-4.

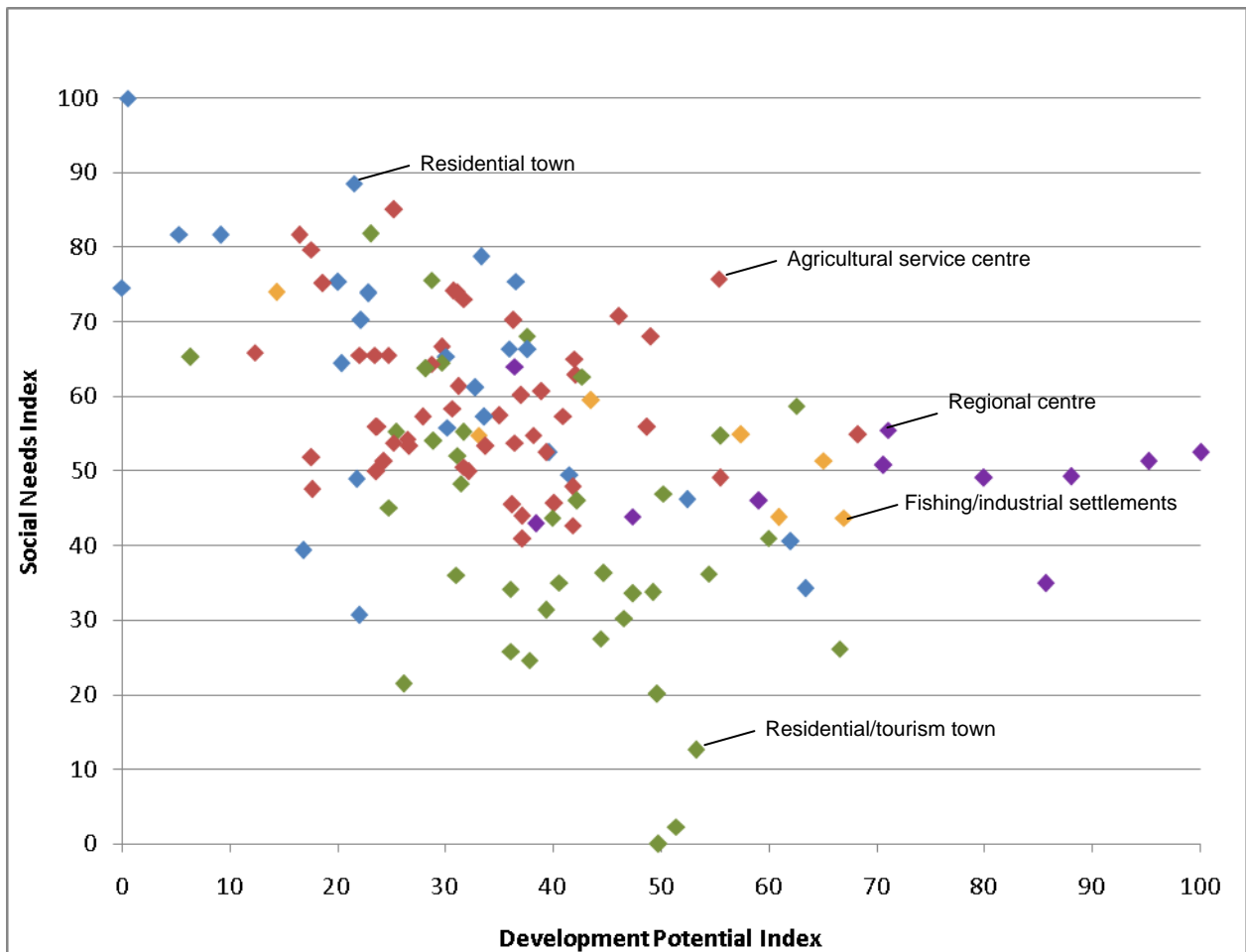


Figure E-4 Scatter plot comparing the social needs and development potential of all settlements

The analysis of settlements according to their functional/place identity categorisation revealed a number of important characteristics:

- The regional centres generally have high levels of development potential and comparatively lower social needs.
- The agricultural service centres mostly achieved low scores on the composite development potential index and are characterised by medium to high values on the social needs index.
- The fishing/industrial settlements are generally classified as having medium to high levels of development potential, and medium levels of social needs.
- The social needs of the residential settlements are mainly within the high to very high range, and with low to medium levels of development potential.
- The tourism settlements have a wide range of development potential, ranging from low to high and are generally characterised by low or very low levels of social needs.

Comparison with 2004 results

To enable direct comparison between the above results and those of the 2004 study, the same “natural breaks” classification was carried out on the raw values of the 2004 study’s development and social needs indexes. It was found that there is a moderate (0.697 with significance 0.01 (2-tailed)), positive statistical correlation between the settlement category rankings of the two studies. This correlation is clear when the 2004 and 2010 classifications of growth potential are compared (see Figure E-5).

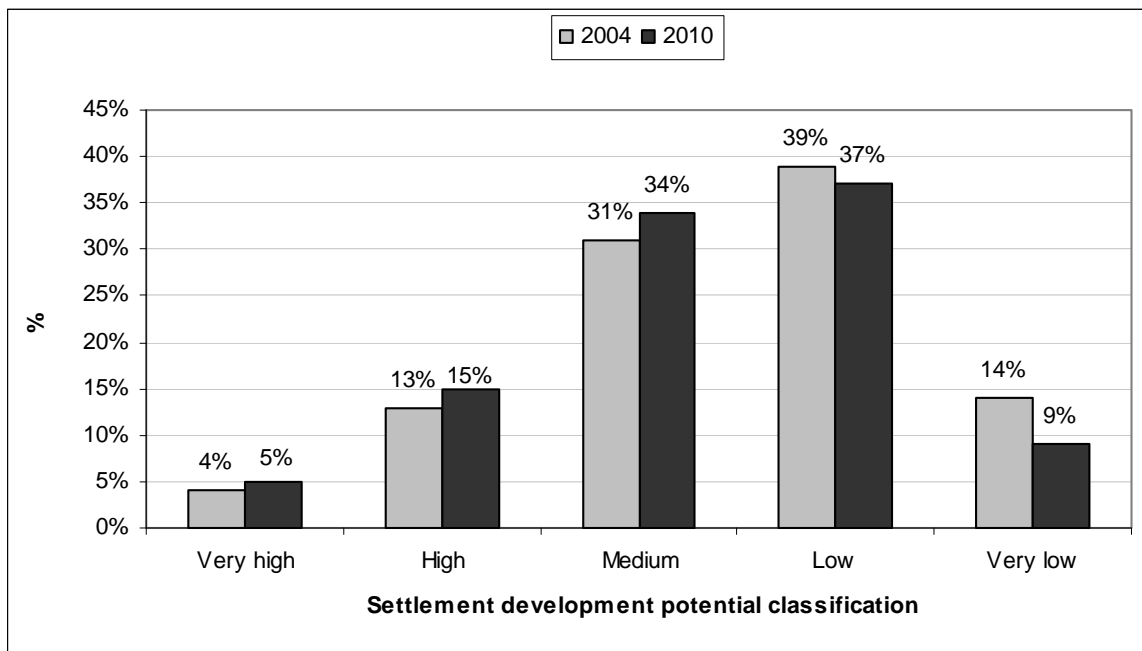


Figure E-5 Settlement development potential classification comparison of 2004 and 2010

The results of the 2010 study largely confirmed the findings of the 2004 study. A comparison of the results of the 2004 and 2010 studies revealed that more than half (51%) of settlements were found to have remained in the same growth potential category between 2004 and 2010. A total of 40 (31%) settlements are classified in a higher growth potential category than in 2004, while 24 (18%) has a lower potential.

Table E-4 compares the development potential and social needs of the 2010 and 2004 study per settlement. A total of five settlements experienced significant change from the 2004 rating and improved their developmental potential category by two categories (i.e. a significant change). These are Hopefield, Paternoster, St Helena Bay, Buffelsbaai and Nature’s Valley. Four of these are coastal holiday tourism settlements, and three (Hopefield, Paternoster, St Helena Bay) of them are located within one municipality (Saldanha Bay Municipality). Only Lutzville showed a decrease of two categories.

When the 2004 and 2010 data on social needs are compared it is clear from Figure E-6 that there is no significant percentage difference between towns that have a very high, high, low and very low classification. However, a substantial number of towns were classified as having a medium social need in 2010. In 2004, the majority of leader settlements and struggling settlements have had very high/high social needs. Conversely, the majority aspirant leader and stable settlements had a very low/low social

need whereas coping settlements had slightly higher social needs. In 2010 the vast majority of leader towns have a medium social need (a significant change since 2004).

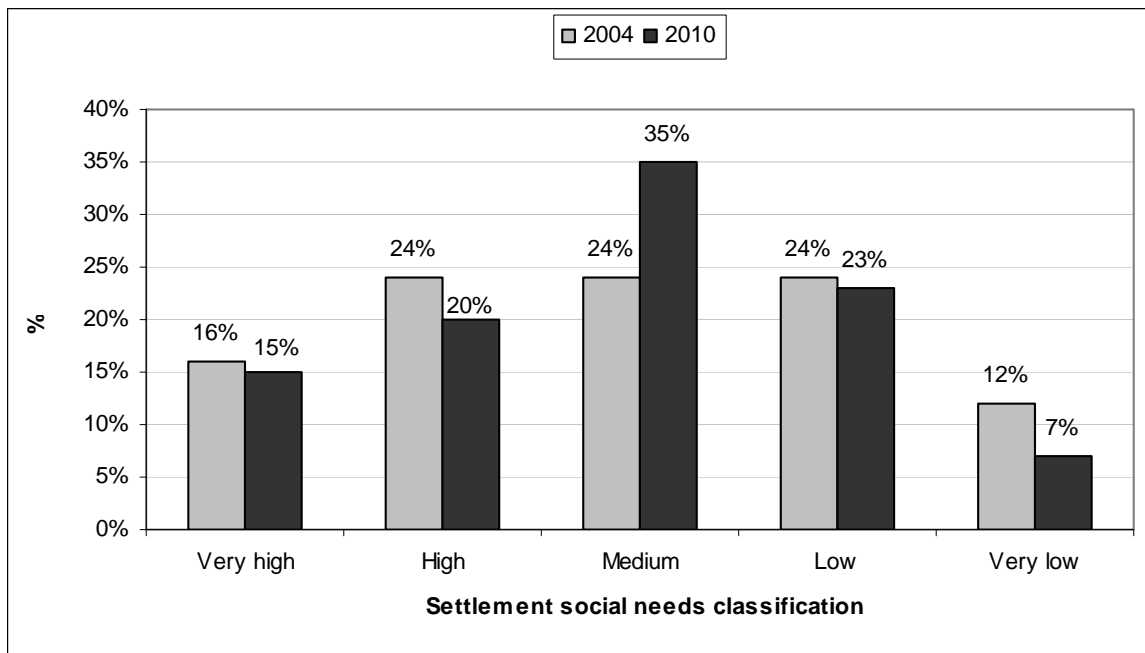


Figure E-6 Settlement social needs classification comparison: 2004 and 2010

Table E-4 Comparison between 2004 and 2010 development potential and social needs categories

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Albertinia	Medium	Low	1	Medium	Medium	0
Arniston	Medium	Low	1	High	Medium	1
Ashton	Medium	Medium	0	High	High	0
Aurora	Medium	Low	1	Medium	Medium	0
Barrydale	Low	Low	0	Medium	Medium	0
Beaufort West	Medium	Medium	0	High	High	0
Betty's Bay	Medium	Medium	0	Low	Low	0
Bitterfontein	Very low	Low	-1	High	High	0
Bonnievale	Medium	Low	1	Medium	Medium	0
Botrivier	Medium	Low	1	Medium	Medium	0
Bredasdorp	Medium	Medium	0	Low	Low	0
Brenton-on-Sea	High	Medium	1	Very low	Very low	0
Buffelsbaai	Medium	Very low	2	Low	Low	0
Caledon	Medium	Medium	0	Low	Low	0
Calitzdorp	Low	Very low	1	High	High	0
Ceres	Medium	High	-1	Medium	Medium	0
Citrusdal	Low	Low	0	Medium	Low	1
Clanwilliam	Low	Low	0	Medium	Medium	0
Darling	Medium	Low	1	Medium	Low	1
De Doorns	Very low	Low	-1	Very high	Very high	0

De Rust	Low	Low	0	Very high	Very high	0
Doringbaai	Low	Low	0	Very high	High	1
Dwarskersbos	Medium	Low	1	Low	Very low	1
Dysselsdorp	Low	Low	0	Very high	Very high	0
Ebenhaesar	Low	Very low	1	High	Medium	1
Eendekuil	Very low	Low	-1	Medium	High	-1
Elandsbaai	Low	Low	0	Very high	High	1
Elim	Low	Medium	-1	Medium	High	-1
Franschhoek	Medium	High	-1	High	Very high	-1
Franskraalstrand	High	High	0	Low	Very low	1
Friemersheim	Low	Very low	1	Medium	Medium	0
Gansbaai	Medium	High	-1	Medium	High	-1
Genadendal	Low	Low	0	High	High	0
George	Very high	Very high	0	Medium	High	-1
Goedverwacht	Low	Low	0	Medium	High	-1
Gouda	Medium	Low	1	High	High	0
Gouritsmond	Medium	Low	1	Low	Medium	-1
Graafwater	Low	Low	0	Medium	Medium	0
Grabouw	High	Medium	1	Very high	Very high	0
Greyton	Low	Low	0	Medium	Low	1
Groot Brakrivier	Medium	Medium	0	Low	Low	0
Haarlem	Low	Very low	1	Low	Very high	-3
Hawston	High	High	0	Medium	Low	1
Heidelberg	Low	Low	0	High	Medium	1
Herbertsdale	Low	Low	0	Medium	High	-1
Hermanus	High	Very high	-1	Low	High	-2
Herolds Bay	Medium	High	-1	Medium	Very low	2
Hopefield	High	Low	2	Medium	Low	1
Jacobsbaai	Medium	Medium	0	Very low	Very low	0
Jamestown	High	High	0	Low	Very low	1
Jongensfontein	Medium	Low	1	Very low	Very low	0
Kalbaskraal	Low	Medium	-1	High	Medium	1
Keurboomsrivier	High	Medium	1	Very low	Very low	0
Klapmuts	Medium	Medium	0	High	High	0
Klaver	Low	Low	0	Medium	Medium	0
Kleinmond	High	Medium	1	Medium	Medium	0
Kliprand	Very low	Very low	0	Very high	Very high	0
Knysna	High	High	0	Medium	Very high	-2
Koekenaap	Very low	Low	-1	Very high	Very high	0
Koringberg	Low	Low	0	High	Medium	1
Kranshoek	Medium	Low	1	Very high	High	1
Kurland	Low	Low	0	Very high	Very high	0
Kylemore	High	Medium	1	Low	Low	0

Ladismith	Low	Low	0	Medium	Low	1
Laingsburg	Low	Low	0	High	High	0
Lamberts Bay	Low	Low	0	Medium	Medium	0
Langebaan	High	Medium	1	Very low	Very low	0
Leeu Gamka	Low	Very low	1	Very high	Very high	0
Lutzville	Very low	Medium	-2	Medium	Low	1
Malmesbury	Medium	High	-1	Low	Low	0
Matjiesfontein	Very low	Very low	0	High	High	0
McGregor	Low	Low	0	High	High	0
Merweville	Low	Very low	1	Very high	Very high	0
Montagu	Low	Low	0	Medium	Medium	0
Moorreesburg	Medium	Medium	0	Low	Low	0
Mosselbaai	High	High	0	Medium	Medium	0
Murraysburg	Very low	Very low	0	Very high	Very high	0
Napier	Low	Low	0	Medium	Medium	0
Nature's Valley	Medium	Very low	2	Low	Very low	1
Nuwerus	Very low	Very low	0	Very high	Very high	0
Onrus	Medium	High	-1	Very low	Very low	0
Op-die-Berg	Very low	Low	-1	Low	Low	0
Oudtshoorn	Very high	High	1	Medium	High	-1
Paarl	Very high	Very high	0	Medium	High	-1
Paternoster	High	Low	2	Low	Low	0
Pearly Beach	Low	Very low	1	Medium	Medium	0
Piketberg	Medium	Medium	0	Low	Low	0
Plettenbergbaai	High	High	0	Medium	High	-1
Pniel	High	Medium	1	Low	Very low	1
Porterville	Low	Medium	-1	Medium	Medium	0
Prince Albert	Low	Very low	1	High	High	0
Prince Alfred Hamlet	Low	Low	0	Medium	Medium	0
Pringle Bay	Medium	Medium	0	Very low	Very low	0
Rawsonville	Medium	Low	1	Medium	Low	1
Redelinghuys	Low	Medium	-1	Medium	High	-1
Rheenendal	Medium	Low	1	High	High	0
Riebeek-Kasteel	Low	Low	0	Low	Medium	-1
Riebeek-Wes	Low	Low	0	Medium	Low	1
Rietpoort	Very low	Very low	0	Very high	Very high	0
Riversdale	Low	Medium	-1	High	Medium	1
Riviersonderend	Low	Medium	-1	High	Medium	1
Robertson	Medium	Medium	0	High	High	0
Saldanha	High	High	0	Medium	Low	1
Saron	Low	Low	0	High	High	0
Sedgefield	Medium	Medium	0	Low	Low	0

Slangrivier	Very low	Very low	0	Very high	Very high	0
St Helena Bay	High	Low	2	Low	Low	0
Stanford	Medium	High	-1	Low	Low	0
Stellenbosch	Very high	Very high	0	Low	Low	0
Stilbaai	Medium	Medium	0	Low	Very low	1
Strandfontein	Low	Medium	-1	Very low	Low	-1
Struisbaai	Medium	Low	1	Medium	Medium	0
Suurbraak	Low	Medium	-1	Very high	Very high	0
Swellendam	Low	Medium	-1	Medium	Low	1
Touwsrivier	Low	Medium	-1	Very high	High	1
Tulbagh	Medium	Medium	0	High	High	0
Uniondale	Low	Low	0	High	High	0
Vanrhynsdorp	Medium	Medium	0	Medium	Medium	0
Velddrift	High	Medium	1	Low	Low	0
Villiersdorp	Medium	Medium	0	High	Very high	-1
Volmoed	Low	Very low	1	Very high	Very high	0
Vredenburg	Very high	High	1	Medium	Low	1
Vredendal	Medium	Medium	0	Low	Low	0
Wellington	High	High	0	Medium	Medium	0
Wilderness	Medium	Medium	0	Low	Very low	1
Witsand	Low	Very low	1	Low	Low	0
Wittedrift	Medium	Medium	0	Medium	Low	1
Wolseley	Medium	Medium	0	High	Medium	1
Worcester	Very high	Very high	0	Medium	Very high	-2
Yzerfontein	Medium	Low	1	Very low	Very low	0
Zoar	Low	Low	0	Very high	Very high	0

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ACRONYMS AND ABBREVIATIONS

AsgiSA	Accelerated and Shared Growth Initiative – South Africa
CSIR	Council for Scientific and Industrial Research
DEA&DP	Department of Environmental Affairs and Development Planning
DTI	Department of Trade and Industry
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GPS	Global Positioning Systems
GVA	Gross Value Add
IA	Implementation Agents
IDP	Integrated Development Plan
ISRDP	Integrated Sustainable Rural Development Programme
ISRDS	Integrated Sustainable Rural Development Strategy
LED	Local Economic Development
LGTAS	Local Government Turnaround Strategy
MDG	Millennium Development Goals
MEDS	Micro-Economic Development Strategy
MTSF	Medium Term Strategic Framework
NFLED	National Framework for Local Economic Development
NFSD	National Framework for Sustainable Development
NIPF	National Industrial Policy Framework
NSDP	National Spatial Development Plan
NUDF	National Urban Development Framework
PSDF	Provincial Spatial Development Framework
RIDS	Regional Industrial Development Strategy
SEDA	Small Enterprise Development Agency
SIP	Strategic Infrastructure Plan
ToR	Terms of Reference
UK	United Kingdom
USA	United States of America
WCSHSS	Western Cape Sustainable Human Settlement Strategy

1 BACKGROUND TO STUDY

1.1 Introduction

One of the objectives of the Department of Environmental Affairs and Development Planning (DEA&DP) is to undertake spatial planning that promotes and guides the sustainable future development of the province and redresses spatial inequalities. This goal led to the development of the Provincial Spatial Development Framework (PSDF), which identifies the areas of growth in the province and the areas where, in terms of the sustainable development paradigm, growth should be emphasised in the future. It also addresses the form that this growth or development should take and further emphasises the restructuring of urban settlements to facilitate their sustainability. To provide guidance and support for implementing the PSDF, a thorough understanding and knowledge of the characteristics and performances of all the settlements in the province is needed.

The province contains 131 towns outside the Cape Town metropolitan area. Some of these settlements have solid developmental bases and experience dynamic growth, whilst others are stagnant or are declining. Settlements with declining populations, economic activities, services and infrastructure leads to decreasing social and economic service levels in the surrounding hinterland, which consequently impacts negatively on rural quality of life. The dynamics and intricacies of these problems and challenges must be approached in a coordinated manner.

International literature suggests that the decline of small towns can be ascribed to a number of external factors (Davies 1998; Hinderink & Titus 2002). Van Niekerk & Marais (2008) list these factors as:

- declining demographics as a product of history and geography;
- unstable world commodity market, more particularly within communities that have traditionally been dependent on mining, fishing and traditional agriculture;
- other external pressures affecting the stability of small-town community life, like growing environmental concerns;
- changes in technology;
- changing lifestyle options and consumer habits;
- low income and rising debt levels;
- general decline in education and health services;
- national competition policy and practices;
- deteriorating infrastructure; and
- high family-related and business costs.

Other growth factors and driving forces that can also contribute to this phenomenon include the:

- changing *raison d'être* of towns over time;
- unique economic bases of towns;
- global technological, economic and cultural transformations taking place;
- political, economic and cultural links of towns in a regional context;
- support of environmental and resource economic sector bases of towns;
- availability of infrastructure and services (e.g. health, social and educational);
- location and transport accessibility of towns;
- impact of Cape Town metropolitan area on towns in its hinterland;
- demographic profile of and population migration patterns between towns;
- managerial capacity, leadership and decision-making in towns;
- competition between towns;
- rural-urban interaction in a regional context; and
- existing institutional policies and strategies.

Because regional development is off late featuring prominently in numerous international and national developmental policy documents the “importance of space and place in effective development policy” is again reinforced. According to the African Centre for Cities, “the Provincial Government of the Western Cape has been ahead of the curve by embarking on a regional development policy dialogue in 2006, which culminated in the OECD Territorial undertaken during 2007 and 2008 and published in late 2008....[and] that the foresight of the provincial government is to be commended and that the PGWC is now well placed to interrogate the recommendations and implications of the Review. Given the magnitude of economic, environmental and social challenges in the Western Cape which all require effective regional responses, a prioritisation of regional policy is imperative” (<http://africancentreforcities.net/papers/4/>).

Continued systematic research on the role and function of the urban centres, towns and settlements (outside the Cape Town metropolitan area) within the developmental context of the Western Cape is thus required to provide a sound foundation to support well-founded strategic decisions. It is for this reason that a comprehensive study on the growth patterns and functions of towns in the Western Cape was first completed in 2004. The results of the Growth Potential Study of Towns in the Western Cape by Van der Merwe et al. (2004), henceforth referred to as the “2004 study”, was instrumental in the gazetted Western Cape PSDF. The 2004 study provided ground-breaking work by being the first study of its kind completed for a province within the context of the National Spatial Development Perspective (NSDP) and other related spatial and economic developmental policies. The subsequent academic publications and

discussions that emanated from the 2004 study have evoked both accolades and criticism (Marais 2006). In the context of the Terms of Reference (ToR) of this project, it has been recognised that there are some shortcomings regarding the growth potential indicators and methodology used in the 2004 study, and that there have been significant changes in provincial and national policies since 2004. It is also imperative to reflect on the changing characteristics and performance of the towns in the province over the past six years. These policies need to be incorporated into a revised growth potential study to ensure that development and investment decisions are aligned appropriately.

In January 2010, Stellenbosch University and the CSIR were contracted by the province to review the 2004 study, primarily to ascertain whether any significant changes have occurred in the growth potentials of settlements since 2004. The starting point of this follow-up study was to analyse the growth performance and development potential of the 131 settlements (i.e. urban settlements outside the Cape Town metropolitan area) in the Western Cape, especially with respect to their role in generating an environment for dynamic rural-urban development. The reference to “towns” may be somewhat misleading and this report hence uses the term “settlements” as an umbrella term for all settlements outside the Cape Town metropolitan area forming part of this study.

The specific focus of the study was to revise and update the 2004 study by:

- 1) Updating the relevant principles and prescriptions to align with the latest national and provincial policy documents, in as much as these pertain to the growth and development of the province’s non-metropolitan areas, e.g. the NSDP, the Green Paper on the National Strategic Planning, the Draft Urbanisation Strategy for South Africa, Strategies for Rural Development and Poverty, etc. This implies a verification of the fundamental philosophy and criteria for measuring urban growth potential drawing mainly on sustainable development indicators.
- 2) Verifying the suitability of measurement criteria and methodologies followed, adding statistical data if necessary, verifying statistical and cartographical results, as well as evaluating the interpretation of results. The development of a Geographical Information Systems (GIS) database was required, implying an inventory and analysis of towns according to their existing growth record and potential for sustained development to ensure responsible future investments. The determination of each town’s position and role in the urban system, as well as the settlement’s economic basis and unique place identity in the region. In the process, it may become apparent that there are certain towns with low potential, but that are demonstrating a need for specific types of support or interventions to unlock latent development potential.
- 3) Identifying deviations (differences) between the results of the 2004 and 2010 analyses.

1.2 Research aims and objectives

The overarching aim of this project was to review and update the Growth Potential Study of Towns in the Western Cape. In line with the ToR, the project's objectives were to:

- 1) undertake a comprehensive policy assessment in the context of indicators and theoretical literature review;
- 2) revise the indicators from the 2004 study and link these to current policy;
- 3) collect relevant data from the 131 towns used in the 2004 study and develop a GIS database;
- 4) populate the revised indicators with the most recent available data to identify possible changes; and
- 5) apply the revised indicators to calculate the various indices, test for statistical significance, and compare the results with those of the 2004 study.

1.3 Approach and methodology

An interdisciplinary approach was adopted in the execution of this study. A theoretical framework of both urban and rural development was considered fundamental to all aspects of the study. A strong emphasis was placed on the relevance and impact of pertinent local, provincial and national policies. The study has a solid quantitative foundation involving the collection of empirical data, carrying out statistical analyses and performing sophisticated spatial modelling to provide an objective overview of the growth potential of settlements in the Western Cape. Qualitative methods were also employed to contextualise and interpret the findings.

The project consisted of four broad phases: 1) Literature review; 2) Data collection and analysis; and 3) Interpretation and synthesis of results. This process is outlined in Figure 1.

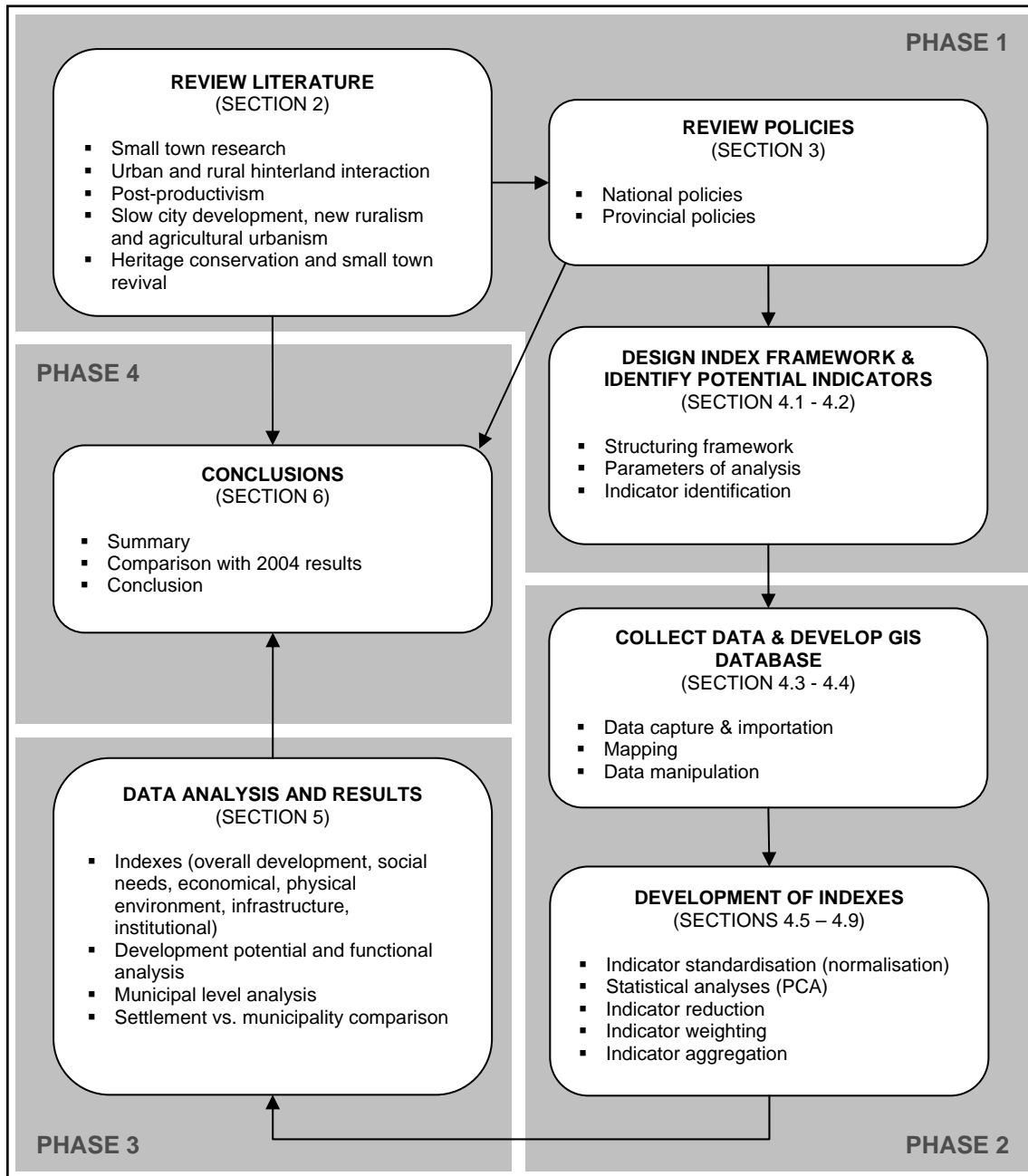


Figure 1 Project overview

1.3.1 Phase 1: Literature review (policy and international theory)

Some of the indicators used in the 2004 study were identified as being superfluous and possibly leading to some 'double counting' in the development of certain indices for gauging growth potential. A number of fundamental indicators (such as those pertaining to governance) were also not considered in the 2004 study. It was, therefore, important to conduct a thorough review of the 2004 indices by consulting relevant literature and experts to ensure that the revised indicators were to be developed in the context of relevant provincial policy.

Instead of providing a review of conventional settlement growth and development literature (which was comprehensively addressed in the 2004 study) focus was placed on unconventional and alternative theoretical discourses on settlement growth. The specific approaches that were identified from the literature are summarised in the literature section. These include rural-urban linkages, new ruralism, radical ruralism, slow city development, heritage conservation, and post-productivism. These debates will hopefully instil a sense of realism and provide for a context within which the interaction between settlements and surrounding rural areas are better understood.

1.3.2 Phase 2: Data collection and analysis

1.3.2.1 Quantitative data and methods

The analysis was undertaken at individual settlement level (similar to the 2004 study) as well as on municipal level. The latter analysis provides an important level of aggregation as most investment and development decisions are channelled through local municipal structures. It also provides an overview of the broader context within which individual settlements function. Both levels of analysis involved four steps, namely (i) indicator identification and selection; (ii) scaling and measurement; (iii) weighting; and (iv) aggregation and validation. These steps are described below in more detail.

1.3.2.2 Indicator identification and selection

The classical approach to developing composite indices is to develop elaborate core sets of indicators by picking the most relevant elements from exhaustive lists. However, a systemic approach which considers the strengths and weaknesses of the sets in the selection process is gaining more popularity. This aspect is also closely related to the question of who devises and selects indicators. The project team was of the opinion that, for indicators to be useable, there must be some involvement of the users in defining them. The selection of appropriate indicators was thus guided by user input during the consultative process, as well as the application of statistical techniques such as multivariate statistical methods (e.g. factor analysis).

1.3.2.3 Scaling and measurement

Depending on the type of indicators selected from the process outlined above, the scaling of the indicators involved a combination of using:

- percentages or some other ordinal scale for indicators that do not have to be scaled;
- standard scores (z and t values) by first adjusting the raw scores for directionality by multiplying each with either $+1$ or -1 and then transforming the raw scores on each indicator into standard scores;
- variable transformations into ordinal response scales, either during the survey itself or at a later stage using available data; and

- indicator scaling through conventional linear scaling transformation (LST) methods that scales values from 0 to 100.

1.3.2.4 Weighting

Weighting entails the process of attributing a greater value or contribution to one indicator or index than another, thus reflecting the relative importance of each of the variables. Multivariate techniques provide an empirical and relatively objective approach for weight selection. In the case of principal component analysis (factor analysis), components can be weighted with the proportion of variance in the original set of variables explained by each of the selected principal components. Each of the selected indicators was weighted in proportion to the total cumulative variance explained by the selected factors in each index.

1.3.2.5 Aggregation and validation

The indicator values and weights were combined to produce aggregated values for each of the five indexes using weighted linear combination (WLC). The result is an aggregated value ranging from 0 to 1 for each index. These values were converted to percentages for easier interpretation.

1.3.3 Phase 3: Interpretation and synthesis

The data analysis provided valuable information about the growth potential of each town in the Western Cape. The analysis is enhanced by a thorough interpretation of the data and a robust theoretical conceptualisation. In addition to a scientific synthesis of the results, six case studies were conducted on settlements that displayed a significant shift from the 2004 study. The case studies attempt to explain the reasons for the significant shift of the six settlements between the two study periods.

2 LITERATURE REVIEW: ALTERNATIVE APPROACHES TO NON-METROPOLITAN URBAN DEVELOPMENT

2.1 Background

The purpose of this section is to provide an overview of alternative and recent developments in the urban literature related to non-metropolitan urban development. The focus is on post-productivism, slow city development, new ruralism, agricultural urbanism, and heritage conservation. As a backdrop to the review, the theoretical perspectives on the role of small towns and intermediate urban centres in regional and rural development are summarised in Box 1, while Box 2 provides a contextual overview of small town geography and investment.

Box 1 Theoretical perspectives on the role of small and intermediate urban centres in regional and rural development

Since the early 1960s, small and intermediate urban centres have attracted the attention of policy-makers and planners. Different theoretical approaches have underpinned such interest and the related policy interventions, which are discussed in this paper. Early views of the role of small and intermediate urban centres in regional and rural development fell within the general paradigms of modernization and dependency theories. In the first, small towns are seen as centres from which innovation and modernisation would trickle down to the rural population. Hence, the most effective and rational spatial strategy for promoting rural development is to develop a well-articulated, integrated and balanced urban hierarchy. This network of small, medium-sized and larger urban centres is described as 'locationally efficient – it allows clusters of services, facilities and infrastructure that cannot be economically located in small villages and hamlets to serve a widely dispersed population from an accessible central place'. The pessimistic view echoes the 'urban bias' debate, and originally argued that small towns contribute to rural impoverishment and are the 'vanguards of exploitation' of the rural poor and of extraction of natural resources by external forces which, according to the case, may be colonial powers, multinational enterprises, central national governments, local administrators and elites. Such exploitation can only be avoided where there is an egalitarian class structure and free access to land, and where the stimulus to urban growth results in activity primarily by the people and for the people themselves'. More recent views adopt a wider perspective and describe uneven development processes as the roots of regional inequalities as well as rural-urban and intra-rural disparities. Although the role of small and intermediate urban centres is not explicitly discussed, the economic and political primacy of large centres and metropolitan regions goes hand in hand with the peripheralisation of poorer regions. Recent empirical and conceptual analysis in sub-Saharan Africa describes the increasing significance of rural-urban linkages in the livelihoods of rural residents, including occupational and residential transformations, as the mainly negative consequence of pressures on small-scale farming systems accompanied by declining opportunities and high costs of living in the cities. Both views suggest that the role of small and intermediate urban centres in the development of their surrounding rural region is largely dependent on power relations and development strategies at the national and global levels. There is little empirical evidence to corroborate or refute small and intermediate urban centres' alleged capacity to trigger development or, indeed, to act as centres of regional extraction.

Source: Tacoli (2004:3-4)

Box 2 The geography of towns in South Africa

In South Africa, towns can be classified in at least three ways: by function, by economic performance, and by historic economic legacy. The latter term refers to their situation in the erstwhile homelands of South Africa, characterised by traditional land tenure and predominantly subsistence agriculture, or by privately-owned land tenure and predominantly commercial agriculture. For example, the larger commercial towns seem to have a built-in growth dynamic, based on a sufficient level of diversification. These towns seem to be "sucking in" economic energy from the surrounding small towns. Secondly, tourism towns seem to be doing well, because they bring in new capital and spending power. Thirdly, mining towns are either booming or significantly declining. Fourthly, many agricultural towns are either declining, or they have become diversified and are therefore becoming more robust. Fifthly, towns within a distinct region may improve or deteriorate, because of the regional comparative advantage. For example, the prospects of the Karoo may be improving, while those of deep rural towns in the old homelands may be declining. But these perspectives need a great deal more investigation. The crucial question is: We have to begin asking questions about the comparative advantage of different types (and sizes) of towns. In addition, the economies of small and medium-sized towns are greatly influenced by the type of product or service

which predominates. For example, some agricultural commodities (such as mutton and wool) have been in a long-term decline; milk production has been hampered for many years by the low prices received by producers; agricultural towns benefiting from bio-fuels will show growth; the rise in the cost of energy and the consequent profitability of uranium will benefit towns such as Beaufort West; towns based on rail transport have been undermined by government transport policies; and some towns benefit greatly from changes in government spending priorities, such as the forestry industry in the Ugie/Maclear area. To complicate matters, the recent move to a global economy has been painful for many towns because of the loss of manufacturing jobs, the vulnerability of export agriculture, and the increased competition in the energy and mining sectors.

The following five arguments will be made:

1. The need for productive government spending in small and medium-sized towns: The future of small and medium-sized towns should be understood in relation to the spatial strategies of national and provincial governments (i.e. NSDP and PGDS). It will be argued that these towns require some level of productive government spending – i.e. expenditure which will raise local production and multipliers. Such spending could be on (for example) local orphanages, old age homes, recreation centres, prisons, technical colleges or tourist facilities. All these facilities would lead to direct or indirect employment or purchasing power. Significantly, such expenditure should be in addition to the normal “consumption” types of infrastructure, such as water, sanitation and housing expenditure.
2. Attracting investment: Without private capital, the prospects of small and medium-sized towns are poor. Such investments need not be in manufacturing; it could be in retail or services. This will bring additional jobs and opportunities for partnerships with local SMMEs.
3. Smart capital to find comparative advantages: To stimulate local economies, and to bring additional private sector capital into these towns, the comparative advantages of such towns need to be analysed (e.g. agriculture, tourism, agri-processing, social services, commerce). In many cases, these towns are located outside the apparent “areas with economic potential”, as defined in the NSDP. Much more effort needs to be done to investigate and promote the real economic drivers of a town and its hinterland.
4. Understanding regional dynamics: To understand the comparative advantage of these towns, there is no “one-size-fits-all” solution to small and medium-sized towns. This means that many towns should be understood in their regional context. Significantly, such regions would probably not coincide with municipal or even provincial borders. Even district boundaries may be too small to analyse and promote the comparative advantage of a certain type of town (e.g. Karoo towns, homeland towns).
5. Assisting the second economy more directly: In addition to such government effort to analyse comparative advantages and to locate strategic capital, special efforts should be made to bring services for the second economy into these towns. Government or private spending is a necessary but not a sufficient condition. An injection of funding is required to stimulate the local economy (and to counteract many economic forces which detract from the performance of the local economies); but it is not sufficient to reach survivalist and micro-enterprises. Other strategies will be needed in addition to government expenditure. For example, every town should have a SEDA branch or provide training services on behalf of the Department of Labour.

Our argument is that small and medium-sized towns need strategic productive public or private investments, i.e. investments which generate jobs, salaries, incomes, opportunities for out-sourcing, skills training, local economic multipliers, and local markets (labour markets, commodity markets and eventually capital markets). Given the woeful lack of experience of many small-town survivalist entrepreneurs (particularly the township youth), the most effective form of preparation for new entrepreneurs is formal employment, particularly in contexts where local people have minimal exposure to modern economic institutions. The more formal employment opportunities are available, the greater the chance that new businesses will be created in future. This means that formal private or public sector investments, which initially create formal employment, may be a good method to enhance the second economy in the longer-term. Such an approach would also grow the local purchasing power at the same time as growing local technical skills for emergent entrepreneurs.

Source: Atkinson (2008)

2.2 Small-town¹ research context in South Africa

Since 1994, most research about small towns in South Africa has been focusing primarily on local economic development (LED) issues (Nel 1994; Nel & Hill 1996; Marais 2004; Ndlovu & Rogerson 2004; Nel 2005). Other small-town studies have focused on the developmental potential and prospects of small towns (Dewar 1994; Centre for Development and Enterprise 1996), political struggles over boundary disputes (Ramutsindela 1998; Giraut & Maharaj 2002) and municipal struggles (Timm et al. 1998). Recently there has been a plethora of research papers that have focused on tourism development-related aspects in small towns (Briedenhann & Wickens 2004; Hoogendoorn & Visser 2004; Donaldson 2007; Ferreira 2007; Halseth & Meiklejohn 2009). While some small towns have undergone dramatic regeneration over the past thirty years, especially through an in-movement of upwardly-mobile professionals who infuse a buoyant property market and local tourism initiatives, others have remained static or have even declined. In the process, rural gentrification has “benefited” some towns (Atkinson 2009; Donaldson 2009) whilst others have remained unpopular for revival. According to Van Rooyen (2009), there is a lack of research related to the establishment, growth and development of “new” mining towns, and this absence is also reflected in key provincial policy documents such as the Western Cape (Provincial Growth and Development Strategy) and the Integrated Development Plans (IDPs) of the Central Karoo District Municipality and the Beaufort West Local Municipality.

Nel (2005) identifies seven most noticeable changes taking place in South African small towns. The first is the collapse of many once-prosperous mining towns, for example, the coal towns in KwaZulu-Natal. The demise of railway and transport towns is the second noticeable change. The third change is the decline in agricultural output in many areas or the shift to new rural activities such as game farming, which have significantly reduced reliance on local small centres as points of sale and service supply. Advances in transport technology and changes in retail patterns, which have facilitated access to the more distant regional centres and displaced the role of the small agricultural service centres, is a fourth transformation taking place. A positive fifth trend is the growth of tourist towns and towns in areas of natural beauty, while the growth of the larger centres – which have extended service fields and a diversified economy and have often displaced and absorbed the functions of smaller towns in their area – is the sixth change identified. Furthermore, in many of the smaller weaker centres, there is now an artificial economic dependence on state welfare on the part of the town’s people, the loss of many formal sector job opportunities, continuing poverty and the out-migration of the skilled. Lastly, in many towns, as result of the amalgamation of smaller centres under a single authority, the loss of local government status has weakened towns and the new local authorities are often incapacitated by finances and personnel. As a result, Nel (2005) argues that many small towns are now forced to initiate LED as a response to job losses and crises whilst simultaneously taking advantage of new growth opportunities.

¹ The terms “towns”, “settlements”, “cities” will be used interchangeable in this section because all relate to non-metropolitan areas.

2.3 Urban and rural hinterland interaction

The importance of the interaction between cities and towns and their hinterlands is clearly recognised in the draft National Urban Development Framework (NUDF) (Department of Cooperative Governance and Traditional Affairs and the Presidency and in partnership with the South African Cities Network 2009). It provides a common nationwide view on how to strengthen the capacity of South Africa's towns, cities and city-regions to realise their potential to support national shared growth, social equity and environmental sustainability. Of particular importance is the view that "rural" and "urban" areas are seen as parts of a continuous regional, national, and international system interrelated through a web of economic, social, political and environmental linkages. The NUDF also recognised the importance of strategies to strengthen these linkages and of finding ways by which the economies in both areas can complement each other, rather than treating the rural and urban as development spaces that are competing for resources.

Any study aimed at measuring and comparing the development potential of towns or settlements thus needs to be acutely aware of the complexity of the relationship between towns, cities and rural areas. This critical interrelationship has been identified as far back as 1916 when Gradmann (1916:427) identified two important functions of "urban centres" as "a centre of its rural surroundings" and as "the mediator of interaction with the world outside". The first relationship in the quotation from Gradmann refers to the urban hinterland or service area, while the other refers to its sphere of influence. Although the two concepts are sometimes treated in the literature as synonyms, they are not exactly the same (Geyer 2001:3) The hinterland or service area of a town or city is something less than its sphere of influence. The service area is the area dominated by a centre while its sphere of influence can penetrate the service areas of other competing centres. These important concepts also underpin the fundamentals of urban systems theory and locational theory.

The ability to understand the logic behind settlement patterns and the social and economic dynamics that drive the settlement process requires a reflection on the layers of interrelated human activities. In his model, Geyer (2001) describes the layers of human activities that brought about the urban and rural landscape and interaction of any given country or region. Figure 2 gives an indication of the range of social, economic and organisational factors that make up the constituting elements of a community's activities. Looking at the construct from the top downwards, it provides an overall picture of the geographical location and density of human settlement patterns in an area. The resource potential of the land, combined with the ability of the people to utilise those resources in any of the levels of activities, largely determines the distribution and wellbeing of the people in a particular area.

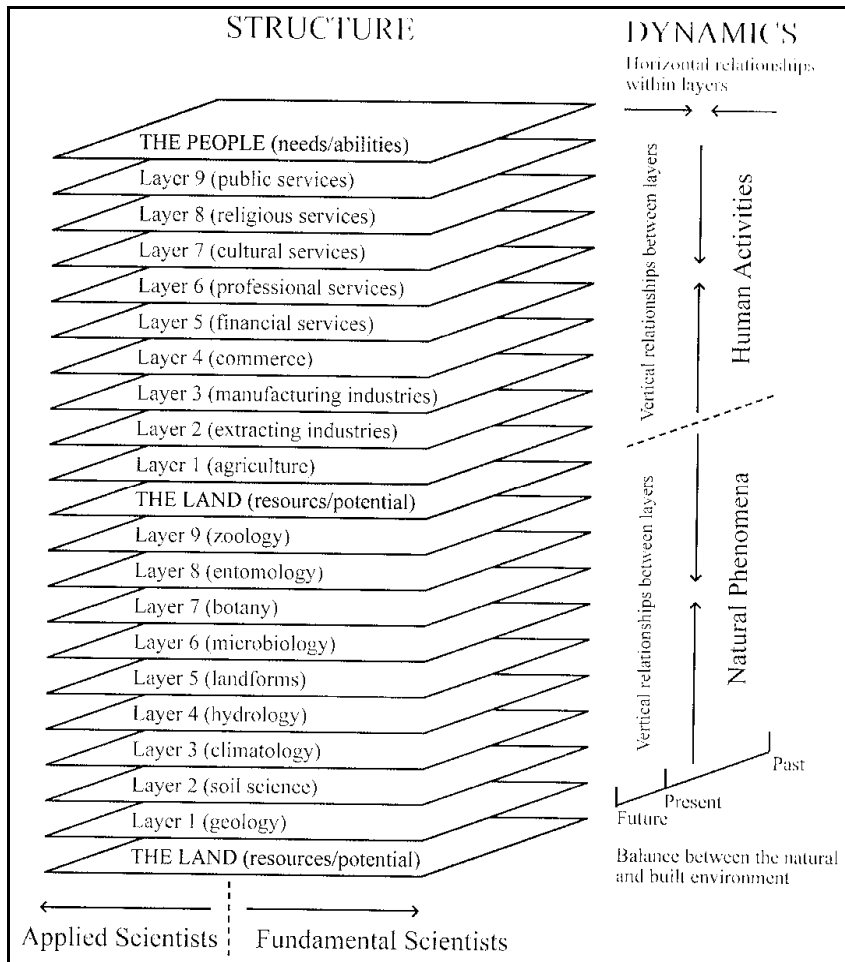


Figure 2 A diagrammatic representation of layers of human activities in social and economic space

The bottom layer consists of agricultural and rural economic activities that bring about a dispersed market. This layer provides the demand (“hinterlands”) for goods and services that are necessary for the rural towns serving a dispersed agricultural population. The next layer represents the natural resources in a particular location that result in the establishment of extracting industries where non-central places (places that are not primarily aimed at providing goods and services to a dispersed population) developed. In this sense, the first layer plays a dominant role in the location of central places that serve the rural population, and the second layer, in the establishment of mining centres. The third layer consists of manufacturing industries that are often focused upon in location theory. They obtain much of their materials necessary for production from activities in the second layer, and through their location they contribute to building the economies of the non-central places. Not all industries in the second layer are however responsible for non-central place building. Some of the industries of the second layer also obtain their inputs from the agricultural sector, or use resources obtained from the mining sector but located in the central places to provide goods and services to the local agricultural communities. Together the central and non-central places that came about as a result of the first and second layer activities represent the majority of all the towns and cities in a particular region or country. The remainder (usually a minority) consists of towns and cities that came about as a result of activities in the other layers, such as administration, recreation, culture, etc. The only towns and cities whose origin cannot be directly linked

to a particular activity *in* a layer are those that came into being as a result of interaction *between* layers – i.e. transportation (e.g. port cities). Thus, collections of individual socio-economic units at specific locations in space and their generalised areas of influence (the hinterland) result in towns and cities which together form an urban system. Therefore, the identification of potential indicators to measure development potential of towns and settlements should ideally include variables from all these various layers of activities.

2.4 Post-productivism in the non-metropolitan landscape²

The boundaries between metropolitan and non-metropolitan areas are becoming blurred with the two concepts becoming little more than dialectical definitional constructs (Davis 2004). Activities and functions that were (in certain cases, exclusively) part of the metropolitan domain can also be found in the non-metropolitan sphere. An example of such a transfer is the growth of the middle class in small towns due to in-migration of such residents. No longer is the suburban dream the only point of call for the middle class, but they have expanded their distance or reach to small towns that are, mostly, close to the metropolitan areas. As such, the non-metropolitan sphere has moved away from being exclusively areas of production for the consumptive metropolitan areas. New activities and consumptive practices are occurring in non-metropolitan areas, largely to cater for the new in-migrants. This represents a shift away from what was seen to be traditional non-metropolitan spatial practices. In order to explain this non-metropolitan consumptive shift and production focus, agricultural and rural geographers, *inter alia*, have recognised the theoretical underpinnings as moving from a productivist non-metropolitan landscape to a post-productivist non-metropolitan landscape.

Morris & Evans (1999) have traced the change of the theoretical focus of agricultural geography in the United Kingdom from the late 1980s, resulting in an engagement during the 1990s with the term “post-productivism”. Post-productivism is derived from the result of agricultural policy shifts in the United Kingdom from strictly production of food to the incorporation of broader rural development, environmental objectives and a diversified non-metropolitan landscape. The focus on the economic, social, cultural, development and environmental aspects of agricultural change does not make post-productivism the sole preserve of geographers, but has brought sociologist, economists and others on board in an attempt to expand on post-productivist theory (Wilson 2001; Bergstrom 2002).

Post-productivism as a concept was developed by British geographers in an attempt to explain the changes that were occurring in the United Kingdom (UK) countryside. Its applicability to circumstances in other countries has been questioned as the theory leans towards explaining agricultural and non-metropolitan landscape change in the UK, with its specific historical influences. However, it has been recognised that certain aspects of post-productivism are present in the non-metropolitan areas of countries

² This section draws from
Spocler M 2010. The Theoretical Context on Non-Metropolitan Gated Developments in the Western Cape.
Stellenbosch: Department of Geography & Environmental Studies, Stellenbosch University.

other than the UK, including Australia and Denmark (Kristensen 2001; Wilson 2001; Argent 2002). On the other hand, it has been noted that countries such as Spain and Greece have not shown much evidence of a notable impact due to post-productivist non-metropolitan activity (Hoggart & Paniagua 2001; Zomeni et al. 2008). There has been hardly any debate as to whether post-productivism could be applied to a developing world context, where there are different socio-economic, cultural and political factors compared to the developed world. Wilson & Rigg (2003) calls for a combination of theoretical debates of post-productivism from the developed world and deagrarianisation of the developing world in order to create a global theoretical concept that could explain a global structural change in agriculture. They also, quite rightly, state that the implementation of the developed world notion of post-productivism relies on the degree to which meanings, definitions and concepts are shared with the developing world. Nevertheless, post-productivist theory has been applied in order to examine second-home ownership in South Africa (Hoogendoorn et al. 2009).

The central tenets of post-productivism, as recognised by various academics, include a shift in focus from the quantity of food production to the quality of food production, the emergence of non-food producing farm jobs and activities for income (known as “pluriactivity”), a return to traditional, environmentally sound and sustainable farming techniques (see section 2.5), increasing environmental awareness and regulation of agriculture, the gradual removal of state support for agriculture, counter-urbanisation, leading to social and economic restructuring, the creation of a consumptionist countryside, the demand for amenity value from rural landscapes, agriculture that does not occupy a central role in the countryside anymore, and a widening of the agricultural community to include emerging farmers, organic farmers and hobby farmers (Morris & Evans 1999; Argent 2002; Bergstrom 2002; Wilson & Rigg 2003; Wilson 2004). In addition to the aforementioned, important aspects of what would be found in a post-productive landscape are presented by Wilson (2001). He provides a comprehensive listing and broader compartmentalisation of post-productivist conceptualisations by focusing on the ideology and attitude towards agriculture; the inclusion of previously excluded or non-involved actors in the social, economic and political conditions of rural spaces; new food regimes stemming from the globalisation of the market; the move away from agricultural production to a more diverse agricultural reality; change in agricultural policies and governance; changes in farming techniques; and awareness of environmental impacts.

The aforementioned tenets of post-productivism could leave one with the impression that non-metropolitan areas have been wholly denuded of all primary economic activity such as agriculture. It should be borne in mind that the shift to a post-productive landscape does not mean that agriculture has disappeared or been largely substituted by other land uses. It rather means that, while agricultural activity still is the foremost land use, its dominant position in the rural economy, social and political sphere has been reduced (Burnley & Murphy 2002; Holmes 2002). In addition, the role of agriculture in non-metropolitan spaces has been reassessed in the face of increased diversity of land uses in these spaces (Banks & Marsden 2000).

The impact of counter-urbanisation through increased housing development has contributed to new land demand in these non-metropolitan spaces (Banks & Marsden 2000). The demand for housing developments in non-metropolitan spaces is an important facet on non-metropolitan development as other retail, leisure, social, cultural and economic activities are built around it. Wilson (2001:82) quotes Halfacree and Boyle who state that the counter-urbanisation phenomenon could be the "... central dynamic of the creation of any post-productivist countryside". The in-migrants who are driving this demand for housing in non-metropolitan spaces tend to be middle- and upper-class urbanites, with the key driving forces being the quest for improved lifestyle aspirations in exclusive housing units, the need to be close to nature and unspoilt natural areas, and for a higher degree of personal and property security compared to metropolitan areas. The non-metropolitan domain is then slowly transformed into an image of an urbanised rurality that may be embedded in the minds of the in-migrants and their vision of the services needed to cater for their lifestyle. It is also significant that the development of residential sites in non-metropolitan areas is followed by concomitant development of commercial and retail services which further changes the character of town in these areas (Phillips 2005). In addition, these non-metropolitan spaces are also targeted by hi-tech industries as a space for its offices and operations. It is also interesting to note that in the UK during the 1980s the development of golf courses on previously agricultural land was viewed as an intervention strategy to stop declining farm incomes and to curb agricultural overproduction. The result was that local planning authorities saw a shift in the character of their countryside due to the proliferation of golf courses (Lowe et al. 1993).

In Australia, it would appear that it is the attractive, but agriculturally marginal areas that are more likely to adopt a post-productivist approach (Wilson 2001; Holmes 2002). An example of the post-productivist approach in action is the wide variety of amenity-oriented land uses which are making inroads into the pastoral and agricultural areas of Australia. This land-use change is being driven by urban actors and their involvement has hitched new increased value on land. The leisure pursuits of urbanites in spaces outside of the metropolitan areas have added a new dimension of land-use pressure in non-metropolitan areas (Banks & Marsden 2000). The "taking-in" of the idyllic settings beyond the metropolitan borders has become a magnet for people wishing to escape the hustle and bustle of the city. This influx has been increased through tourism marketing campaigns launched by municipalities in order to attract revenue to a specific area. Bergstrom (2002) states, from an economist perspective, that the more developed a non-metropolitan area, the higher the demand for amenity usage. In-migrants are therefore attracted to an area when it is perceived that the necessary comforts that they have become accustomed to would be available if they would not want to sacrifice the trappings of their urban lifestyle. However, land value is not increasing in a blanket fashion, but is linked to the amenity value-add that is possible within a small town or other non-metropolitan setting. Thus, it is only selected locales, which are economically attractive, that become sites of consumption. These sites are usually located close to metropolitan areas or are found along coastal locales (Holmes 2002). Conversely, the economically attractive locales impact on the surrounding towns that do not have the same level of natural and economic attraction to visitors and investors, resulting in what Panelli (2001:162) terms a "narrative of decline and fear" for the local

populace. However, it would appear that planning institutions have a resistance to change as there is a rising fear that increasing home building and land sub-division would lead to an inevitable loss of agricultural land, which in turn would harm the local economies (Burnley & Murphy 2002; McCarthy 2005).

Hoogendoorn et al. (2009) illustrate that post-productivist theory can be applied to the South African non-metropolitan landscape, albeit in a process of evolution. Many gated developments in non-metropolitan areas of the Western Cape are allied to leisure pursuits, be it golf, equestrian activities or hiking, and it would appear that those who buy into non-metropolitan gated developments are people from the metropolitan areas. This certainly ties into the post-productivist tendencies, as defined by academics, of the development of housing and the provision of leisure pursuits in non-metropolitan areas. Furthermore, the development of new gated developments on land previously utilised for agricultural production adds further credence to this statement. In addition, farmers have sold portions of their land to developers for the building of gated developments, which has brought non-farming income to those farmers.

There is a boom in the purchasing of primary or second residences in rural areas valued for their aesthetic, recreational, and other consumption-oriented use values. This phenomenon, called amenity migration, is affecting a far more extensive set of rural areas around the world than previous booms of this type. Contributing factors include the

“... mobility of elites, rapid growth in relative and absolute incomes for certain classes of urban professionals, loosening of restrictions on foreign ownership of property in many countries, ongoing reductions in the friction of distance through developments in transportation and communications technologies, and the increased circulation of representations of prized rural landscapes” (McCarthy 2008:129).

Marsden et al. (1993) offer an interesting conceptualisation of rural places that identifies four constructions of countryside spaces. In any given scenario, some of these constructions may overlap while in other cases they do not overlap. The *preserved countryside* is anti-developmental and has a preservationist attitude that dominates local decision-making. The middle-class action is primarily to preserve “amenity”, and the reconstitution process is dominated by articulate consumption interests. These places have an attractive natural environment. The *contested countryside* is beyond the major commuter catchments and has no special environmental quality. Farming and other productivist interests still have key roles. Income groups are growing and challenges to “the way things are” are increasing. The *paternalistic countryside* is where large private estates survive. With such extensive areas of land capital, there is less pressure on large landowners to enter into dealings with external developers and land management may be less intensive and more “rural”. There is a loss of “occupational communities” but there are remnants of the old social order. Insufficient resources exist in land. The *clientelist countryside* is considered a residual category of few incomers and social transformation over a substantial period.

Capital interests in the area are mostly local and external finance may be resented. However, there are high levels of dependence and few development alternatives are in sight.

2.5 Slow city development, new ruralism and agricultural urbanism

According to Tacoli (2004:4-5), spatial aims of regional planning policies assume that small and intermediate urban centres contribute to regional and rural development in four main ways, namely by being centres:

- 1) of demand and markets for rural agricultural produce and products. The markets can be local consumers or national and export markets. Access to markets is a necessity in order to increase rural agricultural incomes. A key factor is the proximity of local small and intermediate centres to production areas.
- 2) in which rural non-farm activities and employment can grow and consolidate. This is to be achieved through the development of small and medium-sized businesses or large private or parastatal enterprises relocating to these centres.
- 3) where goods and services to surrounding rural areas are produced and distributed.
- 4) that attract rural migrants from the surrounding rural areas through the demand for non-farm labour, and, in doing so, they are decreasing the labour pressure on larger urban centres.

Agricultural production, and in essence food security, has over the past few decades been put under pressure through migration, urban sprawl and globalisation. Industrialised agriculture and urban sprawl (not only on the urban edge but also town developments within proclaimed rural districts) now collaboratively operate with little regard to the natural conditions of the landscape and are oblivious to the ecological and cultural uniqueness of place (Krause 2006). Counter-philosophical strategies to create sustainable rural living spaces that may have a positive impact on urban development and growth evolved as a counter-revolution to globalisation impacts over the past twenty years. One such philosophy is labelled “New Ruralism”, which is defined as a “... framework for creating a bridge between sustainable agriculture and new urbanism” (Krause 2006). The theory is that sustainable agriculture can assist in bringing cities down to earth, with a greater commitment to the ecology and the economy of the surrounding rural hinterland on which the cities depend. The notion of place-making can assist agriculture to shift its narrow production focus to a more broad-based resource-preservation value approach. Thus, New Ruralism promotes and fosters a symbiotic relationship between urban and rural areas as a result of its place- and systems-based approach. Fallick & Mullinix (2009) pose the following questions:

- How can the urban agri-food system contribute to reducing the urban ecological footprint?
- How can an urban-linked agri-food system contribute to the social fabric of our cities providing opportunity for productive, healthy human engagement and enterprise?

- How can feeding urban dwellers contribute to more sustainable, liveable communities?
- How can urban and peri-urban agriculture be tied directly to the economic, social and ecological vitality of our cities?

They counter the aforementioned questions by arguing that the answer partly lies in developing ultra-intensive, highly productive, localised, human-scale, agri-food systems that reliably provide residents with safe, wholesome foods. Such a system can be facilitated in and around urban areas on lands of varying qualities, sizes and situations. The usage of commonage is ideal for this purpose.

The concept of “slow food” has fast-tracked organic food systems. This has been achieved by the endeavours of the sustainable agriculture and local food systems movements, such as the Slow Food Movement, being able to mainstream organic foods and promoting farmers’ markets as a town-centre amenity. In addition, New Urbanism projects and Smart Growth initiatives have illustrated the potential for the creation of healthier and liveable urban centres (Krause 2006). The reshaping of the urban settlement system currently calls for greater emphasis on the development of agri-villages in and around rural towns in the Western Cape, where new hamlets are identified in the PSDF and iKapa as an alternative to urban sprawl in high-value agricultural areas in the Winelands and Southern Cape. These developments, if properly introduced, can serve as counter for the unsustainable and highly segregated golf and polo field and other lifestyle estates. Related to New Ruralism, other initiatives have embarked on conserving biodiversity, more specifically the Biodiversity and Wine Initiative that originated in South Africa in 2004.

Since an urban food system would be economically productive and grow and harvest products, it is important that markets be created within the system (Grimm & Wagner 2009). An urban food system typology, for example, may include the following: private residence garden, community/allotment garden, food boulevard, institutions, neighbourhood farm, urban farm, peri-urban farm, and farm outside the urban fringe. The re-emergence of farmers’ markets has become a prominent feature in the urban landscape of First World countries, such as the United Kingdom, where as recent as 1997 the first farmers’ market opened up in Bath. The term emanated in the United States of America (USA), where there is now estimated to be about 2 500 farmers’ markets. A farmers’ market is defined as specialist markets trading in “locally produced” products, focusing largely on food (rather than crafts, for example), which is either locally grown or incorporates locally grown ingredients (Holloway & Kneafsey 2000:286). The emergence of farmers’ markets can be conceptualised as an expression of contemporary trends in geographies of production and consumption where there is an increased awareness among certain groups of consumers of the health, ethical and political dimensions of food purchase and consumption. The principles of the slow food movement, and its consequent off-spring, the “slow city movement”, are rooted in this exact philosophy (Andrews 2008:56-57). The slow city development philosophy is based on three principles: good (commitment to quality food), clean (naturalness in the way in which food is produced where the de-industrialisation of agriculture is advocated), and fair (food

produced in ways that respect working conditions, i.e. a commitment to social justice). Table 1 shows how these alternative developmental agendas differ from the mainstream agendas.

Table 1 Comparing Corporate-Centred to Alternative Urban Development Agendas

	Corporate-centred/mainstream	Alternative
Characteristics	Homogenised	Idiosyncratic/asset specific
	Single imperative	Multiple imperatives
	Inequitable	Equitable
	Industrial	Craft
	Standardised	Customised
	Corporate	Grassroots
	Unsustainable	Sustainable
	Copied	Authentic
	Low quality	High quality
	Replicable	Asset specific
	Insensitive to local history, culture	Sensitive to local history, culture
	Fast	Slow
Examples	Urban megaprojects	Community economic development
	Smokestack chasing	Slow city
	Industrial food systems	Slow food

Source: Mayer & Knox (2006:325)

Although a newly-coined concept, the roots of New Ruralism not only lie in the ideals of the Garden City and self-sufficiency of eco-villages, but also in modern, sustainable city charters. The geography of New Ruralism incorporates rural lands within urban influence, in other words the larger the urban area the larger the influence sphere. Krause (2006:28) identifies some preliminary principles of New Ruralism, namely:

- New Ruralism would denote specific, named rural places located near an urban area and part of a broader metropolitan region.
- The primary land use would be small- to medium-scale sustainable agriculture integrated and overlapping with areas for wildlife and habitat management and for passive recreation.
- Urban-rural connectivity would be a multi-faceted exchange.
- New Ruralist agricultural preserves would welcome the public as both visitors and residents (i.e. not foster social exclusion).

Agricultural urbanism is a new movement and approach that has emerged from planners, designers, developers, academics and others who are educated in a diversity of aspects of sustainable food issues, using their broad knowledge to facilitate the planning and development of cities and communities to address sustainable food system goals by combining, among others, smart growth, new urbanism and green planning principles. Agricultural urbanism is defined as "... a planning, policy, and design framework that focuses on integrating a wide range of sustainable food system elements into urban planning projects and neighbourhoods" (<http://www.agriculturalurbanism.com>). The key goals of agricultural urbanism are the:

- integration of a significant food system productivity and value into all aspects of urban planning and design no matter if the project scale would be the neighbourhood or the city;
- harnessing of development investment through its programme, financing and other elements to assist the sustainability performance of the local food system. Assistance can be through endowments, trust ownership, etc.;
- designing of the project that facilitates the provision of educational elements that relate to a sustainable urban and regional food system, be it formal or informal as well as the formation of partnerships and social capital (relationships around food); and
- promotion of developments that increase the total sustainability performance of the wider community.

As a main aim of the doctrine of agricultural urbanism, investment in building sustainable food systems is the key to success. Characteristics of agricultural urbanism include a range of issues of which a strong food-agricultural identity is crucial. This identity seeks the protection of farmland through "perpetuity³ for farming in the form of trusts or covenants registered on title, the connection to the surrounding community in terms of road and trail connectivity, views, and events" (<http://www.agriculturalurbanism.com>). The development of land that integrates and not separates people and land, requires appropriate designed transitions, intelligent agricultural systems that even incorporate urban agriculture. Ideally, there are three levels of viable agriculture on-site that interact with the proposed urbanism at different levels of intensity. These three levels are distributed throughout the landscape and may overlap. For example, the first tier, *Rural Agriculture*, includes forageable land and large farms, which may range from 20 to 160+ acres. As a second tier, *Extra-urban Agriculture* buffers the rural zone and acts as a liaison between the abutting intensive agriculture and lower-density urbanism. Depending on the agricultural potential, two types of small-scale agriculture can be found within the extra-urban agriculture: small farms at 5 to 20 acres and speciality farms at 1 to 5 acres. The third tier, *Intra-urban Agriculture*, includes the smallest increments of agriculture, most suitable to the urban scales, and accommodates several intensities ranging from the shared community garden to individual yard gardens and down to the scale of window boxes.

³ A perpetuity is an annuity that has no definite end, or a stream of cash payments that continues forever.

(http://www.southlandsintransition.ca/sites/southlandsintransition.ca/files/Southlands_CharretteBook_04Agricultural.pdf).

The above designing system includes some of the following aspects

(<http://www.agriculturalurbanism.com>):

- full scope of food system land uses, from food-oriented commercial and processing areas to community gardens and kitchens;
- education and training programmes on how to grow, preserve, and prepare foods;
- architectural and landscape character that is agriculturally inspired;
- design for food-related events;
- innovative green infrastructure systems (water, stormwater, energy and waste);
- enhancing ecosystems and habitat through thoughtful landscape design and restricting development footprint on ecologically sensitive areas;
- increase access to land for farmers through farmer access agreements and affordable long-term lease rates; and
- leveraging the food and agriculture programme with other sustainability goals.”

2.6 Heritage conservation and small town revival

Many communities struggle to adequately feed, house and maintain the health of their citizens. Thus, with such challenges facing many communities, the diversion of limited time and energy in pursuit of heritage goals may seem to be a luxury. In addition, the need to attend to local economic development challenges may overshadow the importance of heritage concerns (www.ovpm.org). In an ever-increasing globalised world, the point of departure in most research into the conservation of the built environment is the linkage that emphasises the importance of the sustainable development concept. Since 1993, the Organisation of World Heritage Cities has fostered cooperation among cities to encourage the preservation of historic areas as a whole, “encompassing not only [its] physical elements but also the human activities”. Such examples range from “historic town centres to Victorian suburbs and model housing estates. Within conservation areas the policy imperative is to preserve their character, but not at the cost of setting them apart; they must be seen as part of the living and working community.” These areas are being referred to as “historical spatial modules of preservation” (Donaldson 2005). A museum, or an individual structure, for example is very dependent on the enthusiasm of an individual, while a group of old buildings and suburbs with specific functions are still utilised. Not only are historical districts more marketable as a tourist attraction, but they have a certain sense of place, unlike some individual historically significant buildings in an area. It is in this regard that culture, as a set of architectural themes, plays a significant role in urban development strategies based on historic preservation or local heritage.

A study among numerous small towns in the USA (Lapenas 2002) declared that historic preservation was being touted by cities and towns to be a vehicle of economic development and urban renewal. Those that advocate this position have stated that historic preservation has facilitated local economic and community revitalisation, increased tourism and employment as well as preserving regional history, culture and pride (Lapenas 2002). The study further highlights the fact that historic preservation will not work for all struggling areas. Concern is expressed about the possibility of creating a balance between the basic dichotomy in economic development and historic preservation. The latter is seen as a precursor to gentrification. Historic preservation directly contributed to temporary job creation in the renovation and restoration of houses, and other buildings. Indirectly, labourers spend their wages locally. The most significant economic contribution, however, has been in the tourism industry. In this regard, heritage tourist clusters between towns have been created with financial support from public and private sectors. In 1977, the National Trust for Historic Preservation started a project to preserve Main Street heritage in three mid-western towns. Reviving the local economy resulted in the programme being expanded to assist another 1 000 towns in 40 states. The programme has been a locally driven process, emphasising the important role of local stakeholders in preservation. The programme was based on a four-point approach that entailed economic restructuring, design, promotion and organisation. The National Trust also initiated a Rural Heritage Programme mainly to preserve roadways. In addition to the above, other incentives from the different levels of government used a tax credit programme (25% tax credit of the total expenses incurred in restoration and rehabilitation) to encourage historic preservation. In Georgia, an eight-year freeze on property tax assessment was introduced where registered heritage structures were rehabilitated (Lapenas 2002). Another example is San Antonio (Texas) where a full five-year abatement of property taxes was introduced following rehabilitation of an historic structure (Conservation Foundation 1990). However, the economic value – rising property prices – is not guaranteed as the study of Benson & Klein (1988) vividly demonstrates.

In essence, heritage conservation has a financial cost and, within current thresholds, is limited in putting pressure on long-term returns. Another problem is to decide in whose heritage to invest as the whole community has to be involved in the process. Clearing up the role of managing the product and turning it into a commercial entity with assistance from the private sector is another important consideration. Given the low budgets of most local authorities in South Africa, Breedlove (2002) proposes that local authorities avoid ownership of heritage structures. She furthermore suggests that authorities set up advisory and review panels that are representative of persons from the community who have an interest in conserving the heritage. In most instances, these panels (referred to as “heritage communities”) more often than not work in opposition to local authorities. Because historic conservation and preservation are considered the Cinderella of urban renewal programmes throughout the world, and more especially in small-town South Africa where technocrats are grappling with broader political transformation issues, it is left to the communities to struggle to protect their built environment and heritage (Donaldson & Williams 2005). Conservation is, however, now acknowledged in policy to be a key element of economic regeneration by improving physical conditions of the historic built environment, increasing residential use and

encouraging commercial development in underutilised areas. It is argued that if rejuvenation is viewed from a historic-cultural point of view, the focus should at least be an integrated, environmentally sustainable approach that merges heritage and culture with business and commercial development, and a self-sustaining process of conservation that must take cognisance of the broader scope of urban change.

A best case study to illustrate the above as an example of public-private partnership (individual home owners and the private sector) to protect and conserve the built environment in South Africa is in Graaff Reinet. Under the patronage of Dr Anton Rupert, the Save Reinet Foundation managed to get over 100 private companies contributing to the fund. The Historical Homes of South Africa Ltd., a Section 21 company, provided the administrative backup and more than 400 structures have since been proclaimed National Monuments. Unfortunately however, Graaff Reinet is the exception. The involvement of the private sector is restricted to small business firms such as architects, attorneys, medical doctors, guesthouses, and restaurant owners who, most of the time, restore and renovate their buildings without considering historical contexts. The extraordinary role played by the Section 21 companies underscores the importance of public-private partnerships.

The Simon van der Stel Foundation was established in 1959 and has been the best-known and largest non-governmental organisation concerned with heritage conservation. To be in line with transformation, the Foundation changed its name in 2002 to Heritage South Africa and actively lobbied to form a partnership with the South African Heritage Resources Agency to do an inclusive country-wide survey of conservation-worthy buildings. The Karoo Development Foundation has identified heritage conservation as one of its key priority areas of developmental challenges. They state that the Foundation “should be able to acquire buildings with unique and indigenous properties, because government bodies have no effective ‘teeth’ to protect such buildings. The acquisition of buildings should not be the main purpose of the Foundation, but as a last resort. The Foundation should focus primarily on protecting intellectual property, such as identifying and registering properties, to give people an incentive to preserve them. The Foundation may wish to design a special logo for historical buildings. The Foundation could also collect and preserve farm diaries” (Atkinson 2008). Thus, the efforts of various foundations and agencies should be integrated and facilitated by meaningful policy directions in all spheres of government.

3 POLICY CONTEXT

3.1 Introduction

In South Africa, there is a growing recognition of the importance of a new regionalist planning agenda and the value it can add to creating an effective intergovernmental planning system. In the Harmonising and Alignment Report it is stated that Government will ensure not to create false expectations by investing in a place and encouraging those living there to do likewise. Critically, regions would be used as the key units in economic development (hence the focus on metros and districts) (Presidency 2004). The strength of such an approach lies in the role of provincial planning, often considered to be the weak link within the intergovernmental planning system in South Africa. The state has introduced a three-tiered system of integrated planning aimed at ensuring intergovernmental priority setting, resource allocation, implementation, and monitoring and evaluation to achieve sustainable development and service delivery (Makoni et al. 2008). The key instruments which constitute this system include at national level the Medium-Term Strategic Framework (MTSF) and the National Spatial Development Perspective (NSDP) as indicative and normative planning instruments; at provincial level the Provincial Growth and Development Strategies (PGDSs), supported by Provincial Spatial Development Frameworks (PSDFs); and at local level the municipal Integrated Development Plans (IDPs), which include Spatial Development Frameworks (SDFs). Improvements in spatial analysis has allowed for a clearer basis for spatial priorities to be laid out in most PGDSs and PSDFs, with the Western Cape at the forefront of utilising detailed and rigorous spatial analysis and strategising in the SDF and then filtering it to the PGDS. The Western Cape has categorised the provincial space economy into four significant spatial components, within which lie economic and growth opportunities. The PSDF guides the focusing of infrastructure investment in certain spatial areas whilst the iKapa Elihlumayo GDS gives a summary of the strategy. The details with regard to the type and location of infrastructure investment and specific spatial strategies for all districts is in the SDF – an approved Structure Plan in terms of Section 4 (6) of the Land Use Planning Ordinance, thereby giving it statutory powers (Makoni et al. 2008).

3.2 National policy context

The National Spatial Development Perspective (2003) and its 2006 revision, augment the importance of a regional approach to economic development:

Contextualising and applying the NSDP has to be understood within the perspective that the overall performance of our economy hinges on the growth and development potential of regions ... While there are no universal rules, an emerging consensus is that the depth and quality of institutions are a crucial common denominator in initiating and sustaining economic growth in regions and that poverty and inequality are more likely to be addressed if redistributive interventions are combined with strategies to maximise an area's unique economic potential (Pieterse 2008:156).

The Western Cape's PSDF and iKapa Elihlumayo GDS explicitly adopted this line of thinking and by means of a quantitative approach the decision-making process for investment was based on the outcomes of the 2004 study.

According to the National Spatial Development Perspective (NSDP), investment has to be directed to areas with economic potential. Consequently, areas lacking in economic potential will continue to be starved of government funding and development effort. The NSDP proposes normative principles to be used as a guide for all spheres of government to achieve the objectives of national government (i.e. shared economic growth, employment creation, sustainable service delivery, poverty alleviation and the eradication of historical inequities). However, the NSDP explicitly avoids a structuralist analysis that locks localities into their historical path dependencies. It acknowledges that, although there may be localities that are perceived to be of low growth potential, this could change with strategic initiatives that respond to the unique features of those localities. The purpose and outcomes of the district GDSs speak to this prospect.

The NSDP has been controversial since its release in 2003. Box 3 provides a critique extracted from Turok & Parnell (2009). Atkinson (2008:4) in turn has been highly critical of the NSDP and its impact on so-called “areas lacking in economic potential” such as the Karoo that will “continue to be starved of government funding and development effort ... [and she believes] that the NSDP will unfortunately become a self-fulfilling prophecy – it will reinforce the process of underdevelopment in backward areas. This will have the unintended consequence of intensifying poverty in these areas, or encouraging out-migration to the cities.”

Box 3: Critique of NSDP

The [NSDP] document also suggested that disadvantaged areas should be linked with areas of opportunity and that the contribution of urban centres in servicing rural hinterlands should be recognised. The NSDP proved controversial because it was interpreted as endorsing the status quo (with its supposed urban bias); having a pro-growth, competitiveness emphasis (reflecting market forces rather than channelling them); a narrow focus on innovation, high value and knowledge-based development and using a simplistic concept of “potential” which disguised different possible forms of spatial development and the likelihood that preferences and patterns might change over time (Harrison *et al.* 2008). It also said nothing about environmental concerns (DEAT 2008). The reluctance of the cabinet to approve the NSDP was mirrored in the document's subsequent lack of influence over substantive government policies and investment decisions (Patel & Powell 2008). Separate programmes were also approved by the government that were apparently contradictory and reflected concerns about rapid urbanisation, uneven regional development and rural poverty, including the Integrated Sustainable Rural Development Programme in 2001, the Geographic Spread Programme in 2005 and the draft Regional Industrial Development Strategy in 2006 aimed at promoting economic development in peripheral and lagging regions (Harrison *et al.* 2008). The tensions were a sign both of technical disagreements among policy advisers and officials and political disagreements among people representing different economic interests and geographical constituencies. The government as a whole was clearly unconvinced about the particular importance of cities and unable to agree upon a consistent spatial policy or even an explicit policy towards migration (Pillay 2008; Presidency 2008).

Source: Turok and Parnell (2009) – see the primary source for references in the box.

Atkinson & Marais (2006) provide three unintended consequences of the NSDP. Firstly, the implementation of the NSDP has to be done based on accurate research and should not open up the programme for government officials' unexamined biases into the policy. In determining development

potential, they are of the opinion that rural areas may not be the favourite choice for investment even though rural production at times drives the economies of urban centres. Secondly, it is felt that rural populations usually do not have the resources to lobby successfully for their own interest. They recommend that external support be provided to assist local residents in identifying their local economic potential. Regional development agencies such as Aspire Development Agency of the Amathole District Municipality in the Eastern Cape, is an example worth looking at⁴. Thirdly, they argue that it is important to distinguish between actual and latent potential. In latent potential such as unusual niche markets (for example such as those discussed in Section 3 of this report, i.e. heritage conservation, slow city development, amenity migration, etc.), government could play a crucial role in facilitating the actualisation of potential. With the “palace revolution” at Polokwane that saw the ascendancy of Jacob Zuma to the presidency in 2009, Pieterse (2009:6) argues that the NSDP policy is “more or less dead in the water”, and that “the ruling party is marked by a deep distrust of contemporary modernity in as far as it represents an irretrievable return to the rural ideal ... [and where] rural development gets alleviated to one of five key political priorities for this term of office even though only 30% of the population resides in these areas; it has no economic base to solve the problems since rural areas contribute only 6% to the national gross value added (GVA); and the opportunity costs of infrastructural and economic investments in those areas are unjustifiable.”

In the policy report, *Harmonising and Aligning: The National Spatial Development Perspective, Provincial Growth and Development Strategies and Municipal Integrated Development Plans Report*, it is postulated that South Africa will follow a path where investment in infrastructure and development programmes would support the state’s growth and development objectives. These objectives are:

- directing economic growth and employment creation in areas where it is most effective and sustainable;
- providing support to restructuring, where feasible, in order to ensure greater competitiveness;
- fostering development through mobilising the local potential; and
- ensuring that basic needs are provided throughout the country by development institutions.

The report argues that the NSDP enables government to answer two critical questions: Firstly, “[i]f government were to prioritise investment and development spending in line with its goals and objectives, where would it invest/spend to achieve sustainable outcomes”? Secondly, given the apartheid spatial configuration, “[w]hat kinds of spatial forms and arrangements are more conducive to the achievement of our objectives of democratic nation building and social and economic inclusion?” (Presidency 2004). The fundamental aim of the NSDP is to reconfigure apartheid spatial relations and implement spatial priorities in ways that meet the Constitutional imperative to provide basic services to all and to alleviate poverty and inequality. To this end, the NSDP has an important role to play in surfacing the spatial dimensions of

⁴ See <http://www.aspire.org.za>

social exclusion and inequality and contributing to the broader growth and development policy objectives of government. It recognises the burden unequal and inefficient spatial arrangements place on communities.

In order to ease the potential conflict within a province regarding the implementation of the NSDP, an agreement between districts and within the district on the following was suggested (Presidency 2004:26):

- the definition and distribution of developmental potential;
- the location of, and relationship between, strategic development potential and most pressing needs and poverty;
- the way the NSDP principles will be applied;
- the nature and location of infrastructure investment and development spending in accordance with the NSDP principles; and
- the roles and responsibilities for implementation on infrastructure investment and development spending in the district/metro.

The report (Presidency 2004:21) furthermore dictates that using the guidelines as set out in the NSDP as a common platform for province-wide engagement will:

- provide direction for decisions on infrastructure investment and development spending;
- assist role players to acknowledge that the area of need may not be the place where the need can be addressed;
- ensure that fixed investment is focused in areas where greatest development potential and greatest need coincide; and
- promote investment in people (i.e. in areas with no or limited potential), to give them more choice, i.e. as to where they want to stay, and if they do want to move they will have a better opportunity in the new locality.

The draft National Urban Development Framework (Department of Cooperative Governance and Traditional Affairs and the Presidency and in partnership with the South African Cities Network 2009) provides a common national view on how to strengthen the capacity of South Africa's towns, cities and city-regions to realise their potential to support national shared growth, social equity and environmental sustainability. The emphasis on "urban" does not seek to reinforce a divide between urban and rural. The framework adopts a broad definition of "urban" as being those spaces showing some formal concentration of settlement, infrastructure, services, amenities and facilities and includes all towns and cities. "Rural" and "urban" areas are thus parts of a continuous regional, national, and international landscape and are interrelated through complex economic, social, political and environmental forces. The framework

recognises the need for a balanced approach to development that addresses both ends of the rural–urban continuum, rather than rural areas in isolation of urban.

The NUDF (2009) recognises that South Africa’s settlement structure is more complex than what a single “urban” category allows for. Different kinds of places present distinct challenges for policy and require different responses. The NUDF describes the essential variations in settlement type according to three dimensions: size, function and institutional legacy.

- Size confers economic advantages – agglomeration economies for firms, workers and public services. Capturing the benefits of scale requires municipalities to work across administrative boundaries.
- Function indicates an area’s economic base – mining, manufacturing, tourism, etc. – and its role in terms of public and private service delivery. Different sectors face different threats and opportunities for growth and development.
- Institutional legacy reflects inherited characteristics of past policies, particularly the land-use policies that fostered economic and residential segregation within cities and the underdevelopment of the former homelands.

The NUDF thus proposes an urban settlement typology comprising of city-regions, cities, regional service centres, service towns, and local and niche settlements. This categorisation is described in the NUDF as “tentative and illustrative” and that “it should be subject to more detailed analysis, testing and refinement before it could be said to offer a definitive new categorisation of South Africa’s settlement structure”. This provisional settlement typology is reflected in Table 2.

The “city-regions” comprise Gauteng, Cape Town, eThekweni and Nelson Mandela Bay, each with over one million population. They play a significant role as core cylinders of South Africa’s economic engine, with different sectoral specialisations. Their international connectivity and extensive hinterlands offer particular opportunities for future growth and development. One of their main challenges is to absorb large-scale in-migration without destabilising indigenous communities or jeopardising their financial position. Maintaining an urban form that enhances rather than undermines productivity by promoting proximity and containing the costs for commuters and businesses is another particular challenge to big cities – “integrating town and township”. And, of course, the overriding priority is to create more jobs to provide household sustenance and dignity, and to bring structure and stability to communities.

“Cities” are described as having populations of between 400 000 and 1 million and a well-established formal economy. They include East London, Bloemfontein, Nelspruit, Pietermaritzburg and Polokwane, and are often described as “secondary cities”. They have reliable infrastructure, relatively competent local government and a reasonable skills base. Hence they are fairly well placed to accommodate decentralised government offices, call centres or back office functions. One of their main challenges is to identify and develop distinctive economic niches to enhance their prosperity, particularly those cities with important

mining or agricultural processing industries. Another challenge is to extend opportunities to peri-urban settlements and densely-populated rural hinterlands.

Table 2 Provisional typology of different settlements

Category	No. of places	Population (% of national)	Economic activity (% of national GVA)	People living under minimum living level (% of national)
Gauteng city-region	1	22	39	14
Coastal city-regions	3	16	25	10
Cities	5	6	5	6
Regional service centres	41	14	15	14
Service towns	44	4	3	5
Local and niche settlements	600	9	5	12
Urban as % of national total		71	92	61
Clusters and dispersed rural settlements		21	2	31
Farms/rest		8	6	8
Rural as % of national		29	8	39

Source: NUDF (2009)

A summary description of these various categories within the proposed settlement typology as described in the National Urban Development Framework is outlined below (NUDF 2009).

“Regional service centres” are smaller than “cities”. They have relatively functional formal economies and play a significant role in servicing their hinterlands, whether within dense former homelands or in vast, sparsely populated regions (such as Uptington and Springbok). They typically hold their own nationally and are neither net contributors to nor recipients of state resources. Many also face challenges of economic diversification and modernisation, including areas such as Rustenburg, Middleburg and Secunda. Within the context of the Western Cape, the following towns are included under this category: Paarl/Wellington, George, Worcester, Oudtshoorn, Mossel Bay, Knysna, Hermanus and Plettenberg Bay.

Many cities and regional service centres perform vital cultural and educational functions, as well as social and economic roles. They have strong local identities and are major physical assets reflecting decades of investment in property and infrastructure. In most cases, their rationale is as important as ever, and warrants government support to avoid the prospect and consequences of decline.

Smaller service towns and niche settlements perform a particular service role within their areas or further afield, such as tourism (e.g. Clarens). Some are experiencing strong economic growth, such as Prince Albert, or strong population growth, especially if located on important access routes, such as Alice.

Across the country there are many dispersed settlements that have never developed nodes with public amenities and commercial opportunities. By focusing on individual and household subsidies, government's social programmes have helped to alleviate poverty. The foundations for economic growth, development and jobs however remain persistent challenges.

The NUDF (2009) identified a number of important policy implications from the national spatial trends analysis and the typology. These include:

- The pattern of urbanisation combined with growing service backlogs in the major urban growth nodes points to the need for better forward planning and management of urban growth at national, provincial and local level.
- The strong regional interdependencies and flows between “urban and urban” and “urban and rural” areas suggest the need for a more integrated approach to economic and settlement planning at multi-jurisdictional regional level to improve linkages and synergies.
- The typology points to the need for a differentiated governmental approach to settlement support given the wide diversity of settlements types with very different needs and capacities.
- The data suggests that there is a national need to prioritise institutional, service delivery and economic development support to two categories of settlement type in particular:
- The high-growth cities and city-regions whose rapidly growing populations, concentrated poverty and service delivery backlogs combined with their relatively high economic growth rates point to them as areas of strategic importance.
- The high-density settlement areas of the former homelands with large and growing populations but little economic activity and high rates of poverty. In this regard, it is noted that critical attention should be paid to the relatively underdeveloped Regional Service Centres serving such areas with a view to improving urban management and connectivity as a key element of any rural development approach are linked to such areas.
- The need for concerted national action to manage environmental risk flowing from the growing natural resource pressures experienced by the major cities and the high-density settlement areas in particular.

At a more local level, Cabinet approved its Local Government Turnaround Strategy (LGTAS) in December 2009. The strategy is underpinned by two important considerations because each municipality faces its own challenges and has its own dynamics. Consequently, a “one-size-fits-all” approach to municipalities would not be useful or acceptable. The twin over-arching aim of the Turnaround Strategy is to: (1) restore the confidence of people in local municipalities as the primary delivery machine of the developmental state at a local level; and (2) rebuild and improve the basic requirements for a functional, responsive, accountable, effective and efficient developmental local government. Two of the five strategic objectives of the LGTAS aim to improve national and provincial policy, support and oversight to local government, and to strengthen partnerships between local government, communities and civil society to ensure that communities and other development partners are mobilised to partner with municipalities in service delivery and development.

Atkinson (2008:19-22) provides a detailed discussion of various governmental programmes and policies aimed at addressing the developmental needs of the non-metropolitan areas in South Africa. According to her, the only systematic exposition of government’s intention to promote economic development in outlying areas is the Integrated Sustainable Rural Development Strategy (ISRDS), which contains many valuable ideas for future development of small towns, including the key role of local government, a strong focus on economic development, the integration of sectoral programmes, the need to promote local economic multipliers, the diversification of the local economy, and the need for partnerships between public and private spending. Special mention was made of the significance of small towns: “Rural towns are critical to the development opportunities of their hinterlands. Provision of key services in rural towns increases the multiplier for incremental incomes, since rural people can spend more of it closer to home” (Atkinson 2008:25). Significantly, the ISRDS advocated a “nodal” approach, whereby its principles would be applied first in a few districts, and only later extended to the rest of South Africa (Atkinson 2008:27). However (Atkinson 2008:21) identified certain difficulties of the programme which included the following:

- As a result of the lack of evaluation of the ISRDP, a strong focus on infrastructure development (water, sanitation, housing, etc.) was preferred against a focus on economic growth. A better understanding of the dynamics of the local economy could have shifted the focus to economic activity rather than infrastructure delivery.
- Nodes that were not proven to be replicable as government departments have channelled large amounts of money to the nodes, leaving little funding for strategy replication in other nodes.
- Municipalities in the identified nodes have not been able to spend all of the funds.
- The strategy has not attracted much private finance and investment.

The Regional Industrial Development Strategy (RIDS) suggests the creation of a Thematic Fund to support innovative regional development initiatives (Department of Trade and Industry 2005:12).

According to (Atkinson 2008:23) –

... this holds some hope for small towns in regions which can identify a specific niche product or service. But, as yet, this interesting regional approach is aimed at industry, and not at agriculture or the service sector. Whether small enterprises in outlying towns are ever likely to become part of a government export scheme appears unrealistic, at this stage. For example, interviews conducted in the Western Cape suggest that WESGRO's focus remains predominantly on high-tech sectors found in the coastal areas. There is an urgent need for a meaningful regional strategy, which can delimit regions according to their economic characteristics and potential, and not according to artificial government jurisdictions.

There are other indications that government wishes to extend its business support system to small and medium-sized towns. One is that government wants to create comparable support services in urban/metropolitan and rural areas (Atkinson 2008:21). The DTI's spatial dimension of its business support strategy is aimed at special geographic areas (poor areas with high unemployment) (Department of Trade and Industry 2005:25). In addition, the DTI's strategy (Department of Trade and Industry 2005:28) aims to stimulate delivery points in specific localities:

At the local level, steps will be taken to co-locate as many small enterprise support agencies as possible, in order to create integrated access points for aspiring and existing entrepreneurs. Special efforts will be made to integrate local municipality and business support initiatives into these access points.

Government's main instrument to provide business support is the SEDA (Small Enterprise Development Agencies) system. However, at present, SEDA offices are only concentrated in the provincial capitals and the main towns, and do not reach the outlying towns. It is hoped that these will gradually decentralise to somewhat smaller towns, usually one or two per district municipality, from where they will provide an outreach service to small towns (Atkinson 2008:22). According to (Atkinson 2008), the Implementation Agents (IAs) to be appointed for the outlying small towns, appear to have had some difficulty in finding appropriately skilled and experienced businesses to act as IAs. She concludes by arguing that it "may well be the case that the most important role of the SEDAs would be to assist private investors and government departments or municipalities to outsource effectively to second-economy entrepreneurs".

The post-Mbeki era has seen a shift in policy, especially the call to revise the thinking and implementation of the NSDP. The Medium-Term Strategic Framework, a framework to guide government's programme in the electoral mandate period (2009–2014), indicates that a massive programme to build economic and social infrastructure, a comprehensive rural development strategy linked to land and agrarian reform and food security and an integrated infrastructure development strategy would have been finalised within the first year of President Zuma's term. According to the strategy, Government's approach to spatial development will encourage policy actions that are responsive and conducive to the requirements of the different contexts prevailing in each territory, primarily levels of

economic potential and location of poverty and that, in this regard, the National Spatial Development Perspective will be reviewed and, where appropriate, adjusted (Minister in the Presidency: Planning 2009). It is further argued that the overall objective, within the framework of spatial diversity, would be to develop and execute a comprehensive rural development strategy that would transcend the dichotomy between rural and urban. The strategy would aim to improve the quality of life of rural inhabitants, whilst ensuring the country's food security through unlocking the economic potential of agricultural production in various areas of the country. Furthermore, the cross-cutting nature of the policy would mean that strategy implementation and leadership would be driven from an executive level in order to coordinate the various sectoral interventions. The elements of the strategy will include:

- aggressively implementing land reform policies;
- stimulating agricultural production with a view to contributing to food security;
- improving rural livelihoods and food security;
- improving service delivery to ensure quality of life;
- implementing a development programme for rural transport;
- developing skills;
- exploring and supporting non-farm economic activities;
- developing institutional capacity;
- facilitating cooperative development; and
- revitalising rural towns.

The strategy cites evidence from various studies showing that the presence of a vibrant service centre or node is crucial for a dynamic region, be it rural or urban. Spatially-focused grants, such as the Neighbourhood Development Grant programme, will provide for the development and revitalisation of rural towns. These towns would then be service centres of the rural economy by facilitating inputs into agricultural production, outlets for agricultural produce, logistical hubs for co-ordination of rural economic activity, and by being a base for the development of agro-processing enterprises. In essence, these rural service centres would provide a space where value is added to the agricultural produce whilst accessing established and existing logistics chains. This will involve development of hard and soft infrastructure including institutional networks for marketing, storage, advisory services, finance and improved agro-logistics. Such investments will be guided by the potential of each area to ensure maximum social and economic returns.

In line with the above policy directive and shift towards investment in rural areas, the Comprehensive Rural Development Programme: The Concept was released by the Minister of Rural Development and Land Reform in 2009. Great emphasis is placed on rural development in three spheres: (1) economic, (2)

social, and (3) public amenities and facilities. The challenges include the revitalising, revamping and creation of new economic, social and information communication infrastructure, as well as public amenities and facilities in villages and small rural towns.

Among some of the challenges are the “revitalisation and revamping of old, and the creation of new economic, social and information communication infrastructure and public amenities and facilities in villages and small rural towns” (Ministry of Rural Development and Land Reform 2009:3). In the same vein, the White Paper on Ministry of Rural Development and Land Reform (2009) claims that land reform can make a major contribution towards addressing unemployment, particularly in rural areas and small towns.

3.3 Provincial policy context

The post-apartheid urban and rural settlement dynamics in the Western Cape have, according to the Western Cape Rural Land Use Planning and Management Guidelines (Province of the Western Cape 2009:3), the following characteristics:

- Rapid migration into the province by work-seekers and their dependants, emanating mainly from the Eastern Cape and Northern Cape, which has exacerbated housing backlogs and lead to a proliferation of informal settlements.
- Less labour-intensive farming practises and a displacement of farm workers to neighbouring towns, many of whom cannot access jobs and formal housing and remain impoverished and marginalised.
- Resettlement of rural communities who were displaced during the apartheid era, settlement of emerging farmers as part of the land redistribution programme, and improved security of tenure for rural dwellers.
- Rapid growth of the leisure and tourism sectors, driven mainly by the higher-income domestic market and visitors from overseas. This has given rise to the rapid growth of settlements with scenic, cultural and/or recreational attractions and increased temporary settlement of rural areas.
- Foreign investment in the local property market, contributing to rapid increases in urban and rural land prices.
- A proliferation of low-density resorts and residential lifestyle estates outside the urban edge, leading to the erosion of rural landscapes and the displacement of sprawl into rural areas.
- Rapid growth of Western Cape towns as a desirable location for the growing South African retirement market.

The purpose of the Province of the Western Cape’s (2007) Sustainable Human Settlement Strategy (ISIDIMA) is to ensure that human settlement interventions achieve the goal to create an environment that allows the citizens and residents of the Western Cape to engage constructively with the state to access

a wide range of services, facilities and benefits that can satisfy their fundamental human needs without degrading the eco-systems they depend on. The policy context to achieve this aim is based on the following (Province of the Western Cape 2007:44):

- 1) Provincial Growth and Development Strategy: given that growth targets will be undermined by dysfunctional urban economies, sustainable human settlements will promote integration and greater coherence within and across localities;
- 2) Provincial Spatial Development Framework: coherent spatial planning targets and sustainable resource use can only be achieved if housing delivery systems serve to dismantle rather than reinforce apartheid spatial forms;
- 3) Social Capital Formation Strategy: housing is central to participation-based social capital formation;
- 4) Strategic Infrastructure Plan: provides a framework that can reinforce sustainable human settlements via various subsidies, densification and a sustainable resource use perspective that substantially increases efficiencies;
- 5) Micro-Economic Development Strategy: a wider integration of housing delivery into market dynamics that support entrepreneurs makes housing a key element of local economic development;
- 6) Integrated Transport Plan: which makes it clear that a shift to public transportation is key, thus complementing the emphasis in the WCSHSS on access and compactness; and
- 7) Sustainable Development Implementation Plan: compact human settlements that are configured to reduce resource use significantly in order to contribute significantly to the achievement of the goals and objectives of the SDIP.

The Western Cape's iKapa Elihlumayo Growth and Development Strategy (2008) is built on twelve iKapa strategies of which the PSDF, the Strategic Infrastructure Plan and Micro-Economic Development Strategies are the key spatially-related policies. iKapa is contextualised within the national imperatives.⁵ iKapa (2008:39) is also very clear on its spatial investment focus:

Public investment funds are always limited, which implies the need for prioritisation. The iKapa GDS therefore responds to the NSDP through the focus of infrastructure investment in areas with high poverty levels and high growth potential. Such investment is designed to unlock economic potential through the removal of the binding constraints that block development. This is particularly relevant to investment in transport systems and infrastructure. Areas with significant poverty challenges and limited economic growth

⁵ According to the National Spatial Development Perspective, Vision 2014, the Millennium Development Goals (MDGs), the Medium-Term Strategic Framework (MTSF), the Accelerated and Shared Growth Initiative for South Africa (ASGISA), the National Industrial Policy Framework (NIPF), the National Framework for Local Economic Development (NFLED), the National Framework for Sustainable Development (NFSD) and the anti-poverty strategy.

potential not prioritized for public-sector infrastructure investment therefore require investment in social and human capital.

The Western Cape's Provincial Spatial Development Framework (PSDF) is also strongly informed by the NSDP. The framework identifies the areas of growth in the province and the areas where, in terms of the sustainable development paradigm, growth should be emphasised in the future. It also addresses the form that this growth or development should take and further emphasises the restructuring of urban settlements to facilitate their sustainability (Province of the Western Cape 2008). The PSDF is adamant that political will must stand firm, insofar as investment support is concerned, when the ranking of towns with high growth potential and low human need above those with low growth potential and high human need are identified by the Growth Potential Study of 2004. The PSDF argues that such a policy could be accused of being anti-poor and displaying an unacceptable level of urban bias as it is the larger urban centres that are likely to display the highest growth potential. However, it is important to note that this priority ranking applies only to fixed investment, not to social investment. Social investment should be done in all towns and these towns will not be neglected by government.

Numerous spatial- and investment-related policy documents and research reports have surfaced since the previous growth potential study. The Strategic Infrastructure Plan (SIP) of the Western Cape Provincial Department of Public Works and Transport identifies the infrastructure needed and where and how this can be implemented over time as budgets allow. See Box 4 for the link between the PSDF and SIP. It includes the buying of public land for settlements and the improvement of bulk infrastructure (water, sanitation and energy), ICT and roads. SIP is one of the eight components of iKapa and has been developed to provide the planning framework within which the physical infrastructure that supports growth is to be provided to the province. Eleven infrastructure sector plans laid the foundation for the plan. These include the:

- transport sector,
- property development sector;
- information and communication technology sector;
- energy sector;
- environment sector;
- community services sector;
- health sector;
- justice and security sector;
- risk reduction and emergency management sector; and
- tourism and recreation sectors.

All these sector plans directly relate to the aims of the PSDF, MEDS and, in essence, the NSDP in that it has to provide for infrastructure which is placed in the correct spatial context (Gooch & Manyathi 2005).

Box 4: Link between SIP and PSDF

For the purposes of the SIP, infrastructure is broadly conceived as including both “hard” and “soft” infrastructure. Hard infrastructure includes the roads, buildings, water schemes, etc., which are traditionally associated with capital expenditure. “Soft” infrastructure brings in aspects such as institutional arrangements, regulatory framework, asset management, and training, education and research. Human resources are, of course, also necessary if infrastructure is to be used effectively for its intended purpose. This aspect is raised, in particular, in the chapter on health. The SIP has been formulated within the framework of existing provincial strategies. (See chapter two for discussion on linkages between the SIP and other provincial strategies.) In particular, it is in line with the draft Provincial Spatial Development Framework (PSDF) and National Spatial Development Perspective (NSDP). On the economic side, the SIP proposal provides the foundation for the business environment required to support acceleration in economic growth and job creation from key growth sectors identified in the Micro-Economic Development Strategy. The primary purpose of the SIP is to align, coordinate, target and leverage public and private infrastructure expenditure on strategic priorities which have the greatest potential to accelerate shared growth between 2006 and 2015 and to address issues of social equity and ecological integrity. The SIP aims to identify the province’s infrastructure priorities over a ten-year timeframe so as to focus both government and private sector investment to achieve this primary purpose. The priorities are guided by the following PSDF principles:

- government spending on fixed investment should prioritise areas of economic growth or economic potential;
- efforts to address past and current social inequalities should focus more on people than on places;
- settlement growth and economic development opportunities should be channelled into activity corridors and nodes adjacent to or linked to main growth centres;
- future urban and rural development of the Province should significantly change current patterns of resource use (biodiversity, productive land, visual amenity, unsustainable building materials).

Source: Province of the Western Cape (2006)

The property development sector, for example, holds many opportunities for spatial development and growth. Chief among these are: (1) the alienation of public land for development; (2) better use of commonage land; and (3) the potential for growth should the Subdivision of Agricultural Land Act (Act 70 of 1970) be repealed.

Insofar as the release of strategic parcels of state-owned land is concerned, the Province of the Western Cape’s (2007) ISIDIMA acknowledges that, although there have been some attempts to use well-located state-owned land for restructuring the apartheid patterns of South African cities and towns, there are still significant parcels of well-located vacant or underused state-owned land. Objective six of ISIDIMA states that state land and other resources should be used for spatial restructuring, with direct and indirect benefits for the poor.

Historically, municipalities have administered commonage agricultural land for the benefit of white residents only. However as part of the current government’s land reform programme, municipalities can obtain financial and other forms of support to convert commonage into a livelihood and developmental resource for their poor residents (Atkinson 2005). Considered the Cinderella of urban spaces, municipal commonage is a valuable natural heritage resource. Ingle (2006:46) contends that “... municipalities face pitfalls in giving expression to central policymakers’ dictates regarding land redistribution. A warning is issued that by trying to turn the clock back to commonage policies more suited to a bygone era, municipalities run the risk of forfeiting both the income their commonage has the potential to generate

and the very asset itself". He furthermore argues that "until government can offer municipalities a coherent, viable model for commonage management, it would be folly to abandon the system of renting out commonage to the highest bidders" (Ingle 2006:46). Lastly, according to the Ministry of Agriculture and Land Reform, there is general agreement that the Subdivision of Agricultural Land Act must be phased out to free up the land market. This should, however, not open up a situation for scarring the rural landscape.

The Micro-Economic Development Strategy (MEDS) is based on an analysis of the strengths and weaknesses of the Western Cape economy, and the strategy recommends a range of public sector interventions to stimulate specific high-potential sectors that include:

- wholesale, retail and franchising;
- the construction industry;
- the chemical industry;
- the informal sector;
- the food sector;
- printing, publishing and packaging; and
- the boat-building sector.

With regard to the development of human capital, the Human Capital Development Strategy emphasises the retention of scarce skills and the promotion of quality education to expand the skills base and increase job creation and to promote early-childhood development, adult basic education and further education and training. In addition, the Scarce Skills Strategy focuses on the development of skills and greater economic participation, especially of young people, in the growing sectors of the Western Cape economy.

4 METHODOLOGY

4.1 Introduction

The methodology described in this section is based on an understanding of the relationship between data, indicators and indices, and it is thus necessary to clarify some important terminology. It is seldom that raw data is meaningful to the general public and decision-makers, and the meaning from the data only emerges through analysis. The value of data for conveying information to various stakeholders widens and becomes increasingly powerful as the data is condensed. Through the application of various forms of analysis and techniques, primary data can be transformed into indicators that reduce complexity and also bring clarity to decision processes. At the apex of this hierarchy, an index can be described as a higher-order indicator which acts as an aggregated or weighted set of combined indicators Shields et al. (2002) emphasise the importance of indices as having significance in the sense of extending the value of indicators beyond that directly associated with the original measured property of information.

This hierarchy also holds implications for the eventual use of the information emanating from the various levels within this hierarchical structure. As suggested by Shields et al. (2002:158), the key challenge is to provide the most meaningful information to the intended audience. This implies that the appropriate level of condensation of information is a function of the audience of the intended data. This relationship between the total quantity of information and the requirements of the various audiences is graphically depicted in Figure 3. According to Meth (2008), the use of this information usually lies between the two extremes of statistical users at the one, end having as their main focus the information results, and policy makers at the other end of the scale, who need to respond to presented information in the form of formulation, implementation and amendment of policies.

Modelling the growth potential and human needs of towns is a complex process that involves multiple factors that are often interrelated and spatial in nature. Geographical information systems (GISs) are ideal to capture, store, manipulate, analyse and communicate spatial information (DeMers 2009). Although many methods exist whereby GISs can be used to analyse multiple factors (Chang 2006), a multi-criteria evaluation (MCE) approach was used in this study. Due to its ability to divide complex problems into smaller understandable parts that are then evaluated independently (Malczewski 1999), MCE has been used in many types of applications including economics (Al-Najjar & Alsyouf 2003), noise pollution (Van der Merwe & Von Holdt 2006), forestry (Varma *et al.* 2000; Bruno *et al.* 2006), conservation (Phua & Minowa 2005; Wood & Dragicevic 2007), flood vulnerability (Yalcin & Akyurek 2004), transportation (Vreeker *et al.* 2002), tourism potential determining (Van der Merwe *et al.* 2008), and land use suitability analysis (Van Niekerk 2008).

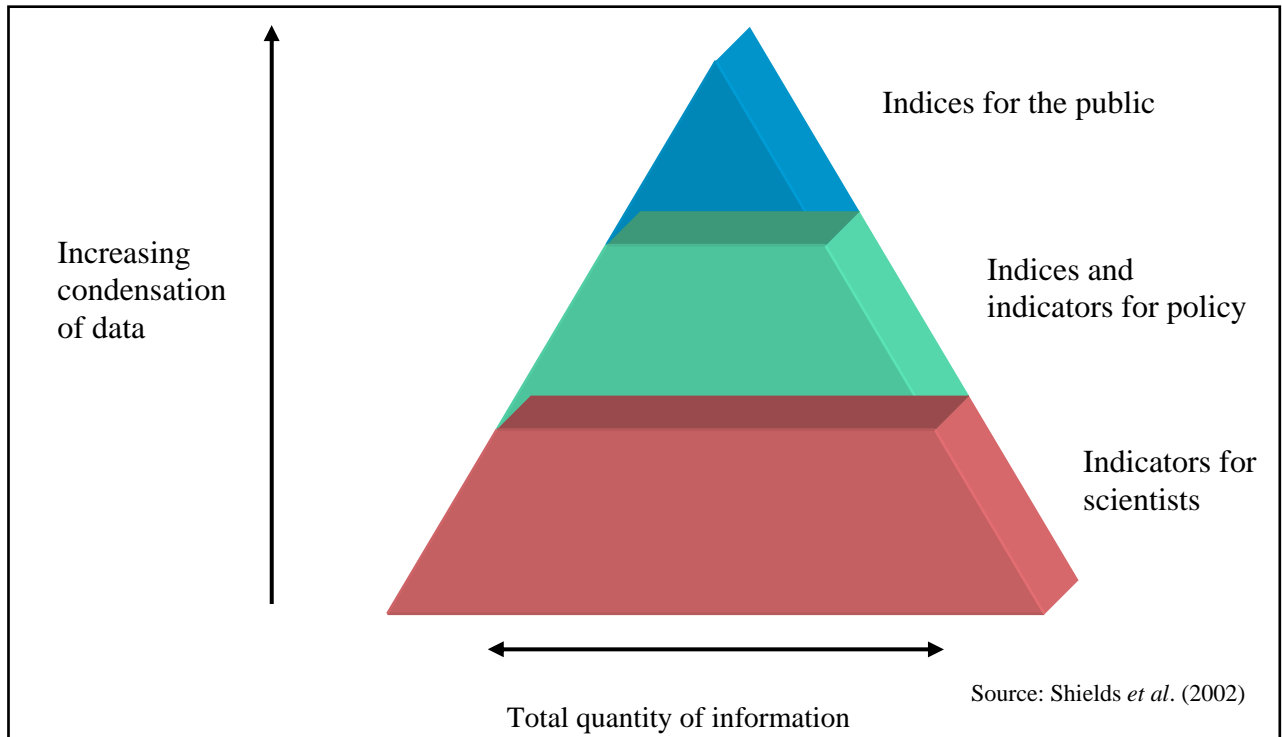


Figure 3 The relationship between data condensation and audience

4.2 Indicator identification and selection

A pragmatic approach was adopted to arrive at an acceptable set of indicators to be used in the review process. In accordance with the methodology outlined in the project proposal, the first important task was to identify an appropriate organising framework for the development of indices and the collection of data for the underlying indicators/variables. This structuring framework was approached from both a quantitative and qualitative perspective including the following components:

- A comprehensive review of recently published literature that included general urban development research, statistical studies of economic conditions, specific sectoral studies and policy directives. The 2004 study provided the overarching framework to revise the set of indicators for the present study. However, the broad context of the new set of indicator groupings stems mainly from a combination of international indicator guidelines (United Nations Indicators of Sustainable Development) to national governmental policy-driven initiatives (e.g. NSDP, Green Paper on National Strategic Planning) and provincial policy (Table 3).
- The indicator grouping as applied in the 2004 study.
- Information from the literature review.
- Feed-back from a number of local municipalities.

Table 3 Policy framework guiding indicator identification

INTERNATIONAL	UNITED NATIONS INDICATORS OF SUSTAINABLE DEVELOPMENT	Poverty, governance, health, education, demographics, natural hazards, atmosphere, land, oceans, seas, coasts, freshwater, biodiversity, economic development, global economic partnership, consumption and production patterns.
NATIONAL	GREEN PAPER: NATIONAL STRATEGIC PLANNING	Poverty, inequality and the challenge of social cohesion, capability and performance of the public service, national health profile and developmental health care strategies, advancing human resources for national development, long-term macro social and demographic trends, food security and sustainable rural development, long-term availability of water, conservation, bio-diversity and climate change mitigation and adaptation, local economic development and spatial settlement trends, industrial development trends and changing structure of the economy, innovation, technology and equitable economic growth, regional, continental and global dynamics and their long-term implications, energy consumption and production, public transport: medium and long-term choices, defence industry and long-term defence capabilities.
	MTSF STRATEGIC PRIORITIES	Build a developmental state, including improving of public services and strengthening democratic institutions, improve the health profile of society, strengthen the skills and human resource base, a comprehensive rural development strategy linked to land and agrarian reform and food security, speed up economic growth and transform the economy to create decent work and sustainable livelihoods, massive programmes to build economic and social infrastructure, pursue regional development, African advancement and enhanced international cooperation, sustainable resource management and use, intensify the fight against crime and corruption, build cohesive, caring and sustainable communities.
	NSDP	Weighted poverty gap, public services and administration, human development index, production of high value differentiated goods + labour-intensive mass-produced goods + retail and private sector services and tourism.
	SA DEVELOPMENT INDICATOR CATEGORIES	Poverty and inequality, good governance, health, education, economic growth and transformation, employment, international relations, safety and security, household and community assets, social cohesion.
PROVINCIAL	IKAPA GROWTH AND DEVELOPMENT STRATEGY	Broadening of economic base and reduction of poverty, effective governance, enhancement of human capacity, broadening of economic base and reduction of poverty, sustainable resource use, effective public and non-motorised transport, efficient infrastructure, greater spatial integration, liveable communities/integrated human settlements, social transformation.

The resulting structuring framework (Table 4) was used to classify the indicators of the 2004 study and was deemed fit for replication in the 2010 study. Additional indicators to enrich the review process were identified. Five main themes, namely socio-demographic, economic, physical-environmental, infrastructural, and governance/institutional were found to be consistently present in many of the documentation studied. There is a striking similarity between the five identified units and those used in the internationally recognised Environmental Sustainability Index: Social/Cultural, Economic, Environmental, Political, Institutional/Technological. Infrastructure was identified as a stand-alone factor (even though it can be regarded an all-embracing factor), but the focus here was to apply infrastructure as the add-on fixed production factors to a physical space to enhance its development value and potential (Wong 2002). These indicators also cover the four main aspects of sustainable development in all the chapters of Agenda 21, therefore ensuring that the most significant aspects of sustainable development are monitored by the indicators.

Table 4 Structuring framework

#	INDEX	THEME	NUMBER OF POTENTIAL INDICATORS
1	Socio-demographic	Poverty, inequality and human development needs Human resource quality Population structure and growth	15
2	Economic	Extent and diversity of retail and services sector Tourism potential Economic size and growth Economic diversity Market potential Change in labour force Property market	17
3	Physical environment	Availability of water Natural potential	7
4	Infrastructure	Land availability and use Transport and communication Availability of municipal infrastructure	16
5	Institutional	Quality of governance Safety and security Administrative and institutional function Democracy Availability of community and public institutions	20

These themes were consequently used as main indexes of growth potential and as a framework for indicator collection. Each index in turn consists of two or more categories, each including a number of indicators. A total of 75 potential indicators were subsequently identified according to this structuring framework. The basic criteria that were applied in the identification and selection of indicators appropriate to each category within this structuring framework included:

- simplicity – the final indicators had to be as simple as possible;
- robustness – an indicator had to be robust and statistically validated;
- responsive – an indicator had to be responsive to policy interventions but not subject to manipulation;
- scope – the indicators had to cover the whole spectrum of human and economic activities and bio-physical functions relating the subject matter (in this instance non-metropolitan towns in the Western Cape), while having minimal overlap with other indicators;
- quantification – the elements had to be readily measurable;
- assessment – the elements had to be capable of being monitored to establish performance trends;

- sensitivity – the chosen indicators had to be sensitive enough to reflect important changes in characteristics; and
- timeliness – frequency and coverage of the elements had to be sufficient to enable timely identification of the performance trends.

A detailed description of these indicators in terms of description, rationale and data sources is outlined in Appendix A.

4.3 Parameters of analysis

Before the analysis could be performed, it was necessary to define the parameters of analysis. Some of these parameters were provided in the ToR. Specifically, it required that the analysis be carried out at town level (defined as the 131 towns used in the 2004 study). However, depending on the mapping scale, a town can be represented by a point (i.e. its centre) or a polygon (i.e. its urban edge). In addition, because a town is influenced by its surrounding rural activities, a town can also be defined as a Thiessen polygon (see Figure 4). The latter ensures that any point within the polygon is closest to its centre (i.e. town centre).

Due to the nature of the data that was expected to influence the growth potential and human needs of towns, it was recognised that a combination of spatial entities (i.e. centre of town, urban edge and Thiessen polygon) had to be used to represent towns. For instance, to calculate a town's distance from major roads, the town had to be represented by its centroid (i.e. point). To calculate the population of a town, the urban edge (i.e. polygon) was more appropriate. Thiessen polygons are preferred when the influence of rural areas, for instance when relating its surrounding agricultural activities, needs to be calculated. Consequently, it was decided that the data would dictate the spatial entities used during data preparation, but that all polygons would be converted to points (i.e. centroids) to enable easier comparison of the different attributes.

As explained in Section 1.3.2.1, a separate analysis was carried out at municipal level. All the other Western Cape local municipalities were included at this level of analysis. The Cape Town metropolitan area was not included as this was outside the scope of the ToR. Areas outside local municipalities (i.e. those administrated by the district municipality) were mapped as separate spatial entities where such areas contained a town.



Figure 4 Settlements represented by Thiessen polygons

Although it was recognised that factors outside the extent of the Western Cape (e.g. inter-provincial, national and international factors) impact on the growth potential of towns and municipalities, such factors were not within the scope of the GIS analysis. Consequently, the GIS data collection and analysis was restricted to within the Western Cape's provincial boundaries. However, data from outside the provincial boundary was used in some instances (e.g. to calculate the distance of a town from Port Elizabeth).

4.4 GIS data collection

Data for most of the 75 indicators was collected from secondary data sources such as existing maps, documents and GIS databases. In many cases, the data had to be edited, reformatted and/or converted in preparation for analysis. The bulk of these manipulations were carried out in ArcGIS 9.3. The data source(s) of each indicator, as well as a description of the manipulations that were performed on each, are shown in the metadata table (see Appendix A).

Data for the majority of indicators was collected and manipulated in a relatively short period of time. In contrast, considerable effort and time was spent on collecting data for the nine indicators for which information from municipalities was required.

4.5 Standardisation (normalisation) of indicators

All indicators had to be reformatted to a common scale because indicators can be measured in different scales (i.e. nominal, ordinal, interval and ratio). To do so, linear scaling (Equation 1) was used (Malczewski 1999). For example, the values for indicator 10 (matric pass rate) was stored as a percentage and ranged from 62–96%. To standardise this indicator the parameters of Equation 1 were set to: $R_{min} = 62$, $R_{max} = 96$, and $m = 1$. The original percentages were consequently rescaled to values (scores) ranging from 0 to 1, with 1 representing the highest possible matric pass rate (96%) and 0 the lowest (62%). Figure 5 illustrates this example graphically.

$$X_i = \frac{R_i - R_{min}}{(R_{max} - R_{min})} \times m \quad \text{Equation 1}$$

where:

- X_i is the standardised score;
- R_i is the raw score;
- R_{min} represents the minimum score;
- R_{max} is the maximum score; and
- m is an arbitrary multiplier representing the upper standardised range value.

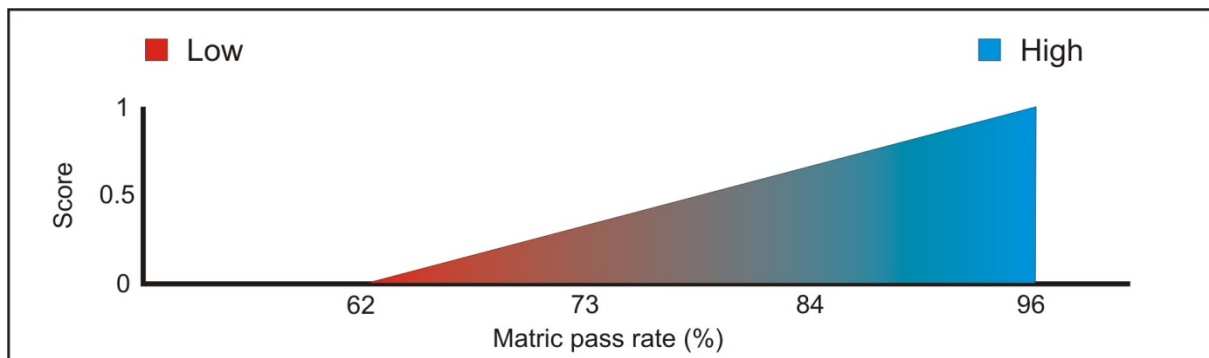


Figure 5 Linear scaling of matric pass rate

Some of the indicators were inverted after standardisation to ensure that lower values have a positive impact on a particular index. For instance, a low crime rate (indicator 65) has a positive effect on growth potential. Consequently, indicator 65 was inverted using Equation 2. The indicators that were inverted in this manner are indicated in Appendix A with an asterisk.

$$Y_i = 1 - X_i \quad \text{Equation 2}$$

where:

- Y_i is the inverted score; and
- X_i represents the original score.

4.6 Indicator reduction

As indicated in Section 4.2, an initial list of 75 indicators was compiled for possible consideration to be included in a composite index of development potential. One of the potential dangers of using large numbers of indicators in composite indices is the inherent risk of “compensability”. This refers to the possibility of trading off a poor result in one component against a strong performance or positive result in another component. The most commonly used approach to overcome this challenge is the application of multivariate techniques such as principal component or factor analysis (Booyesen 2002; Grasso & Canova 2008). In a nutshell, the purpose of these techniques was to determine the number of latent variables underlying the data, to condense the data, and to define the content and meaning of the factors accounting for the variation in the data.

Factor analysis is a technique that enables the identification of patterns that underlie the correlations between a number of variables and can thus be described as a data reduction technique. It is based on the premise that the variation observed in a variety of individual variables reflects the patterns of a smaller number of some deeper or more fundamental features (also referred to as the “factors”). Factor analysis provides a reliable means of simplifying the relationships and identifying within them which factors, or common components of association between groups of variables, underlie the relationships (Acton et al. 2009).

A separate factor analysis was performed on each of the individual sets of potential indicators identified for consideration to form part of the five sub-indices (socio-demographic, economic, physical, infrastructure, and institutional). For the purposes of developing the composite indices, the indicators with the highest factor loading on those factors that cumulatively explain at least 70% of the underlying variation, were selected for inclusion in each index. This process was repeated for both the town level data and the municipal set of indicators. These results are summarised in Table 5 and Table 6.

Table 5 Selection of core indicators for composite indices – settlement level

CATEGORY	NO. OF INDICATORS CONSIDERED	NO. OF FACTORS SELECTED	% VARIANCE EXPLAINED
Socio-demographic	10	4	74.7
Economic	10	3	86.4
Physical environment	7	4	77.2
Infrastructure	14	6	74.7
Institutional	10	3	77.8

Table 6 Selection of core indicators for composite indices – municipal level

CATEGORY	NO. OF INDICATORS CONSIDERED	NO. OF FACTORS SELECTED	% VARIANCE EXPLAINED
Socio-demographic	15	4	72.1
Economic	16	3	70.6
Physical environment	7	4	83.7
Infrastructure	12	4	81.5
Institutional	19	6	77.7

The 75 potential indicators were thus reduced to 20 core indicators for the settlement level analysis and 21 core indicators for the municipal analysis. The selected core indicators for each of the indices are shown in Table 7. Maps of these indicators are also included in Appendix D.

Table 7 Final selected core indicators for town level indices

INDEX	SETTLEMENT LEVEL	MUNICIPAL LEVEL
Socio-demographic	Labour force qualification % non-economically active population % households living in informal housing % population receiving social grants	% non-economically active population Labour force qualification level Human development index Matric pass rate
Economic	Number of service sector businesses Tourism potential Weighted distance to metros/leader towns	Number of services sector businesses Change in economic diversity index (2001–2009) Growth of highly skilled labour
Physical environment	Groundwater potential Perennial crops Size and status of unexploited minerals Surface water area	Annual crops Perennial crops Size and status of unexploited minerals Surface water area
Infrastructure	WWTW spare capacity % households with access to electricity % households with in-house access to water Distance to nearest scheduled airport Number of vacant industrial stands Distance to nearest small harbour	% households with access to Internet % households with access to electricity Number of vacant industrial stands Distance to the nearest scheduled airport
Institutional	Change in crime occurrences (all crime) over time Amenities Crime occurrence – all crime (2008-09)	Change in crime occurrences (all crime) over time Crime occurrence – all crime (2008-09) Staff per capita ratio Voter turnout in the last elections Debtors ratio Municipal management experience and capacity

The benefits of using a statistically selected and reduced set of indicators are threefold. Firstly, there are fewer data sets that need to be collected to run a follow-up analysis of the growth potential of small

towns. Secondly, fewer data sets make it easier for constant monitoring and evaluation of the growth potential in towns. Thirdly, the impact of specific interventions to spur growth potential in towns can be measured in order to gauge the success of interventions.

4.7 Indicator weighting

Weighting entails the process of attributing a greater value or contribution to one indicator or index than another, thus reflecting the relative importance of each of the variables. By nature different indicators do not have equal importance for determining growth potential or human needs. Total GDP may, for instance, be considered more important for measuring economic growth potential than property tax value. There are generally two alternative approaches to the weighting of variables, i.e. through consultation with experts and through empirical techniques. These two approaches can also be applied in combination.

The conventional practice of selecting weights is following consultation with experts which may also involve a questionnaire survey (Xing et al. 2009). Participants are often asked to indicate the relative importance of each of the variables on a scale of 1 to 5 (where 1 = of little importance and 5 = of great importance).

Multivariate techniques present an empirical and relatively more objective approach for weight selection (Booyesen 2002:127). In the case of principal component analysis, components are weighted with the proportion of variance in the original set of variables explained by the first principal component of that particular component. The advantage of this technique is that it produces a set of weights that explain the largest variation in the original variables. A potential drawback is that multivariate techniques allow no control over the selection and weighting of components and thus introduce a measure of conceptual rigidity in composite indexing.

For the purpose of this study, the second option outlined above was applied. Each of the selected indicators was weighted in proportion to the total cumulative variance explained by the selected factors in each index. Each indicator was thus allocated a value between 0 and 1, with the total weight of the indicators forming part of each index adding up to 1.

4.8 Indicator aggregation

The indicator values and weights were combined to produce aggregated values for each of the five indexes. This was done using weighted linear combination (WLC) (see Equation 3). In contrast to high-risk Boolean intersect (AND) and union (OR) operations, WLC produces a risk-averse (Eastman 2000) and full trade-off solution (Mahini & Gholamalifard 2006). The result is an aggregated value ranging from 0 to 1 for each index. These values were converted to percentages for easier interpretation. For the combined development potential index, the average aggregated value of the economic, physical, infrastructure and institutional indexes were calculated. The socio-demographic index was converted to a

human needs index by inverting its aggregated values. In other words, a town that was ranked high in the socio-demographic index will be ranked low on the human needs index.

$$P = \sum w_i x_i \quad \text{Equation 3}$$

where: P is the aggregated value;
 w_i is the weight of indicator i ; and
 x_i is the standardised score of indicator i .

The calculation of aggregated values for the individual and combined indexes was automated in ArcView GIS to allow rapid recalculation in the event of a change in the underlying data, indicators or indexes. This automation proved to be invaluable during the course of the study as it allowed for index updating as data from municipalities was received (much of this data was received long after the cut-off date for supplying data).

4.9 Natural breaks classification

In the 2004 study, towns were ranked for each of the indexes from high (1) to low (131). However, this type of ranking often introduces an artificial ordering of towns due to the relatively small intervals between index values. For instance, town A may be ranked several positions higher than town B even though their index values differ by only a fraction (also compounded by the compensability problem referred to earlier). Consequently, all index values were grouped into classes using Jenks' algorithm (Jenks 1967). Jenks' algorithm uses statistical analyses to find natural breaks in the histograms of the raw index values. Towns and municipalities with similar index values were consequently organised together. Five classes, labelled very high, high, medium, low and very low were created for towns, while three classes (high, medium and low) were defined for municipalities. This natural breaks classification was carried out for each of the indexes. Jenks' algorithm was also applied to the human needs and composite development potential indexes of the 2004 study to enable comparison with the 2010 results.

4.10 Worst and best indicator identification

The five indexes provided a quantitative assessment of a settlement's socio-demographic profile, economic strength, physical environment, infrastructure and institutional services. As an additional, qualitative appraisal of a settlement's growth potential and human needs, the five best and worst indicators were identified for each settlement. To do so, the settlements were sorted in terms of the values of each individual indicator and ranked from 1 to 131. The results of these rankings were stored in a database, which was then interrogated to reveal the five lowest and highest ranking indicators per settlement respectively. Consequently, a settlement's "best" indicator is defined as the indicator for which it ranked highest, relative to all other settlements in the province.

4.11 Comparison to 2004 study's methodology

The methodology applied in this study differs in certain aspects from the one used in the 2004 study. The primary differences in the methodology of the two studies are summarised in Table 8. One of the most fundamental differences between the 2010 and 2004 studies is the application of data reduction techniques in the 2010 study to overcome the potential danger and inherent risk of ‘compensability’ of using large numbers of indicators in composite indices. This refers to the possibility of trading off a poor result in one component against a strong performance or positive result in another component. Through the application of factor analysis, the 75 potential indicators were thus reduced to 20 core indicators for the settlement level analysis and 21 core indicators for the municipal analysis. The number of indexes was consequently also reduced from 10 to 5, while only one composite development potential index (i.e. development potential index) was used in the 2010 study. The 2010 study also included an additional municipal level analysis in addition to the settlement level indices.

The reduction of the number of indicators and indices simplifies the interpretation of the results significantly, and contributes to a wider understanding and application of the results. Another advantage of using fewer indicators and composite indexes is the minimization of the “compensability” risk and “double counting” (see Section 4.2). Other benefits include a reduction of datasets that have to be collected to undertake follow-up analysis of the growth potential and consequently improving the ability and effectiveness for constant monitoring and evaluation of the growth potential in settlements.

Table 8 Comparison of 2004 and 2010 methodology

Methodology	2004 (Settlement level)	2010 (Settlement level)	2010 (Municipal level)
Number of indexes used	10	5	5
Number of composite indexes used	5	1	1
Number of indicators used	83	20 (51*)	21 (69*)
Indicator standardization method used	Compare values against averages and standard deviations	Compare values against minimum and maximum values	Compare values against minimum and maximum values
Indicator weighting method used	N/A	Principle component analysis	Principle component analysis
Indicator aggregation method used	Summation	Weighted linear combination	Weighted linear combination
Compounded index aggregation method used	Summation	N/A	N/A
Classification method used	Ranked from 1 to 131	Classification in terms of five classes from 1 (High) to 5 (Low)	Classification in terms of five classes from 1 (High) to 3 (Low)

* Number of potential indicators from which core indicators was selected using principle component analysis

Another difference between the methodology of this study and that of the 2004 study is the way in which indicators were standardized. In 2004, standardized scores were calculated using Equation 4, which uses a variable's average and standard deviation as basis for normalization.

$$z_{ik} = (x_{ik} - \bar{x}_k) / sd_k \quad \text{Equation 4}$$

where

- z_{ik} is the standardised score (also called z-score);
- x_{ik} is the raw value of variable k for settlement i ;
- \bar{x}_k is the mean value of variable k for all settlements in the province; and
- sd_k is the standard deviation of variable k .

The advantage of using Equation 4 is that a settlement's relative performance in a particular indicator can easily be determined by simply checking whether has a positive or negative score. A large positive score indicates that it performed much better than most other settlements in the province. Conversely, a small negative value would indicate that it performed slightly worse than most other settlements. The disadvantage of this standardization technique is, however, that each indicator has a different range of resulting z-scores, which complicates comparative analysis. The linear standardization method (see Section 4.5) used in this study solves this problem by producing scores that range from 0 to 100.

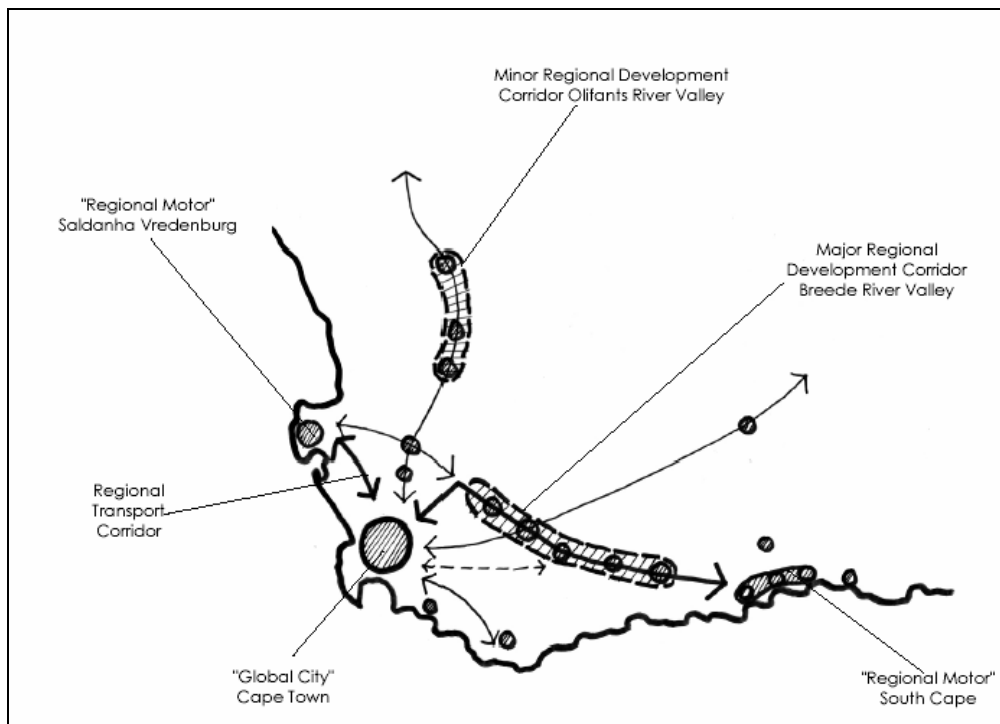
A possible limitation of the 2004 study was the allocation of equal weights (i.e. importance) to indicators, possibly due to the risks involved in the subjective allocation of weights. This was overcome in the 2010 study by using statistical methods (e.g. bivariate correlation analysis and principle component analysis) to objectively derive weights. Weighting entails the process of attributing a greater value or contribution to one indicator or index than another, thus reflecting the relative importance of each of the variables. Each of the selected core indicators was weighted in proportion to the total cumulative variance explained by the selected factors in each index.

In contrast to the 2004 study, settlements were not ranked from 1 to 131 in the 2010 study. This type of ranking often introduces an artificial ordering of settlements due to the relatively small (and statistically insignificant) intervals between composite index values. For instance, settlement A may be ranked several positions higher than settlement B even though their index values differ by only a fraction (also compounded by the "compensability problem" referred to earlier). Instead, settlements were classified into 5 categories (very high, high, medium, low and very low) using natural breaks classification (see Section 4.9). This classification simplifies the comparison between the 2004 and 2010 results, and also allowed for easier interpretation of the results as discussed in Section 5.

5 DATA ANALYSIS AND RESULTS

5.1 Introduction

The spatial economy of the province is currently conceptualised in the PSDF by four significant components that are key areas of economic and growth opportunity (Figure 6): (1) regional motors (Saldanha/Vredenburg and the Southern Cape), (2) regional development corridors (the Olifants River Valley and Breede River Valley), (3) regional transport corridors (the City of Cape Town to Saldanha), and (4) leader settlements (defined as well-resourced settlements with both an exceptionally high growth potential and a relatively high level of human need that have a critical role in the support and development of surrounding towns and settlements in their regions) (Province of the Western Cape 2008:98). The provincial Growth Potential of Towns Study of 2004 and the PSDF provided a rationale for the focusing of fixed-infrastructure investment in leader settlements and in settlements with both a high growth potential and a high need to ensure the highest leverage of expenditure and the greatest possible social benefit. In this regard, the 2004 study summarised investment recommendations in tabular format (Table 9).



Source: Province of the Western Cape (2008:98)

Figure 6 Provincial spatial economy as per PSDF

Table 9 Settlement investment priorities as per Ikapa

Town investment: high development potential and low need	Social investment: low need and high development potential	Social and town investment: high development potential and high need	Leader settlements: highest growth potential	Minimal investment: low development potential and low need
Betty's Bay	Bitterfontein	Cape Town	Cape Town	Agulhas/Struisbaai
Bredasdorp	Bot River	Ashton	Beaufort West	Albertinia
Brenton-on-Sea	Calitzdorp	Beaufort West	George	Arniston
Caledon	Clanwilliam	Ceres	Hermanus	Aurora
Franskraal	De Doorns	Elim	Knysna	Barrydale
Groot Brak River	De Rust	Franschhoek	Malmesbury	Bonnievale
Hawston	Doringbaai	Gansbaai	Mossel Bay	Buffelsbaai
Herold's Bay	Dysselsdorp	George	Oudtshoorn	Citrusdal
Jacobsbaai	Eendekuil	Grabouw	Paarl	Darling
Jamestown	Elandsbaai	Hermanus	Stellenbosch	Dwarskersbos
Keurbooms River	Friemersheim	Kalbaskraal	Swellendam	Ebenhaeser
Kylemore	Genadendal	Klapmuts	Vredenburg/Saldanha	Gouritsmond
Langebaan	Goedverwacht	Knysna	Vredendal	Greyton
Malmesbury	Gouda	Oudtshoorn	Wellington	Hopefield
Moorreesburg	Graafwater	Paarl	Worcester	Jongensfontein
		Plettenberg Bay		

Source: Province of the Western Cape (2008:99)

Although this approach is based on sound principles in accordance with the NSDP, there are certain shortcomings inherent in this methodology. It can be argued that investment and development decisions cannot be based only on the relative position of settlements on a single composite index. In many instances, the rank order of individual settlements on a single index from high (1) to low (131) may create some inaccurate impressions. For example, in the case of two hypothetical settlements (Town A ranked 20th and Town B ranked 40th on the provincial list) it may create the impression that Town A has double the development potential and/or social development needs compared to Town B and consequently needs to be prioritised in terms of development and investment decisions. However, in reality, the difference in rank order of individual settlements on a composite index may be statistically insignificant and a number of settlements may actually have very similar development potential, only marginally numerically differentiated in terms of index values. In an attempt to overcome this problem, all index values were grouped into classes using Jenks' algorithm (Jenks 1967).

A second important challenge is the aspect of the functional classification and settlement rank of settlements. It is only natural that a larger town X (a 1st rank-order settlement) will have a higher

development potential than for example a small settlement (Settlement Y) that can be classified a 4th rank-order settlement. This implies Settlement Y at the lower end of the investment and development priority scale. However, settlement Y may be the best performer within all 4th rank-order settlements in the province; hence have potential to grow but only within its own rank order or perhaps to advance to a next rank order. A further compounding factor associated with this challenge is the functional classification and identity of individual settlements. It is possible that settlements with similar characteristics but different functional classifications may rank significantly different on an overall development index. If town X is mainly a tourism destination and town Y an agricultural service centre, different external factors may impact on the performance and potential of each town. It can thus be argued that it would be more sensible to compare the potential of settlements that have similar functional categories/identities. It would then be possible to prioritise the development and investment decisions that would be applicable to each group of settlements in terms of its functional classification. There are, however, currently no scientifically researched settlement rank orders and functional classification of settlements in the province and it is strongly recommended that such a study be undertaken to supplement and enrich the findings of the 2010 growth potential study. The revision of the settlement growth potential study can inform such a rank-order study significantly, but other criteria and measurements of rank order have to be incorporated.

In order to address this challenge, all settlements forming part of this study were classified in terms of their main function and place identity. This classification was not based on quantitative methods or analyses, but was based on the settlement type classification of the 2004 study's qualitative assessment, and the project team's own subjective qualitative judgment as to which classification is most appropriate. This classification is summarised in Table 10.

In the subsequent sections, the data is firstly analysed according to settlement and secondly per municipality. The results of the settlement-level analysis are also discussed in terms of the various composite indexes (Section 5.2) and according to the functional classification referred to above (Section 5.3). A comparative assessment of the results of the 2004 and 2010 analysis of results is presented in Section 6. In these sections, the composite index for development potential will first be discussed, followed by a short discussion of each of the five sub-indexes. In addition to the settlement level analysis, the study also made a classification of the development potential and social needs at municipal level. These results are discussed in Section 5.5. The performance of municipalities may also hold important implications for the future development potential of individual settlements. For example, two settlements may have a similar functional classification and both may be classified as high potential settlements. One of these may however be located in a high potential municipality, and the second in a low potential municipality. The settlement located in the high potential municipality may have a better chance of realising its latent development potential than the settlement in the latter category. A cross classification of the settlement level index with the municipal classification is provided in Section 5.6 and also provides the overall structuring framework for devising generic policy recommendations and interventions that can be uniquely targeted.

Table 10 Functional classification of settlements

FUNCTION CLASSIFICATION	SETTLEMENTS
Agricultural service centre	Albertinia, Ashton, Aurora, Barrydale, Bitterfontein, Bonnievale, Botrivier, Caledon, Calitzdorp, Ceres, Citrusdal, Clanwilliam, Darling, De Doorns, Eendekuil, Gouda, Graafwater, Grabouw, Heidelberg, Herbertsdale, Hopefield, Klaver, Ladismith, Laingsburg, Lutzville, Merweville, Moorreesburg, Murraysburg, Nuwerus, Piketberg, Porterville, Rawsonville, Redelinghuys, Riversdale, Riviersonderend, Robertson, Uniondale, Vanrhynsdorp, Villiersdorp, Volmoed, Vredendal, Wellington, Wolseley
Agricultural service centre/Tourism	Franschhoek, Prince Albert, Riebeek-Wes, Swellendam, Tulbagh,
Fishing/Industrial	Saldanha
Fishing/Residential	Hawston, St Helena Bay
Fishing/Tourism	Elandsbaai, Gansbaai, Lamberts Bay, Velddrift
Regional centre	Beaufort West, Bredasdorp, George, Hermanus, Malmesbury, Mossel Bay, Oudtshoorn, Paarl, Stellenbosch, Vredenburg, Worcester
Residential	Dysselsdorp, Ebenhaesar, Friemersheim, Goedverwacht, Haarlem, Jamestown, Kalbaskraal, Klapmuts, Kliprand, Koekenaap, Koringberg, Kranshoek, Kurland, Kylemore, Leeu Gamka, Op-die-Berg, Pniel, Prince Alfred Hamlet, Rheenendal, Rietpoort, Saron, Slangrivier, Struisbaai, Suurbraak, Touwsrivier, Wittedrift, Zoar
Residential/Tourism	Doringbaai, Elim, Genadendal, Greyton, Groot Brakrivier, Herolds Bay, McGregor, Montagu, Napier, Riebeek-Kasteel, Sedgfield, Stanford, Stilbaai, Wilderness
Tourism	Arniston, Betty's Bay, Brenton-on-Sea, Buffelsbaai, De Rust, Dwarskersbos, Franskraalstrand, Gouritsmond, Jacobsbaai, Jongensfontein, Keurboomsrivier, Kleinmond, Knysna, Langebaan, Matjiesfontein, Nature's Valley, Onrus, Paternoster, Pearly Beach, Plettenberg Bay, Pringle Bay, Strandfontein, Witsand, Yzerfontein

5.2 Settlement level analysis

5.2.1 Overall composite index

As explained in Section 4.8, the composite development index was created by aggregating (averaging) the values of the economical, natural environment, infrastructure and institutional indexes. A total of six settlements (i.e. 5% of settlements) were classified as having a very high development potential (leader settlements): George, Oudtshoorn, Paarl, Stellenbosch, Vredenburg and Worcester. A further 15% of settlements fall in the high development potential category (aspirant leader settlements) and 45 (34%) in the medium development potential category (stable settlements). The majority of the settlements, namely 48 (37%) fall in the low category (coping settlements). There are 12 (9%) settlements with a very low development potential (struggling settlements). These results are summarised in Table 11.

Table 11 Classification of settlements according to composite development potential index

Very high potential (leader settlements)	High potential (aspirant leader settlements)	Medium potential (stable settlements)	Low potential (coping settlements)	Very low potential (struggling settlements)
George Oudtshoorn Paarl Stellenbosch Vredenburg Worcester	Brenton-on-Sea Franskraalstrand Grabouw Hawston Hermanus Hopefield Jamestown Keurbooms River Kleinmond Knysna Kylemore Langebaan Mossel Bay Paternoster Plettenberg Bay Pniel Saldanha St Helena Bay Velddrift Wellington	Albertinia Amiston Ashton Aurora Beaufort West Betty's Bay Bonnievale Botrivier Bredasdorp Buffelsbaai Caledon Ceres Darling Dwarskersbos Franschhoek Gansbaai Gouda Gouritsmond Groot Brakrivier Jongensfontein Herolds Bay Jacobsbaai Klapmuts Kranshoek Malmesbury Moorreesburg Nature's Valley Onrus Piketberg Pringle Bay Rawsonville Rheenendal Robertson Sedgefield Stanford Stilbaai Struisbaai Tulbagh Vanrhynsdorp Villiersdorp Vredendal Wilderness Wittedrift Wolseley Yzerfontein	Barrydale Calitzdorp Citrusdal Clanwilliam De Rust Doringbaai Dysselsdorp Ebenhaesar Elandsbaai Elim Friemersheim Genadendal Goedverwacht Graafwater Greyton Haarlem Heidelberg Herbertsdale Kalbaskraal Klawer Koringberg Kurland Ladismith Laingsburg Lamberts Bay Leeu Gamka McGregor Merweville Montagu Napier Pearly Beach Porterville Prince Albert Prince Alfred Hamlet Redelinghuys Riebeek-Kasteel Riebeek-Wes Riversdale Riviersonderend Saron Strandfontein Suurbraak Swellendam Touwsrivier Uniondale Volmoed Witsand Zoar	Bitterfontein De Doorns Eendekuil Kliprand Koekenaap Lutzville Matjiesfontein Murraysburg Nuwerus Op-die-Berg Rietpoort Slangrivier

Table 12 shows the classification of settlements according to the social needs index. The social needs index was created by inverting the socio-demographic index. Consequently, settlements that performed well in the socio-demographic index have low social needs. Of the 131 settlements studied, 20 (15%) have very high social needs, while 9 (7%) have very low social needs. The remainder (78%) were classified as having high, medium or low social needs. By comparing Table 12 and Table 11 it is noticeable that a number of the struggling settlements have very high social needs (i.e. De Doorns, Kliprand, Koekenaap, Murraysburg, Nuwerus and Slangrivier).

Table 12 Classification of settlements according to social needs index

Very high needs	High needs	Medium needs	Low needs	Very low needs
De Doorns De Rust Doringbaai Dysseldorp Elandsbaai Grabouw Kliprand Koekenaap Kranshoek Kurland Leeu Gamka Merweville Murraysburg Nuwerus Rietpoort Slangrivier Suurbraak Touwsrivier Volmoed Zoar	Arniston Ashton Beaufort West Bitterfontein Calitzdorp Ebenhaesar Franschhoek Genadendal Gouda Heidelberg Kalbaskraal Klapmuts Koringberg Laingsburg Matjiesfontein McGregor Prince Albert Rheenendal Riversdale Riviersonderend Robertson Saron Tulbagh Uniondale Villiersdorp Wolseley	Albertinia Aurora Barrydale Bonnievale Botrivier Ceres Citrusdal Clanwilliam Darling Eendekuil Elim Friemersheim Gansbaai George Goedverwacht Graafwater Greyton Hawston Herbertsdale Herolds Bay Hopefield Klawer Kleinmond Knysna Ladismith Lamberts Bay Lutzville Montagu Mossel Bay Napier Oudtshoorn Paarl Pearly Beach Porterville Prince Alfred Hamlet Rawsonville Redelinghuys Riebeek-Wes Saldanha Struisbaai Swellendam Vanrhynsdorp Vredenburg Wellington Wittedrift Worcester	Betty's Bay Bredasdorp Buffelsbaai Caledon Dwarskersbos Franskrandalstrand Gouritsmond Groot Brakrivier Haarlem Hermanus Jamestown Kylemore Malmesbury Moorreesburg Nature's Valley Op-die-Berg Paternoster Piketberg Plettenberg Bay Priel Riebeek-Kasteel Sedgefield St Helena Bay Stanford Stellenbosch Stilbaai Veldrift Vredendal Wilderness Witsand	Brenton-on-Sea Jongensfontein Jacobsbaai Keurboomsrivier Langebaan Onrus Pringle Bay Strandfontein Yzerfontein

A detailed summary for each settlement (listed alphabetically) is provided in Appendix B and includes the following information:

- settlement name and type;
- development index performance;
- index classification for economic, physical environment, infrastructure, institutional, and the composite development index;
- core indicators in which the settlement performed best and worst (see Section 4.10);
- the overall performance of the municipality within which each settlement is located; and
- a summary of the settlement's performance indicating the category movement for development potential and human needs as compared against the results of the 2004 study.

A comparative summary of the individual settlements (according to the overall composite development potential index) in terms of each of the five sub-categories is depicted in Appendix C. As expected, the leader settlements (very high potential) generally perform well across all five indexes. They perform particularly well on the institutional, infrastructure and economic indexes with 50% or more classified in the very high category. A notable feature is that more than 80% of leader settlements only achieved a medium rating on the socio-demographic index. This implies that there are significant social needs present in most of these settlements.

The high potential settlements generally perform well on all five indexes, achieving a medium or high rating in the respective indexes. These settlements generally performed best in the natural environment and infrastructure categories where more than 30% are classified as having a very high potential in these two indexes. At the other end of the scale, as much as 55% of settlements in this category only achieved a medium rating on the economic index and 50% a medium rating on the institutional index.

The majority of settlements classified as having an overall medium development potential achieved a medium rating in the institutional (63% of settlements in this category), economic (51% of settlements) and natural environment (49% of settlements in this category) indexes. This category of settlements performed best on the infrastructure index where 44% of the settlements in this category are classified in the high potential category and 37% in the social demographic index.

The low potential settlements mostly achieved a low rating on the economic and natural environment indexes. In addition, nearly 30% of settlements in this category were also classified as having a very low rating on these two indexes. A significant proportion of settlements in this category however performed comparatively well in the infrastructure and institutional indexes, in both instances accounting for 46% of the settlements in this category.

Not surprisingly, most of the settlements classified in the “very low potential” category mostly achieved very low ratings in all five indexes. These settlements generally performed particularly weak in the economic and natural environment indexes where more than 90% of settlements in this category were classified as having a very low potential. The most positive component is the 50% of settlements in this category that were classified as having a medium potential in the institutional index.

5.2.2 Index: Socio-demographic

As described in Section 4, the core indicators identified to measure the socio-demographic index (essentially therefore depicting the human needs for each settlement) is the percentage population receiving social grants, percentage of households living in informal housing, labour force qualification and non-economically active population. Human needs are most prevalent in the struggling (very low potential) settlements where 75% of these settlements obtained a low or very low socio-demographic potential. The settlements classified as having a very low development potential rating in this index

include De Doorns, De Rust, Doringbaai, Dysselsdorp, Elandsbaai, Grabouw, Kliprand, Koekenaap, Kranshoek, Kurland, Leeu Gamka, Merweville, Murraysburg, Nuwerus, Rietpoort, Slangrivier, Suurbraak, Touwsrivier, Volmoed and Zoar.

On the contrary, in the aspirant leader (high potential) settlements, 60% are classified as having a high or very high socio-demographic potential (Figure 7).

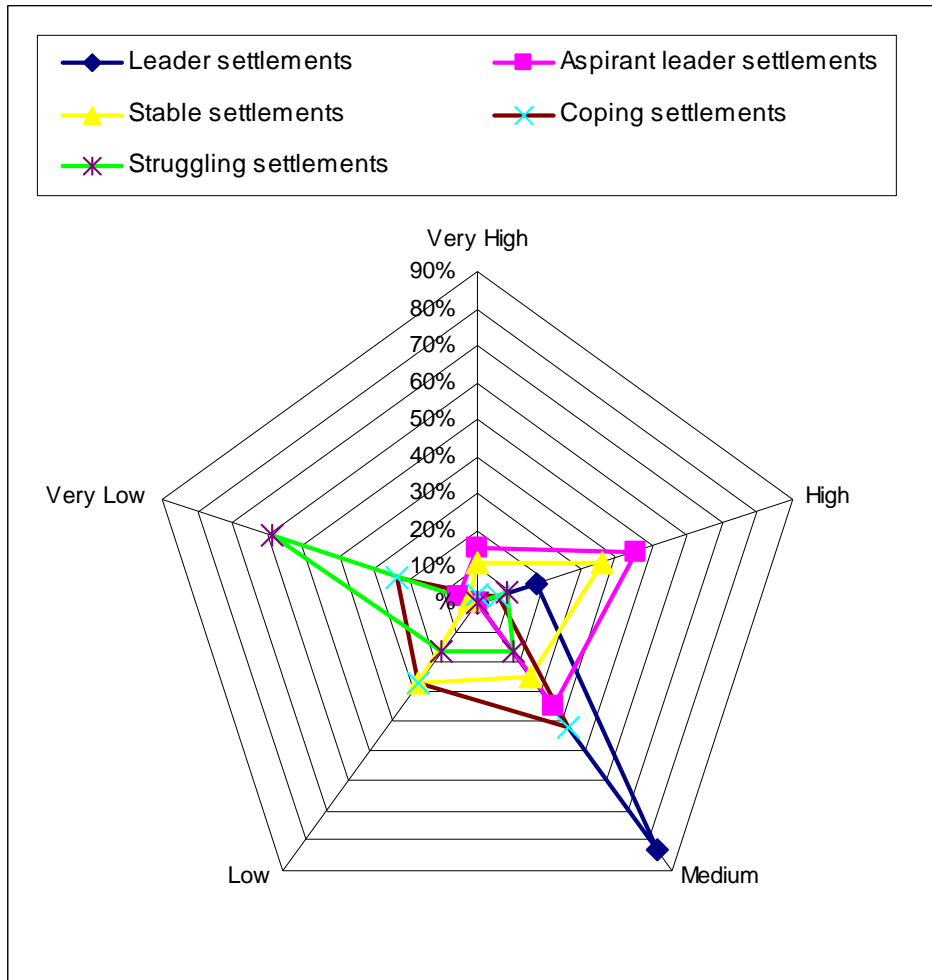


Figure 7 Relationship between settlement category and socio-economic performance

Developmental social welfare reflects a commitment to overcoming inequity and racial discrimination (Lund 2008). Dependency on the state to support the poor has direct consequences to the application of the NSDP principle of investing in social capital in places of high social and human need. In the majority (52%) of the 131 settlements, less than 17% of the population depends on social grants, with an overall average of 18% of population receiving social grants. Figure 8 shows the percentage of residents per settlement category who are recipients of social grants. In the very low potential settlements, a significant proportion of residents are receiving social grants. There are four settlements in which more than 50% of the population are solely dependent on the state in the form of social grants: Volmoed, Ebenhaeser, Riversdale and Rawsonville – surprisingly none of these are struggling settlements.

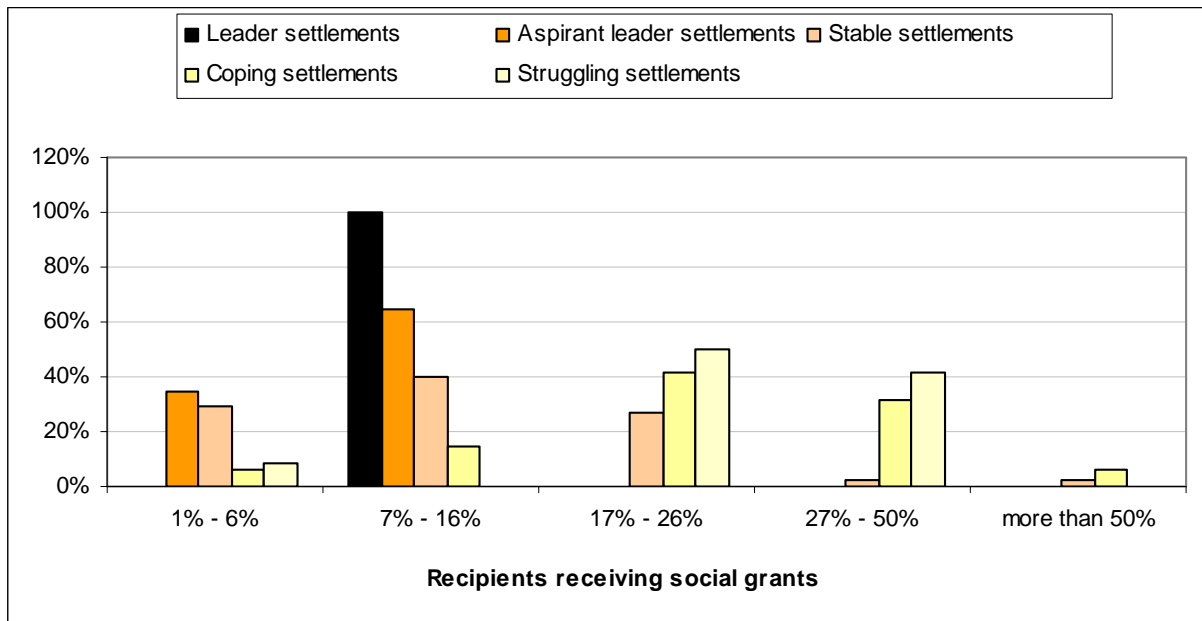


Figure 8 Percentage of social grant recipients according to settlement classification

Housing is one of the basic human needs that have a profound impact on the health, welfare, social attitudes and economic productivity of the individual. It is also one of the best indicators of a person's standard of living and of his or her place in society. In achieving the Millennium Development Goals, the South African government's policy is to ensure that its citizens live within good housing conditions. In order to achieve this goal, the government wants to eliminate all informal dwellings and bucket-type toilets, and ensure that all citizens have access to electricity for lighting, as well as access to clean, safe water within a reasonable distance (STATSSA 2007:18). Housing plays a key role in urban renewal and local regeneration. Adequate and affordable housing is an indicator of social and economic stability (<http://sustainable-environment.org.uk/Indicators/Housing.php>). It is generally assumed that the higher the percentage households residing in informal housing, the lower the socio-economic potential.

On average, 12% of households in all settlements live in informal settlements. The extent of informal housing in the settlements classified as low and very low development potential settlements appears to be limited. In the majority of these settlements, less than 10% of the households are housed in informal housing conditions (Figure 9). A number of settlements (mostly coastal holiday settlements) do not have any informal housing, while more than 30% of the settlements classified as leader settlements (very high potential) are characterised by more than 20% of households residing in informal housing. This latter aspect may be indicative of the general attractiveness of these settlements for attracting population from other less prosperous settlements and regions, resulting in a rapidly growing demand for appropriate housing.

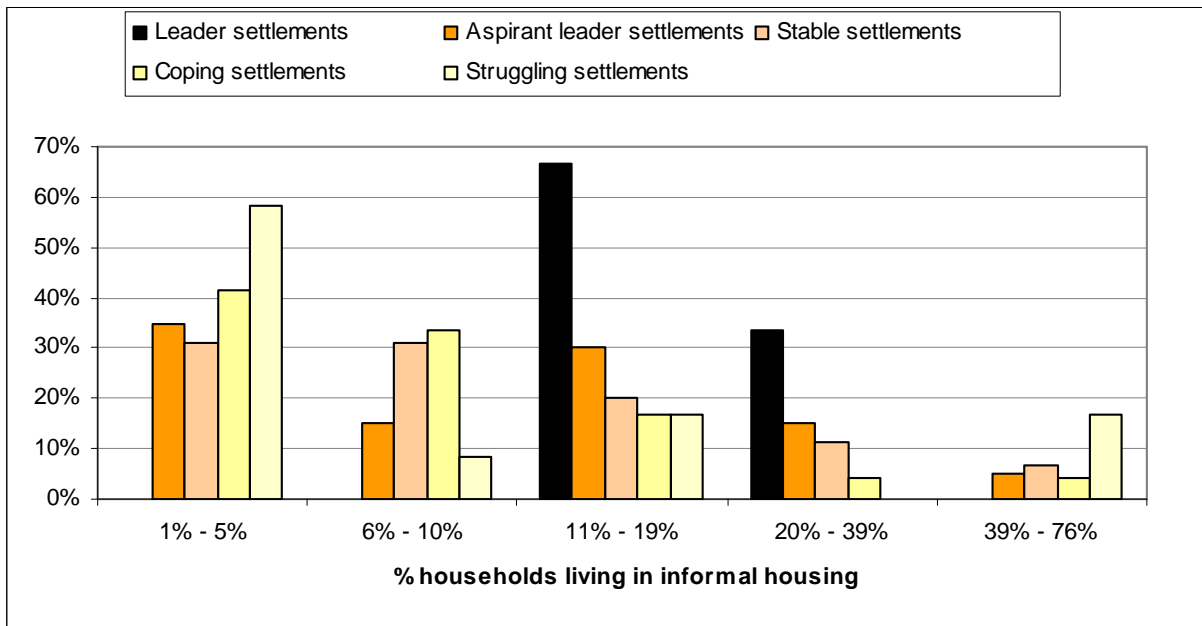


Figure 9 Percentage of households living in informal housing according to settlement category

The non-economically active population includes full-time scholars and students, full-time homemakers, those who are retired and those who are unable or unwilling to work. The settlements where more than 70% of the population is classified as non-economically active include Leeu Gamka, Touwsrivier, Murraysburg, Nuwerus, Franskraalstrand, Rietpoort, Kliprand, Dysselsdorp, Ashton, Slangrivier, Strandfontein, De Rust, Doringbaai, Calitzdorp and Witsand (Figure 10).

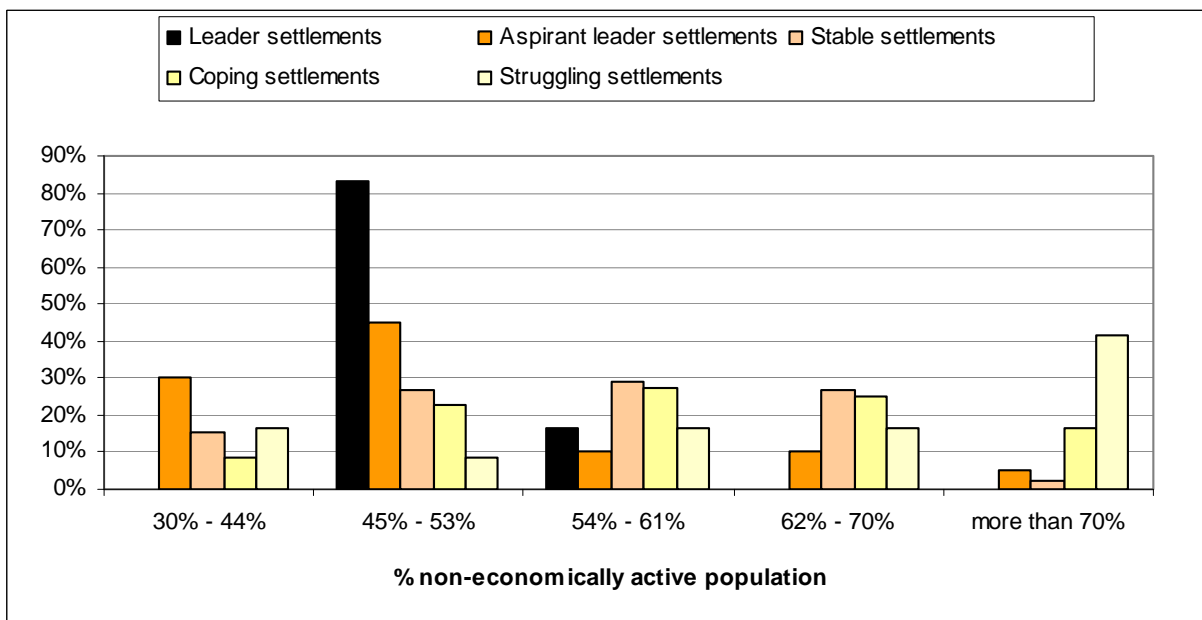


Figure 10 Percentage non-economically active population according to settlement category

The aim of the higher and shared-growth strategy of the Western Cape is to achieve an economic growth rate of 6 to 8% by 2010. The lack of appropriate skills severely constraints efforts to achieve this growth rate (according to iKapa). This indicator measures the percentage of the labour force that are older than 15 years and younger than 65 years, with education levels equal to or better than Grade twelve as a percentage of the total labour force. Less than 20% of the settlements have more than 30% of their labour

force with qualifications of Grade 12 or higher. Stellenbosch is the only leader settlement falling in this category. Aspiring leader settlements within this category include Brenton-on-Sea, Franskraalstrand and Keurbooms, while a number of stable settlements have a well-qualified population. These are Betty's Bay, Jongensfontein, Jacobsbaai, Onrus, Pringle Bay, Stilbaai and Yzerfontein – all holiday and/or retirement settlements. Conversely, as much as 75% of the struggling settlements have less than 20% of their labour force in the higher qualified categories (Figure 11).

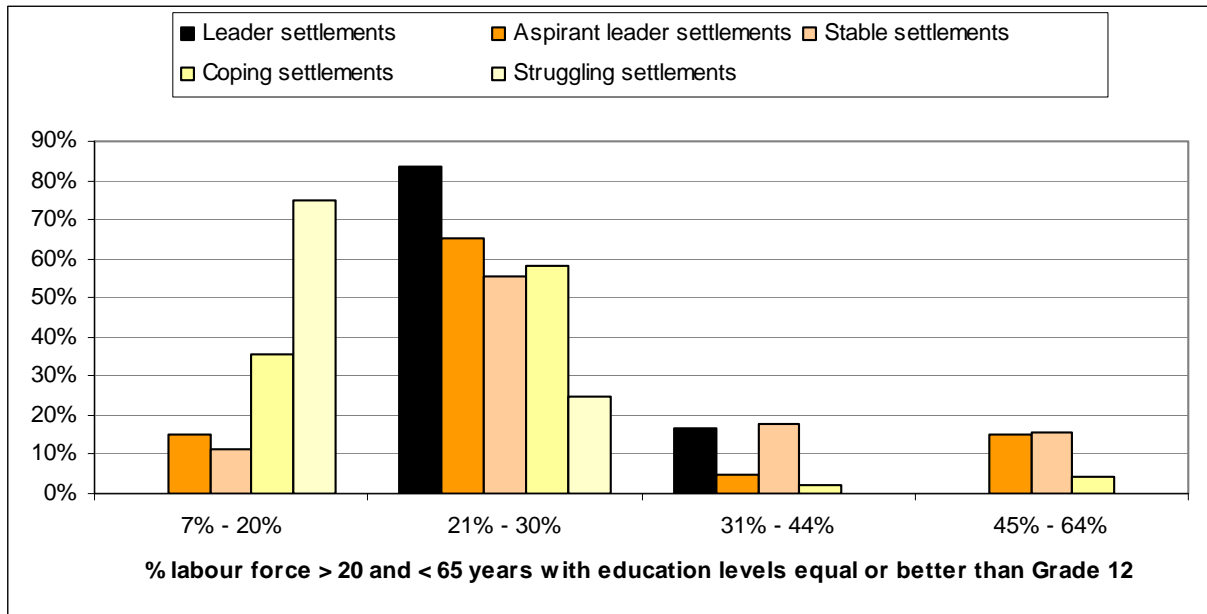


Figure 11 Percentage of labour force with high qualification levels according to settlement category

5.2.3 Index: Economic

Three core indicators were used to determine the economic index: the number of service sector businesses, tourism potential and weighted distance to the metropolitan regions of Cape Town and Port Elizabeth as well as to the 14 major leader settlements identified in the 2004 study. From Figure 12 it is clear that there is a strong relationship between settlement category and economic potential. Economic potential of leader settlements is generally very high, for aspirant leader settlements it is high, and for struggling settlements, are very low. The pattern is somewhat different for the stable settlements with almost half classified as having a low or very low economic potential. These include Aurora, Darling, Dwarskersbos, Piketberg, Vanrhynsdorp and Yzerfontein. One aspirant leader settlement (Hopefield) is classified as having a very low economic potential while Mossel Bay has a very high economic potential.

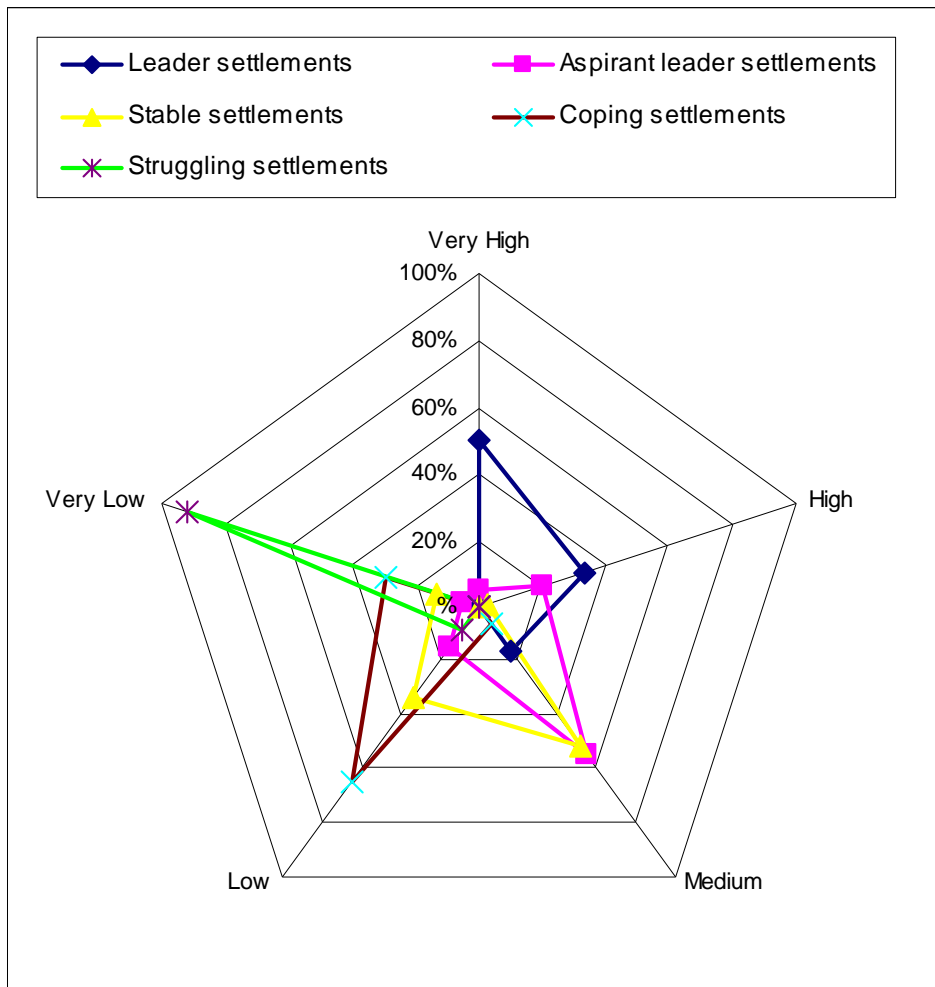


Figure 12 Relationship between settlement category and economic potential

The number of service sector businesses measures the total number of business entities active in the community, social and personal services sector. It includes categories such as professional services (e.g. legal, accounting and engineering), other business activities such as advertising and security, medical and dental practitioners, media and entertainment, and personal services such as hairdressers, beauty treatment, funeral services, etc. The statistical analysis clearly indicated that the extent of the services sector is an important determinant of the development potential of individual settlements. It also gives an indication of the outcome of the historical development of this sector at a particular location. The average number of service sector businesses in the 131 settlements is 120, ranging between 0 and 1 749. It is clear from that these businesses are largely concentrated in the leader settlements.

Although the value of property transactions (and the number of property transactions) was not included as one of the core indicators in the economic index (based on results of the factor analysis), it is nevertheless interesting to note some of the statistics here. In 8% of the settlements more than R3 000 million worth of transactions was recorded between 2004 and March 2010. For all the settlements, 126 545 properties were transacted with an average of 966 per settlement. The presence of a thriving property market in some non-leader settlements may shed some light on the potential of these settlements to attract capital (Figure 13). These include Hermanus, Knysna, Langebaan, Mossel Bay, Plettenberg Bay, Wellington, Herold's Bay

and Stilbaai (all with total property transaction values in excess of R3 000 million between 2004 and 2010).

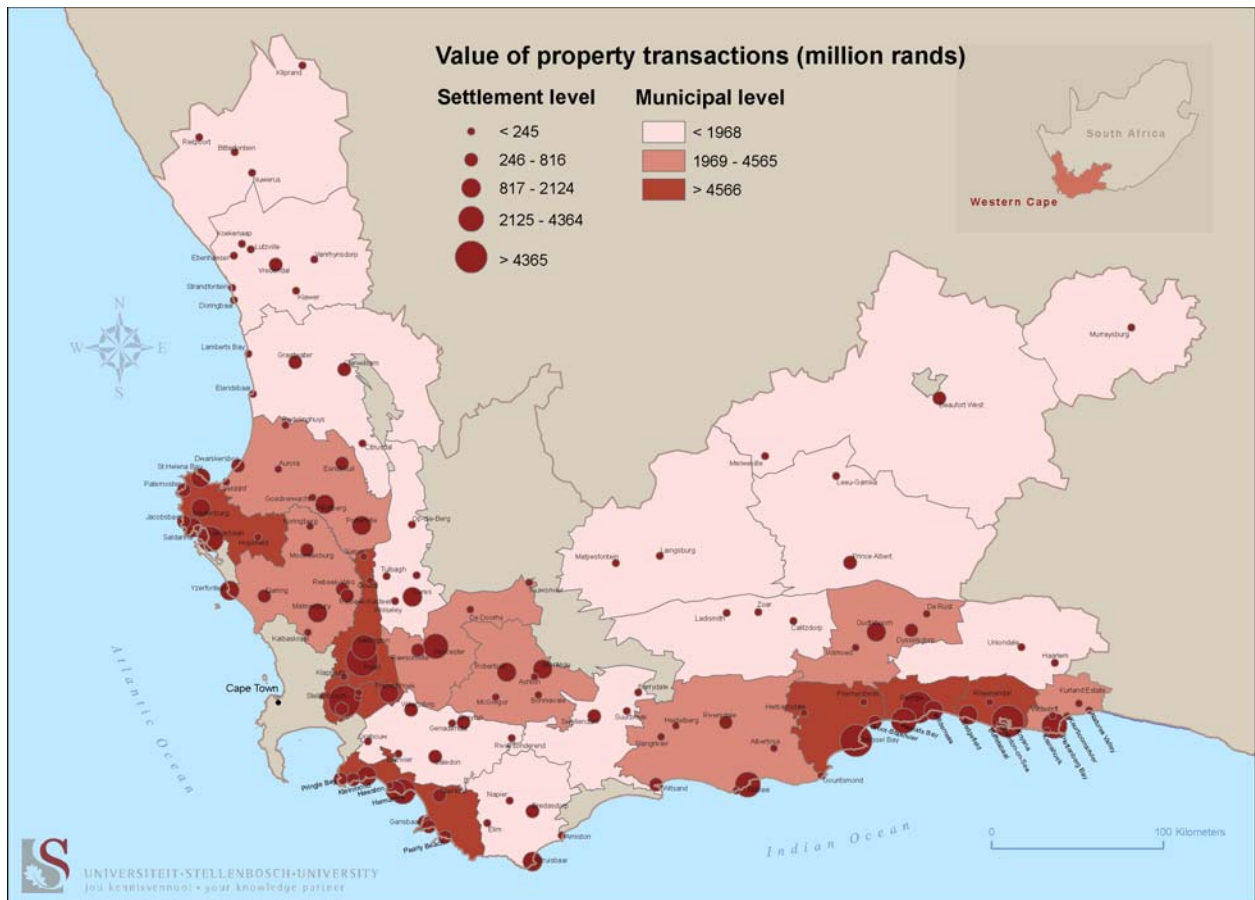


Figure 13 Value of property transactions

5.2.4 Index: Physical environment

The four core indicators included in the physical environment index are groundwater potential, surface water area, perennial crops, and occurrence and size of unexploited minerals. The settlements classified in the low and very low potential categories generally performed poorly on the physical environment index (Figure 14). None of the leader settlements scored a very low potential on the physical environment index, one aspiring leader settlement, (Oudtshoorn) and two stable settlements (Caledon and Groot Brakrivier) have a very low natural environment potential. Fourteen (29%) of all coping settlements have a very low natural environment potential: Barrydale, De Rust, Greyton, Heidelberg, Ladismith, Montagu, Prince Albert, Riviersonderend, Strandfontein, Suurbraak, Swellendam, Touwsrivier, Witsand and Zoar. All but one (Eendekuil) of the struggling settlements have a very low natural environment potential.

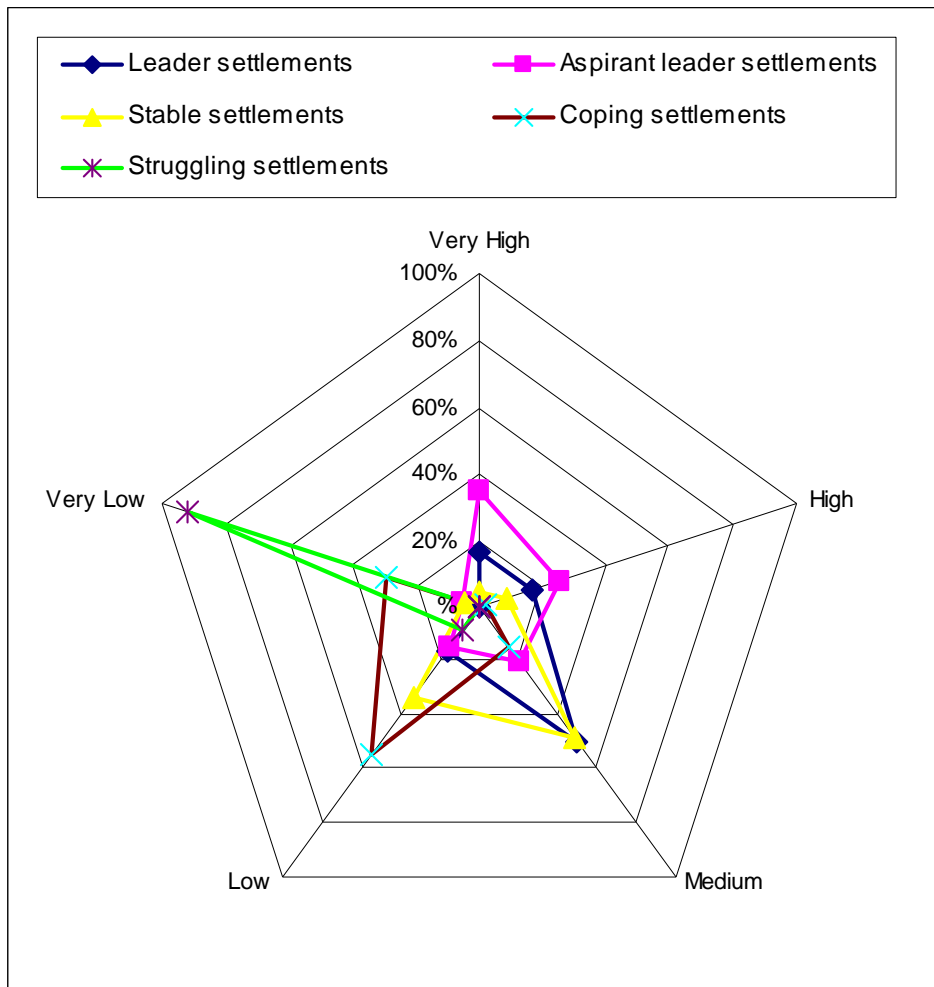


Figure 14 Relationship between settlement category and natural environment potential

The settlements with the highest groundwater yield potential are Vredenburg, Jacobsbaai, Velddrift, Saldanha, Hopefield, Langebaan, St Helena Bay and Paternoster. All of these settlements are located in close proximity to the Langebaan Road Aquifer System (LRAS). The Department of Water Affairs estimates that the LRAS can supply $17 \times 10^6 \text{ m}^3$ of water per year, equivalent to the total water used from the Berg River in 1998 (Du Plessis 2009), which highlights the LRAS as an extremely important potential resource.

The surface water area indicator represents the percentage of a settlement's Thiessen polygon that is covered by surface water (i.e. dams, lakes and estuaries). Although the water in many estuaries and lakes are not suitable for domestic consumption, it was included because the water is likely to be suitable for irrigation or recreational activities. The settlements with very high access to surface water include Franskraalstrand, Villiersdorp, Velddrift, Hawston and Franschoek.

The perennial crops indicator was developed by calculating the ratio between perennial crops and all other land uses within the Thiessen polygon of a settlement. Only three settlements were classified as having a very large proportion of its land used for the production of perennial crops (e.g. vineyards and orchards). Predictably, Stellenbosch and Jamestown were identified as having the highest proportion of

perennial crops, being located in the oldest wine-producing region in South Africa. Grabouw, known for pome fruit (e.g. apples, pears and peaches) production, also performed very strongly on this indicator.

Most settlements in the Western Cape do not have large deposits of minerals that are unexploited. Only Merweville was identified as having a very high potential for mining, with unexploited deposits of uranium in its vicinity. Six settlements have a high potential for mining: Leeu Gamka, Vanrhynsdorp, Langebaan, Beaufort West and Vredenburg. However, the value of these deposits for potential growth would depend on demand for these commodities and the feasibility of exploitation.

5.2.5 Index: Infrastructure

The infrastructure index comprises of six core indicators, namely number of vacant industrial stands, distance to nearest scheduled airport, distance to nearest small harbour and slipway, percentage households with in-house access to water, percentage household with access to electricity, and spare capacity of waste water treatment works (WWTW). From Figure 15 it is clear that the infrastructure index relates strongly with the settlement category, with most of the very high potential settlements scoring very high or high on the infrastructure index. In contrast, the low and very low potential settlements are mostly characterised by very low and low scores on the infrastructure index. Settlements classified as very low on the infrastructure index are De Doorns, Kliprand, Koekenaap, Matjiesfontein, Murraysburg, Rietpoort and Volmoed. On the other hand, settlements that scored very high on the infrastructure index include Betty's Bay, Brenton-on-Sea, Darling, Franskraalstrand, George, Gouritsmond, Hawston, Keurboomsrivier, Mossel Bay, Onrus, Paarl, Vredenburg and Yzerfontein.

Access to water and electricity is a basic municipal service. These two indicators measure the performance of a municipality in delivering these services by calculating the percentage of households who have access to water in house and electricity. In general, most settlements in the province are relatively well supplied with water and electricity with 70% of households in all the settlements having access to in-house water, and as much as 88% has access to electricity (Figure 16).

Access to air travel is not only important for tourism, but provides opportunities for many other businesses, including utilising air for transport of produce to international markets. This indicator was calculated by mapping all scheduled airports and then calculating the distance to all settlements in the Western Cape. In addition, small harbours and slipways may provide opportunities for small businesses, such as tourist operators, commercial and subsistence fishermen, and scuba divers. This indicator was also calculated by mapping all small harbours and slipways and then calculating the distance to all settlements in the Western Cape. From Figure 17 it is clear that majority of the very low potential settlements are more than two hours' drive from the nearest airport.

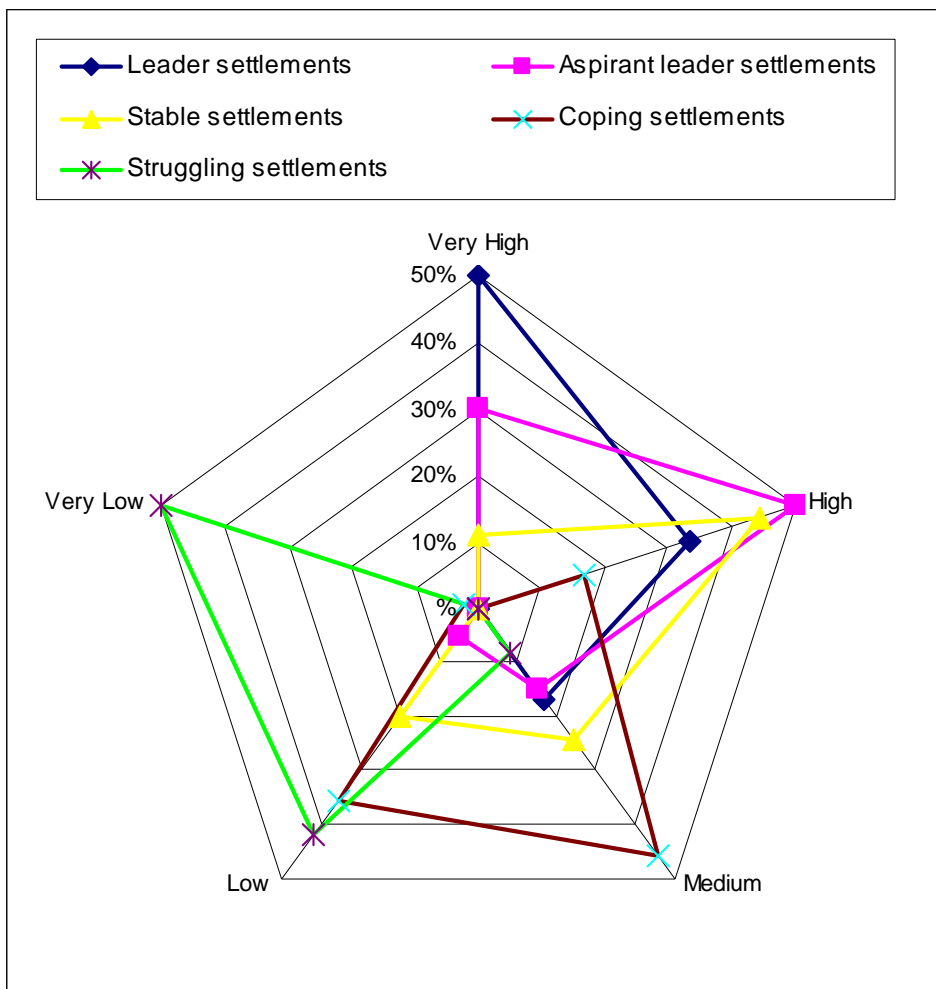


Figure 15 Relationship between settlement function and infrastructure potential

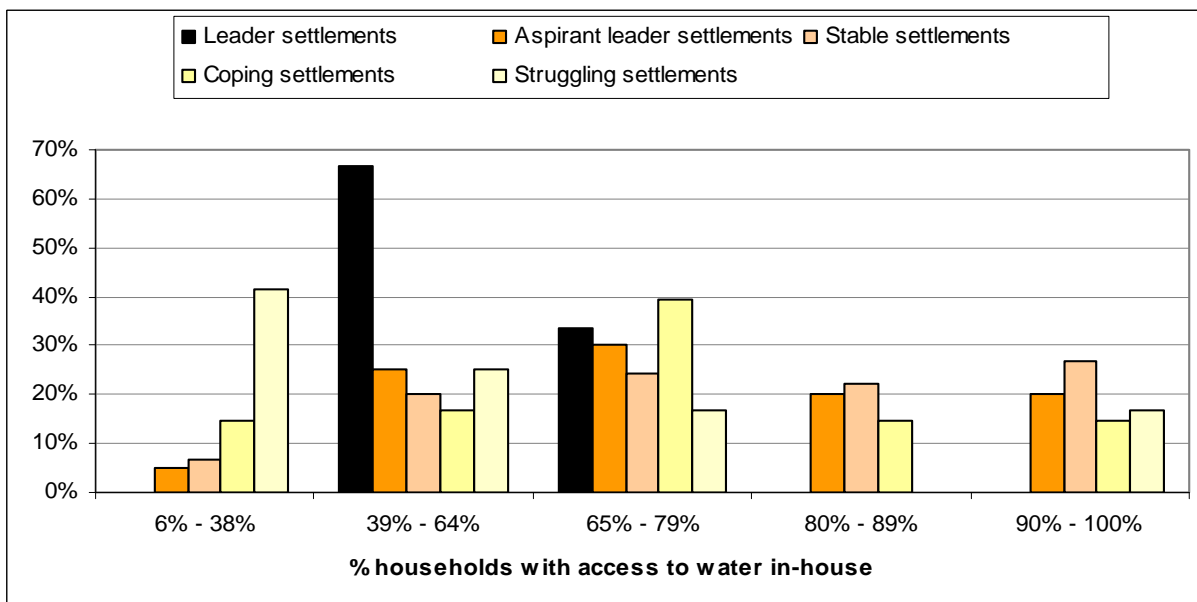


Figure 16 Percentage households with access to water in-house

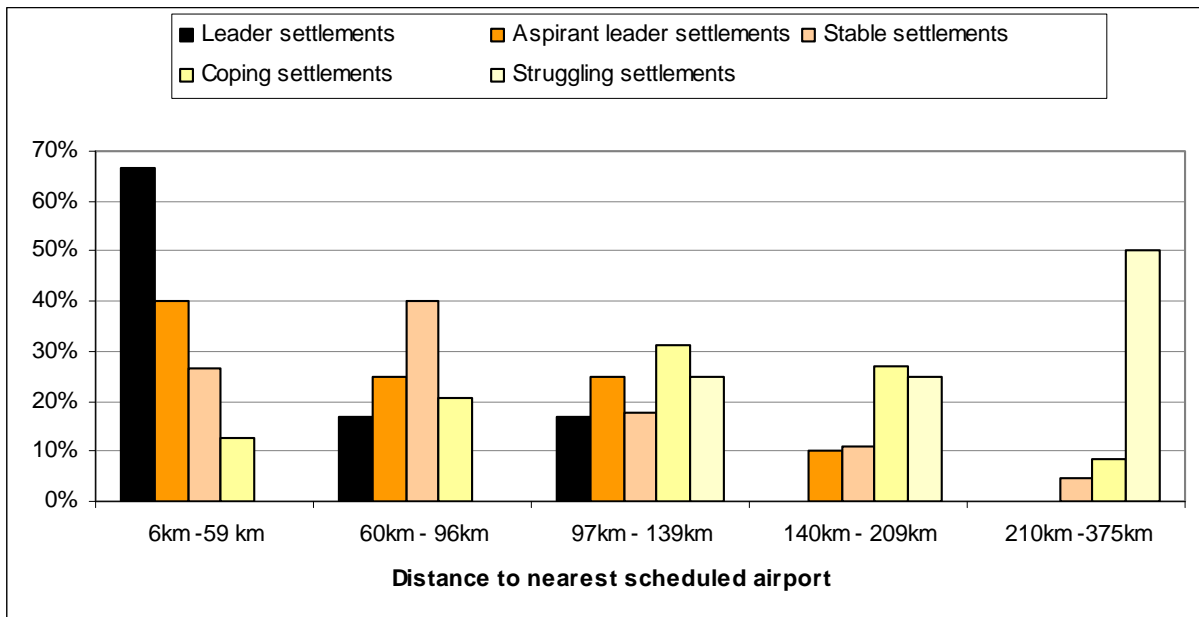


Figure 17 Distance to nearest scheduled airport according to settlement category

The availability of industrial space appears to be a major impediment to development, with as much as 78% of settlements having limited sites available. According to the information provided by the local municipalities, two of the leader settlements (Stellenbosch and Oudtshoorn) have little industrial land space. George and Vredenburg, on the other hand, are reported as having substantial vacant industrial space available.

The WWTW spare capacity per settlement category is shown in Table 13. With the exception of one leader settlement (George), aspirant leader settlements (Keurboomsrivier, Plettenberg Bay, Mossel Bay), have a spare capacity of more than five megalitres per day. It was found that all the other settlements are struggling with capacity. Apart from De Doorns none of the struggling settlements have spare capacity.

Table 13 WWTW spare capacity measured in megalitres per day

Settlement category	-2 - 0.0	0.1 - 1.7	1.8 - 5	6 - 9	10 - 25
Leader settlements	33.3%	16.7%	33.3%	16.7%	.0%
Aspirant leader settlements	35.0%	30.0%	20.0%	10.0%	5.0%
Stable settlements	40.0%	51.1%	4.4%	4.4%	.0%
Coping settlements	62.5%	33.3%	4.2%	.0%	.0%
Struggling settlements	41.7%	58.3%	.0%	.0%	.0%

5.2.6 Index: Institutional

Two crime-related indicators and the total number of public service amenities present in the settlements make out the selected core indicators comprising the institutional index. All crime occurrences (between 2008 and 2009) per person as well as the number of crimes reported over the period 2004–2009 were analysed. A decline in crime is likely to positively influence the decisions of businesses and families to

take residence in a town. Public service amenities include magistrate courts, schools, post offices, tertiary institutions, national and provincial government offices, police stations, libraries, clinics and community centres. It can be argued that settlements with more amenities will be more attractive to potential residents and businesses. The overall institutional index depicts a bleak picture for the majority of settlements in the province who received a medium and low potential rating for this index (Figure 18). The settlements that scored lowest on this index are Kalbaskraal, Prince Alfred Hamlet, Rawsonville, Riversdale and Op-die-Berg.

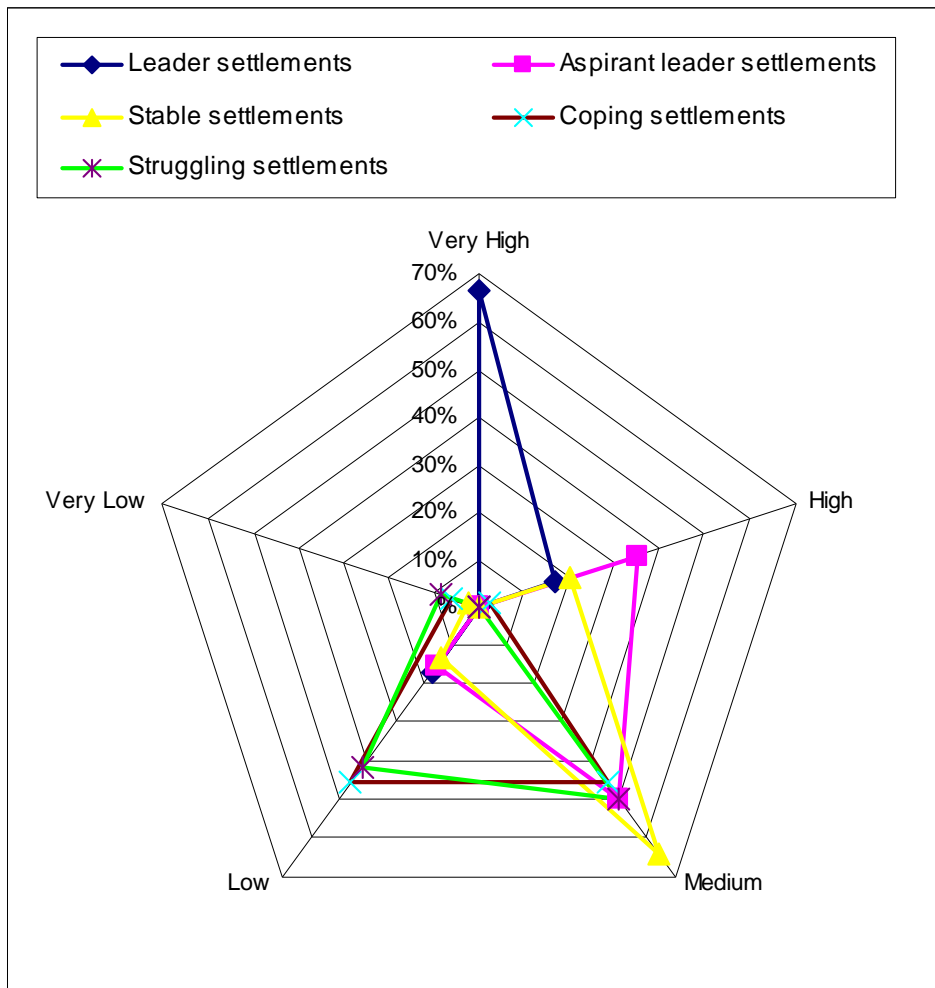


Figure 18 Relationship between settlement function and institutional potential

The methodology used to calculate changes in crime incidents from 2004 to 2009 is explained in Appendix A. The resulting settlement values ranged from -3 060 (i.e. since 2004 crime incidents declined by 3 060) to 320 (i.e. since 2004 crime incidents increased by 320). Although there is a general trend of decline in crime incidents, the decline is lowest for coping and struggling settlements (Figure 19). Only 14 settlements (11%) showed an increase in crime occurrences. Of these, Vredenburg and nearby Paternoster recorded the highest increase. Other settlements with a very high increase in crime incidents are Langebaan, Kalbaskraal, Barrydale and Porterville. The highest decrease in crime incidence occurred in Kylemore, Worcester, Oudtshoorn, Paarl, Volmoed and Pniel.

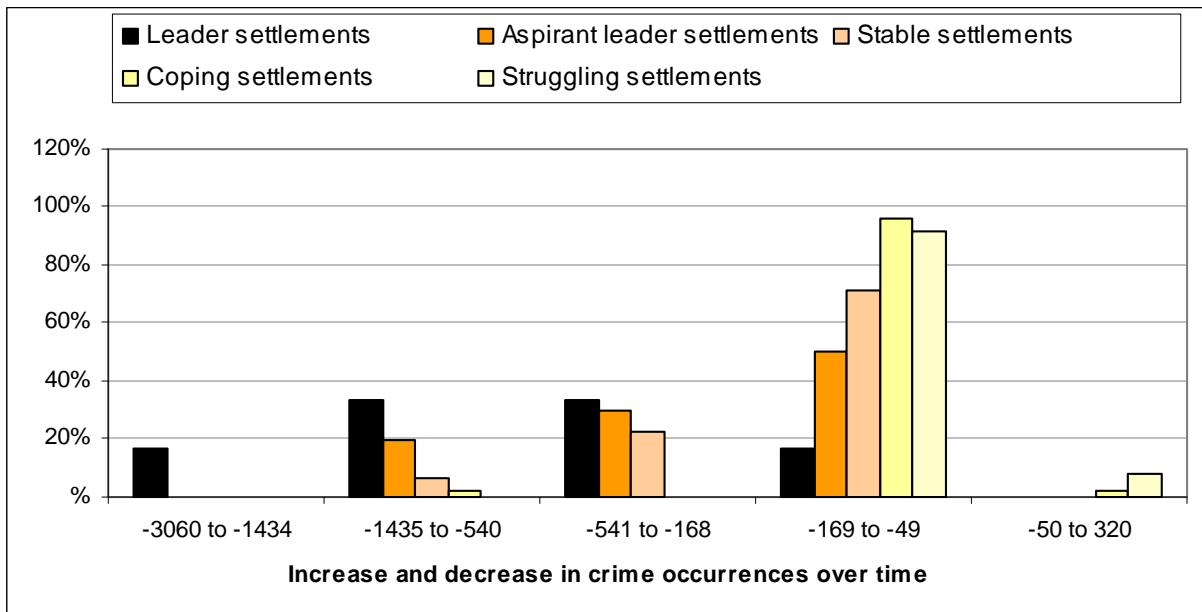


Figure 19 Change in crime occurrences (2004 to 2009) according to settlement category

Figure 20 shows the number of crime occurrences per person from 2008 to 2009. The highest crime rates (i.e. more than 0.124 per person) were recorded for coping and struggling settlements. Most of the leader settlements had crime rates of between 0.08 and 0.123 per person.

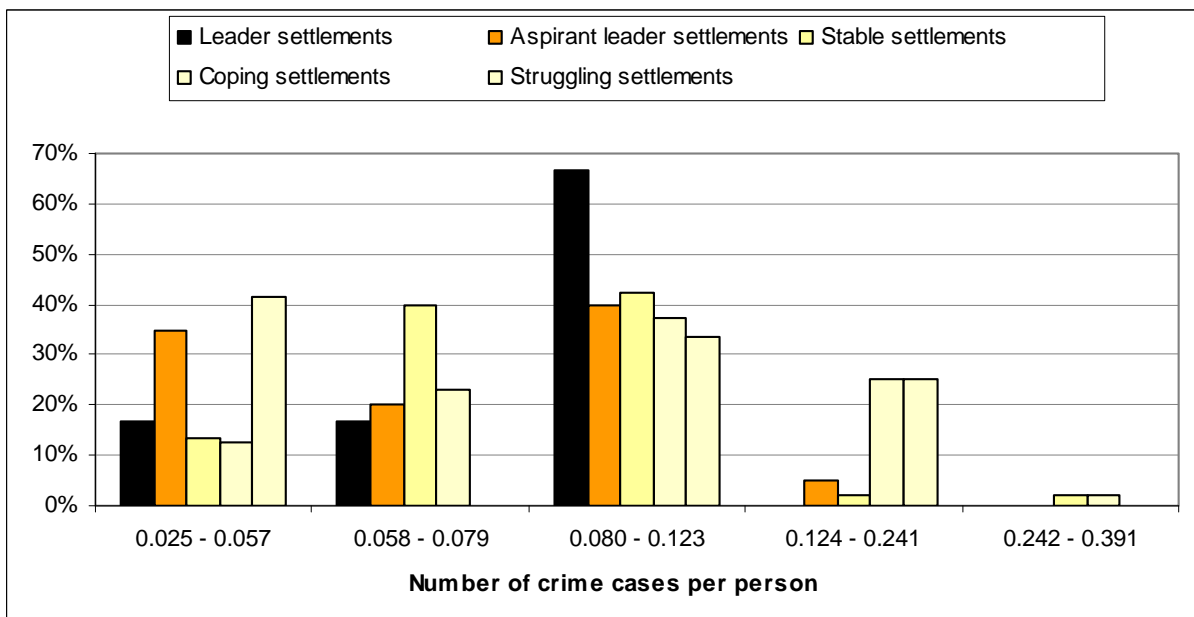


Figure 20 Number of crime occurrences (2008 to 2009) per person according to settlement category

A significant percentage of settlements within each category, except the leader settlements, have less than 20 public service amenities (Table 14).

Table 14 Number of public service amenities

Settlement category	0	1 to 7	8 to 20	21 to 38	39 to 70	71 to 135	Total
Leader settlements	0%	0%	0%	17%	17%	67%	100%
Aspirant leader Settlements	15%	30%	25%	20%	10%	0%	100%
Stable settlements	18%	33%	29%	9%	11%	0%	100%
Coping settlements	10%	38%	40%	12%	0%	0%	100%
Struggling settlements	0%	67%	33.3%	0%	0%	0%	100%

5.3 Settlement level analysis according to functional classification

5.3.1 Introduction

This section provides a comparison of the development potential of settlements with similar functional categories/identities. As indicated earlier, this classification is not based on quantitative methods and analysis, but used the settlement type classification of the 2004 study's qualitative assessment, and the project team's own subjective qualitative judgment as to which classification each settlement fits best. Based on this classification, the settlements can be classified in terms of five broad functional/town identity categories:

- regional centres;
- agricultural service centres;
- fishing/industrial;
- residential; and
- tourism.

A summary of the development potential and social needs of settlements within each of these categories are outlined in the following sections.

5.3.2 Regional centres

A total of 6 of the 11 regional centres are classified as having a very high growth potential. These include George, Oudtshoorn, Paarl, Stellenbosch, Vredenburg and Worcester. Hermanus and Mossel Bay also fall in the high potential category (see Table 15).

Table 15 Development potential of regional centres

Settlement category	Very high	High	Medium	Low	Very low
Regional centre	George Oudtshoorn Paarl Stellenbosch Vredenburg Worcester	Hermanus Mossel Bay	Beaufort West Bredasdorp Malmesbury		
Total	6	2	3	-	-

As indicated in Table 15, most of the regional centres have medium or low levels of social needs. The most notable exception is Beaufort West which is classified as having a high level of social needs.

Table 16 Social needs of regional centres

Settlement category	Very high	High	Medium	Low	Very low
Regional centre		Beaufort West	George Mossel Bay Oudtshoorn Paarl Vredenburg Worcester	Bredasdorp Hermanus Malmesbury Stellenbosch	
Total	-	1	6	4	-

As indicated in Figure 21 the regional centres are mainly classified as having high composite development potential indexes and medium levels of social needs. The detailed performance of the regional centres in terms of the individual sub-indices is outlined in Appendix C. This information illustrates that, George, Stellenbosch and Paarl scored very high on the economic potential index, with Bredasdorp and Beaufort West the two regional centres achieving the lowest ranking on this index. Vredenburg scored particularly high on the physical index, but have the lowest value on the institutional index amongst the 11 regional centres. With the exception of Beaufort West, most of the regional centres fared relatively well on the infrastructure index, while Worcester, Paarl and Oudtshoorn were the best achievers on the institutional index.

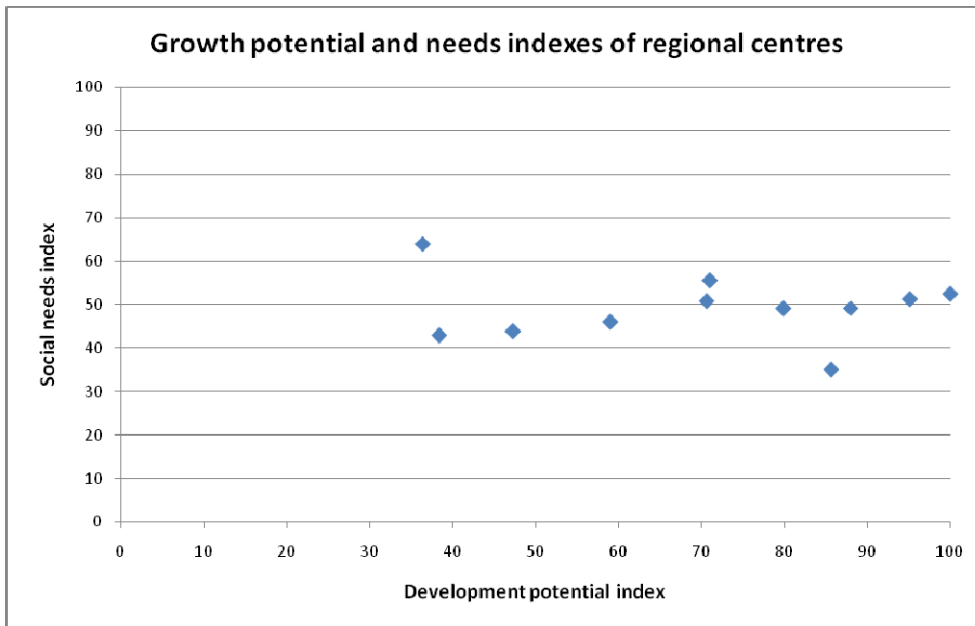


Figure 21 Scatter plot comparing the social needs and development potential of regional centres

5.3.3 Agricultural service centre settlements

A total of the 48 of the 131 settlements (37%) were classified as agricultural service centres or agricultural service centres with a strong tourism component and identity. None of these settlements fall in the very high potential category (see Table 17), while only three (Grabouw, Wellington and Hopefield) were classified as having a high development potential. The majority of settlements in this category are classified as having a medium development potential (40%) or low potential (42%). The settlements of Bitterfontein, De Doorns, Eendekuil, Lutzville, Murraysburg and Nuwerus form part of the very low potential category.

The majority of the agricultural service centres (48%) are classified as having medium levels of social needs. A significant proportion of the settlements (31%) also have high levels of social needs, while 13% are described as having a very high level of social needs. The latter group include the settlements of De Doorns, Grabouw, Merweville, Murraysburg, Nuwerus and Volmoed.

Table 17 Development potential of agricultural service centres

Settlement category	Very high	High	Medium	Low	Very low
Agricultural service centre		Grabouw Hopefield Wellington	Albertinia Ashton Aurora Bonnievale Botrivier Caledon Ceres Darling Gouda Moorreesburg Piketberg Rawsonville Robertson Vanrhynsdorp Villiersdorp Vredendal Wolseley	Barrydale Calitzdorp Citrusdal Clanwilliam Graafwater Heidelberg Herbertsdale Klawer Ladismith Laingsburg Merweville Porterville Redelinghuys Riversdale Riviersonderend Uniondale Volmoed	Bitterfontein De Doorns Eendekuil Lutzville Murraysburg Nuwerus
Agricultural service centre/tourism			Franschhoek Tulbagh	Prince Albert Riebeek-Wes Swellendam	
TOTAL	-	3	19	20	6

Table 18 Social needs of agricultural service centres

Settlement category	Very high	High	Medium	Low	Very low
Agricultural service centre	De Doorns Grabouw Merweville Murraysburg Nuwerus Volmoed	Ashton Bitterfontein Calitzdorp Gouda Heidelberg Laingsburg Riversdale Riviersonderend Robertson Uniondale Villiersdorp Wolseley	Albertinia Aurora Barrydale Bonnievale Botrivier Ceres Citrusdal Clanwilliam Darling Eendekuil Graafwater Herbertsdale Hopefield Klawer Ladismith Lutzville Porterville Rawsonville Redelinghuys Vanrhynsdorp Wellington	Caledon Moorreesburg Piketberg Vredendal	
Agricultural service centre/tourism		Franschhoek Prince Albert Tulbagh	Riebeek-Wes Swellendam		
TOTAL	6	15	23	4	-

As indicated on Figure 22, the agricultural service centres mostly achieved low scores on the composite development potential index and are characterised by medium to high values on the social needs index. As indicated on the detailed information of the various sub-indexes (Appendix C), most of these settlements also scored low on both on the economic potential and physical potential indexes.

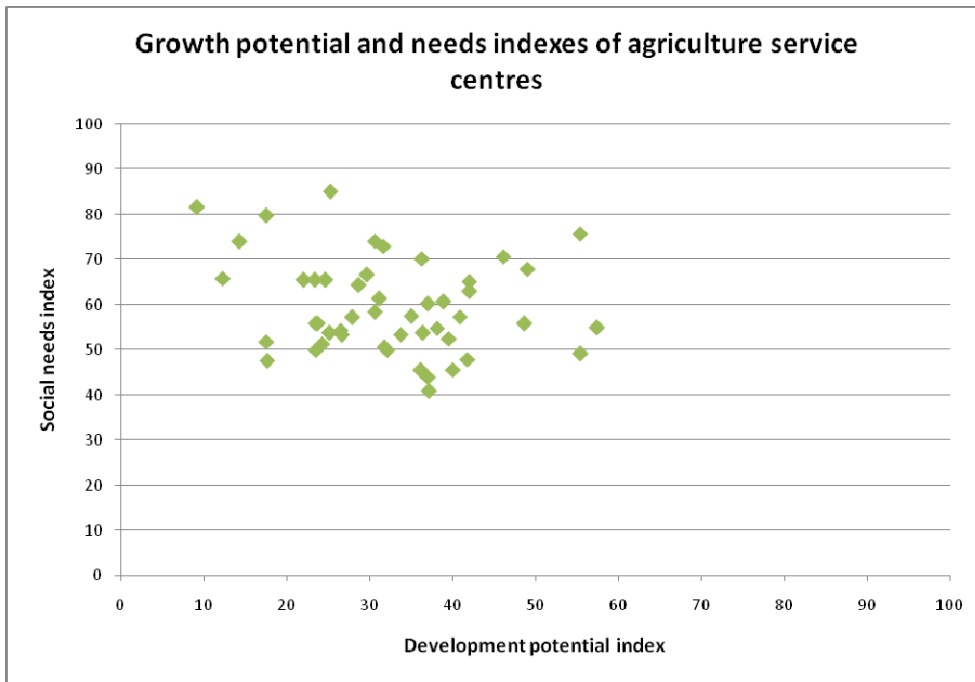


Figure 22 Scatter plot comparing the human needs and development potential of agricultural service centres

5.3.4 Fishing/industrial settlements

Four of the seven settlements classified as mainly fishing or industrial settlements (Saldanha, St Helena Bay, Hawston and Velddrift) achieved a high potential rating, while Gansbaai was rated as having medium potential for growth. Elandsbaai and Lamberts Bay were both classified into the low potential category (Table 19).

Table 19 Development potential of fishing/industrial, fishing/residential and fishing/tourism settlements

Settlement type/potential	Very high	High	Medium	Low	Very low
Fishing/Industrial		Saldanha			
Fishing/residential		Hawston St Helena Bay			
Fishing/tourism		Velddrift	Gansbaai	Elandsbaai Lamberts Bay	
TOTAL	-	4	1	2	-

Four of the seven fishing/industrial settlements are classified as having medium levels of social needs, with a further two having low levels of social needs (Table 20). Elandsbaai is the most notable exception and is described as having very high levels of social needs.

Table 20 Social needs of fishing/industrial, fishing/residential and fishing/tourism settlements

Settlement type/potential	Very high	High	Medium	Low	Very low
Fishing/Industrial			Saldanha		
Fishing/residential			Hawston	St Helena Bay	
Fishing/tourism	Elandsbaai		Gansbaai Lamberts Bay	Velddrift	
TOTAL	1	-	4	2	-

The detailed information depicted in Appendix C shows that these settlements generally scored low to very low on the economic and institutional indexes, and medium to high on the infrastructure index. Their rating on the physical index ranges from the low end of the scale in the case of Lamberts Bay and Elandsbaai to high in the case of Velddrift.

5.3.5 Residential settlements

A total of 27 of the 131 settlements (21%) were categorised as residential settlements. The majority (60%) of these were classified into the low development potential category (Table 21). A further 19% falls within the medium and very low development potential categories respectively. Only three settlements (Jamestown, Kylemore and Pniel), all of which can be regarded as satellite settlements of Stellenbosch, fall within the high potential category. This is probably due to the functional linkages with and proximity to Stellenbosch as one of the regional centres with the highest development potential in the province.

Table 21 Development potential of residential settlements

Settlement type/potential	Very high	High	Medium	Low	Very low
Residential		Jamestown Kylemore Pniel	Klapmuts Kranshoek Rheenendal Struisbaai Wittedrift	Dysselsdorp Ebenhaesar Friemersheim Goedverwacht Haarlem Kalbaskraal Koringberg Kurland Leeu Gamka Prince Alfred Hamlet Saron Suurbraak Touwsrivier Zoar	Kliprand Koekenaap Op-die-Berg Rietpoort Slangrivier
TOTAL	-	3	5	14	5

The majority of the residential settlements (41%) are described as having very levels of social needs (Table 22), with a further 22% with high levels of social needs. Only five of the residential settlements have low levels of social needs.

Table 22 Social needs of residential settlements

Settlement type/potential	Very high	High	Medium	Low	Very low
Residential	Dysselsdorp				
	Kliprand				
	Koekenaap	Ebenhaesar			Jamestown
	Kranshoek	Rheenendal			Kylemore
	Kurland	Kalbaskraal	Friemersheim		Pniel
	Leeu Gamka	Klapmuts	Goedverwacht		Haarlem
	Rietpoort	Koringberg	Prince Alfred		Op-die-Berg
	Slangrivier	Saron	Hamlet		
	Suurbraak		Struisbaai		
	Touwsrivier		Wittedrift		
	Zoar				
TOTAL	11	6	5	5	-

As indicated in Figure 23, the social needs of residential settlements mainly fall within the high to very high range of social needs and low to medium levels of development potential.

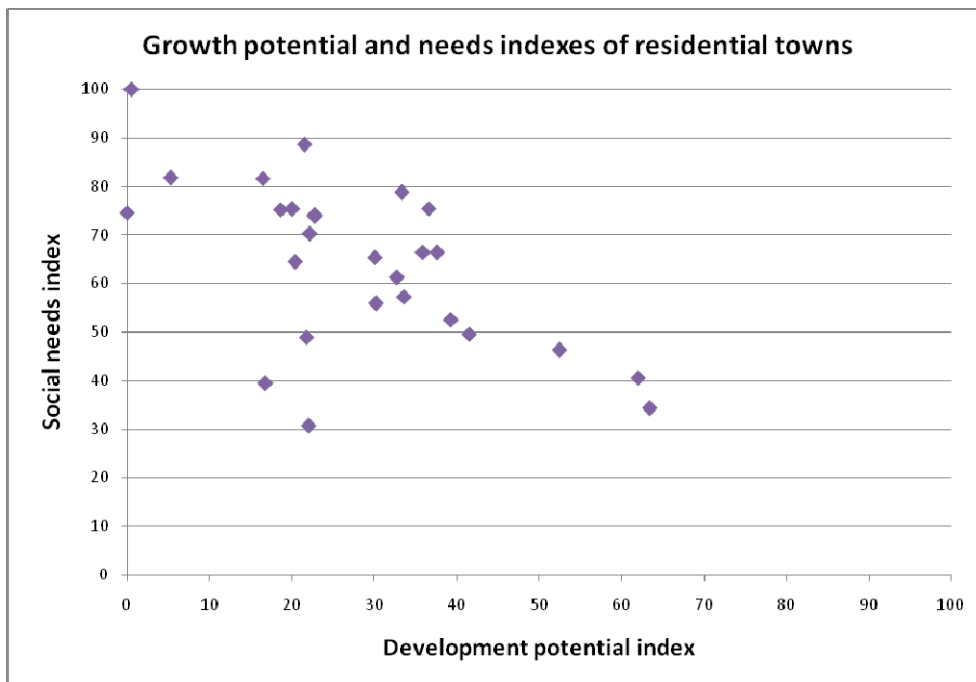


Figure 23 Scatter plot comparing the human needs and development potential of residential settlements

These settlements generally performed poorly on the economic potential, physical potential and institutional indexes (see Appendix C).

5.3.6 Tourism settlements

A total of 38 of the 131 settlements (29%) were categorised as tourism or residential/tourism settlements. The majority of these settlements (45%) are classified in the medium development potential category. Table 23 shows that a further 32% fall in the low development potential category and 21% in the high development potential category.

Table 23 Development potential of tourism settlements

Settlement type	Very high	High	Medium	Low	Very low
Residential/tourism			Groot Brakrivier Herolds Bay Sedgefield Stanford Stilbaai Wilderness	Doringbaai Elim Genadendal Greyton McGregor Montagu Napier Riebeek-Kasteel	
Tourism		Brenton-on-Sea Franskraalstrand Keurboomsrivier Kleinmond Knysna Langebaan Paternoster Plettenberg Bay	Arniston Betty's Bay Buffelsbaai Dwarskersbos Gouritsmond Jongensfontein Jacobsbaai Nature's Valley Onrus Pringle Bay Yzerfontein	De Rust Pearly Beach Strandfontein Witsand	Matjiesfontein
TOTAL	-	8	17	12	1

The majority of tourism settlements (39%) are described as having low levels of social needs, and a further 24% with very low levels (Table 24). Settlements in the latter category include Brenton-on-Sea, Jongensfontein, Jacobsbaai, Keurboomsrivier, Langebaan, Onrus, Pringle Bay, Strandfontein and Yzerfontein. Five of the tourism settlements have high levels of social needs, while Doringbaai and De Rust are classified as having very high levels of social needs.

As indicated in Figure 24, tourism settlements cover a wide range of development potential ranging from low to high. The majority of these settlements (45%) are however classified as having medium levels of development potential. With the exception of a small number of settlements, tourism towns are generally characterised by low or very low levels of social needs.

Table 24 Social needs of tourism settlements

Settlement type	Very high	High	Medium	Low	Very low
Residential/tourism	Doringbaai	Genadendal Herolds Bay McGregor	Elim Greyton Montagu Napier	Groot Brakrivier Riebeeck-Kasteel Sedgefield Stanford Stilbaai Wilderness	
Tourism	De Rust	Arniston Matjiesfontein	Kleinmond Knysna Pearly Beach	Betty's Bay Buffelsbaai Dwarskersbos Franskraalstrand Gouritsmond Nature's Valley Paternoster Plettenberg Bay Witsand	Brenton-on-Sea Jongensfontein Jacobsbaai Keurboomsrivier Langebaan Onrus Pringle Bay Strandfontein Yzerfontein
TOTAL	2	5	7	15	9

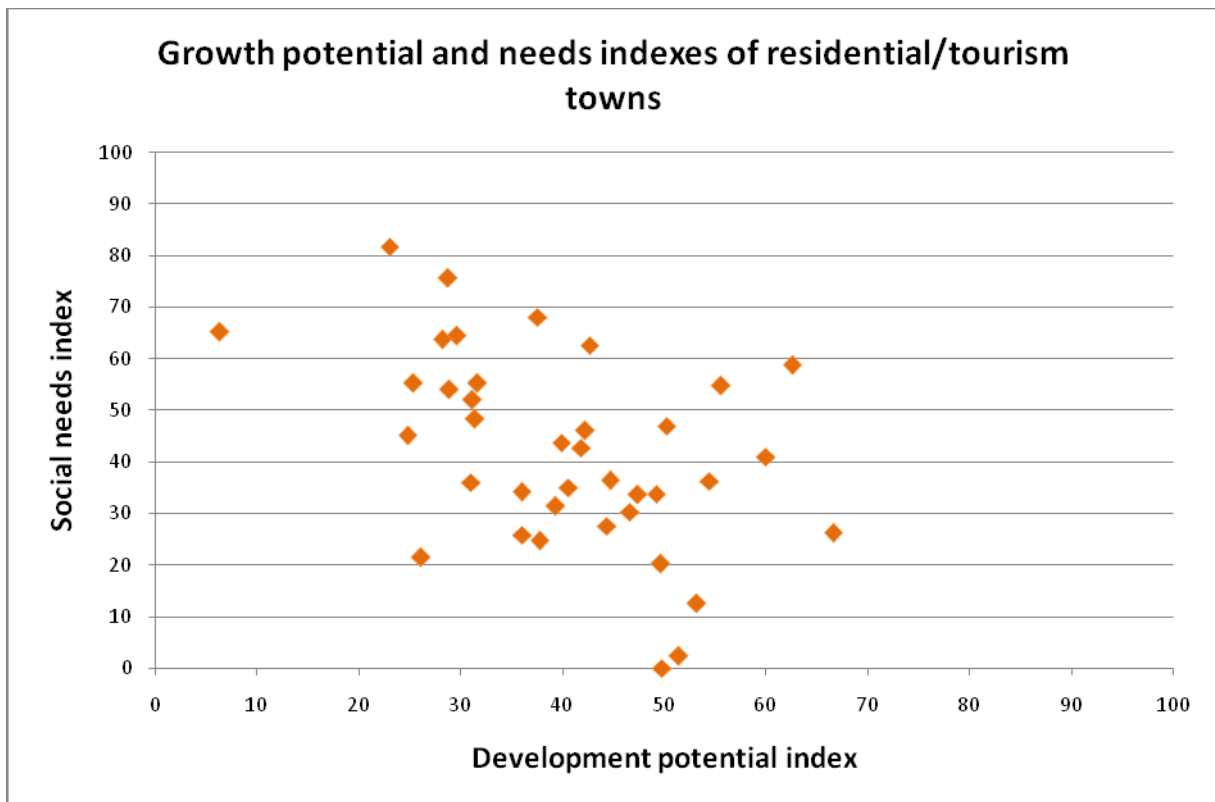


Figure 24 Scatter plot comparing the human needs and development potential of residential/tourism settlements

With the exception of Knysna and Plettenberg Bay, these settlements generally achieved relatively low scores on the economic potential index. Most of these tourism settlements are also relatively well provided with infrastructure and mostly scored medium to high on the infrastructure index (see Appendix C).

5.4 Analysis according to settlement population size

Section 5.1 highlighted the need for a scientifically-researched settlement rank order classification of settlements in the province that will enrich the findings of the 2010 growth potential study. In the absence of such a detailed study, the information in this section provides an indication of development potential and social needs according to settlement population size. It is recognised that population size is only one of a range of potential factors that determines settlement rank order. However, in the absence of settlement rank orders, using the settlement population size might provide some useful insights regarding the development potential and social needs of settlements in the Western Cape. For the purpose of this analysis, all settlements that formed part of the study were classified in terms of five population size categories:

- 50000 or more;
- 10000 to 49999;
- 5000 to 9999;
- 1000 to 4999; and
- less than 1000.

A summary of the development potential according to settlement population size is provided in Table 25. Figure 25 compares the proportion of settlements per development potential category within the various population size categories. The majority (62.5%) of the largest settlements (50000 or more) are classified as having very high levels of development potential. A large proportion (46.3%) of medium-to-large-sized settlements (i.e. those with populations of 5000 to 50000) are classified as having medium levels of development potential, while small (between 1000 and 5000 population) and very small settlements (less than 1000 population) were found to generally have low development potential.

Table 25 Development potential compared to population size

Settlement size	Very high	High	Medium	Low	Very low
< 1000 (very small)		Brenton-on-Sea Keurboomsrivier	Aurora Buffelsbaai Dwarskersbos Gouritsmond Jongensfontein Herolds Bay Jacobsbaai Nature's Valley Pringle Bay Yzerfontein	Ebenhaesar Herbertsdale Koringberg Redelinghuys Strandfontein Volmoed Witsand	Kliprand Matjiesfontein Nuwerus
1000 – 4999 (small)		Franskraalstrand Jamestown Langebaan Paternoster	Arniston Betty's Bay Gouda Kranshoek Rawsonville Rheenendal Stilbaai Struisbaai Wilderness Wittedrift	Barrydale Calitzdorp De Rust Doringbaai Elandsbaai Elim Friemersheim Goedverwacht Graafwater Greyton Haarlem Kalbaskraal Klawer Kurland Laingsburg Leeu Gamka McGregor Merweville Napier Pearly Beach Prince Alfred Hamlet Riebeek-Kasteel Riebeek-Wes Riversdale Riviersonderend Suurbraak Uniondale	Bitterfontein Eendekuil Koekenaap Op-die-Berg Rietpoort Slangrivier
5000 – 9999 (medium)		Hopefield Kylemore Pniel Velddrift	Albertinia Bonnievale Botrivier Darling Klapmuts Moorreesburg Onrus Sedgefield Stanford Tulbagh Vanrhynsdorp Villiersdorp Wolseley	Citrusdal Clanwilliam Genadendal Heidelberg Ladismith Lamberts Bay Porterville Prince Albert Saron Touwsrivier Zoar	Lutzville Murraysburg
10 000 – 49999 (large)	Vredenburg	Grabouw Hawston Hermanus Kleinmond Plettenbergbaai Saldanha St Helena Bay	Ashton Beaufort West Bredasdorp Caledon Ceres Franschoek Gansbaai Groot Brakrivier Malmesbury Piketberg Robertson Vredendal	Dysselsdorp Montagu Swellendam	De Doorns
50 000+ (very large)	George Oudtshoorn Paarl Stellenbosch Worcester	Knysna Mosselbaai Wellington			

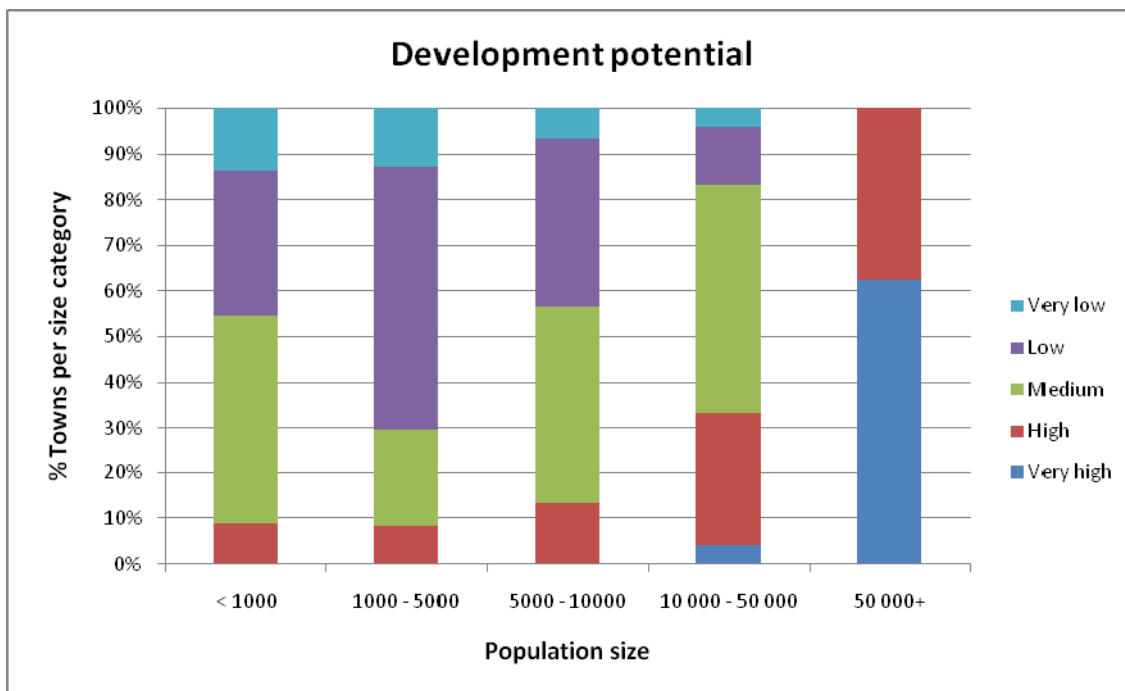


Figure 25 Development potential according to settlement population size

The proportion of settlements in the various developing potential categories can be misleading if the actual aggregate population that resides within these settlements are not considered. Figure 26 shows that, although the number of settlements in the very high and high development potential categories only represents 4.5% and 15.3% of the total number of settlements, the total population residing in these two categories of settlements represents as much as 36.2% and 24.5% of the total provincial population (outside the Cape Town metropolitan area) respectively. This implies that more than 60% of the provincial population outside the metropolitan area are residing in settlements with high or very high development potential. Conversely, although 45.8% of the settlements in the province are classified as having a low or very low development potential, it only represents 15.3% of the total provincial population.

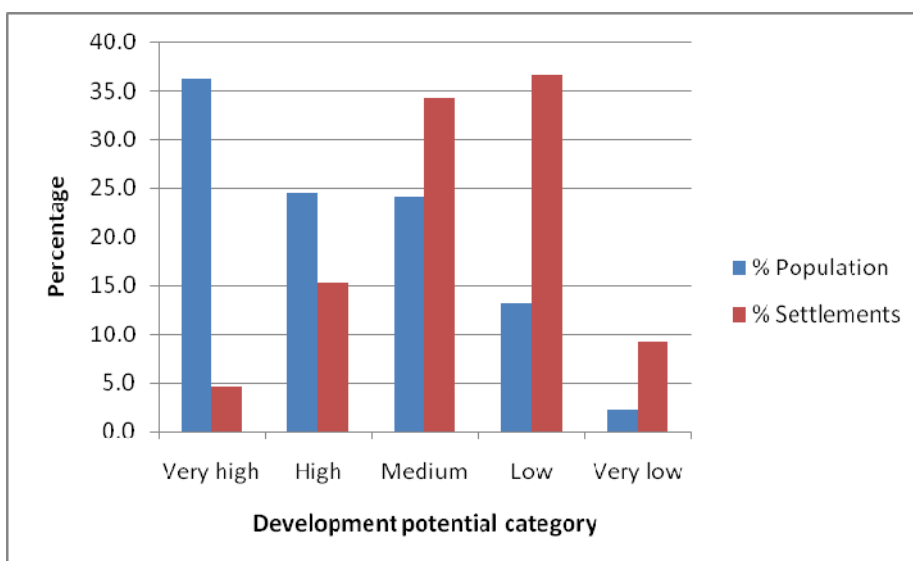


Figure 26 Percentage of total population per development potential category

A comparison of social needs and settlement population size is provided in Table 26. Figure 27 reveals that the largest settlements within the province (populations in excess of 50000) are predominantly (87.5%) classified as having medium levels of social needs, while the large settlements (populations of 10000-49999) have medium (37.4%) and low (33.3%) levels of social needs. Notably, 46.8% of the smaller settlements (populations 1000-4999) are classified as having high or very high levels of social needs (e.g. Grabouw, Dysselsdorp, De Doorns). Conversely, 54.5% of the very small settlements (i.e. less than 1000 population) are classified as having low or very low levels of social needs. The majority of the settlements in the latter category can be described as tourism towns with a relatively small permanent populations. These settlements are likely inhabited by affluent households that utilize these settlements on a temporary basis for vacation purposes during holiday seasons or weekends (e.g. Jacobsbaai, Keurboomsrivier, Pringle Bay, Buffelsbaai).

A comparative summary of the development potential and social needs of settlements within the various population size categories are outlined in Figure 28 to Figure 32. The following observations can be made:

- Very large settlements (with populations in excess of 50000) are characterised by very and high levels of development potential and medium levels of social needs.
- Large settlements (with populations 10000-49999) are characterised by medium to high levels of social needs and have wide-ranging levels of development potential (from low to very high).
- Medium and small settlements (with populations 5000-9999 and 1000-4999 respectively) are generally located in the north eastern quadrant of the scatter plots (Figure 30 and Figure 31). This implies that these settlements can mostly be regarded as having low levels of development potential and medium to high levels of social needs.
- The smallest settlements (with populations of less than 1000) generally have low levels of development potential with very wide ranging social needs (from very low to very high).

Table 26 Social needs compared to population size

Settlement size	Very high	High	Medium	Low	Very low
< 1000 (very small)	Kliprand Nuwerus Volmoed	Ebenhaesar Koringberg Matjiesfontein	Aurora Herbertsdale Herolds Bay Redelinghuys	Buffelsbaai Dwarskersbos Gouritsmond Nature's Valley Witsand	Brenton-on-Sea Jongensfontein Jacobsbaai Keurboomsrivier Pringle Bay Strandfontein Yzerfontein
1000 – 4999 (small)	De Rust Doringbaai Elandsbaai Koekenaap Kranshoek Kurland Leeu Gamka Merweville Rietpoort Slangrivier Suurbraak	Arniston Bitterfontein Calitzdorp Gouda Kalbaskraal Laingsburg McGregor Rheenendal Riversdale Riviersonderend Uniondale	Barrydale Eendekuil Elim Friemersheim Goedverwacht Graafwater Greyton Klawer Napier Pearly Beach Prince Alfred Hamlet Rawsonville Riebeek-Wes Struisbaai Wittedrift	Betty's Bay Franskraalstrand Haarlem Jamestown Op-die-Berg Paternoster Riebeek-Kasteel Stilbaai Wilderness	Langebaan
5000 – 9999 (medium)	Murraysburg Touwsrivier Zoar	Genadendal Heidelberg Klapmuts Prince Albert Saron Tulbagh Villiersdorp Wolseley	Albertinia Bonnievale Botrivier Citrusdal Clanwilliam Darling Hopefield Ladismith Lamberts Bay Lutzville Porterville Vanrhynsdorp	Kylemore Moorreesburg Pniel Sedgefield Stanford Velddrift	Onrus
10 000 – 49999 (large)	De Doorns Dysselsdorp Grabouw	Ashton Beaufort West Franschhoek Robertson	Ceres Gansbaai Hawston Kleinmond Montagu Plettenbergbaai Saldanha Swellendam Vredenburg	Bredasdorp Caledon Groot Brakrivier Hermanus Malmesbury Piketberg St Helena Bay Vredendal	
50000+ (very large)			George Knysna Mosselbaai Oudtshoorn Paarl Wellington Worcester	Stellenbosch	

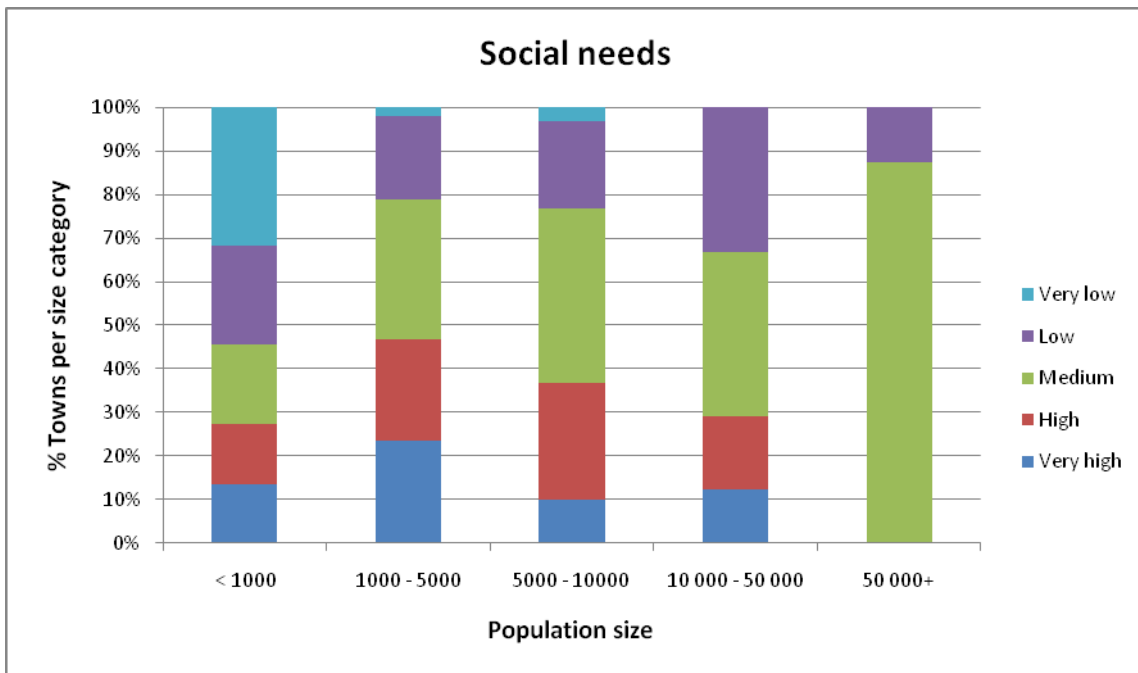


Figure 27 Social needs according to settlement population size

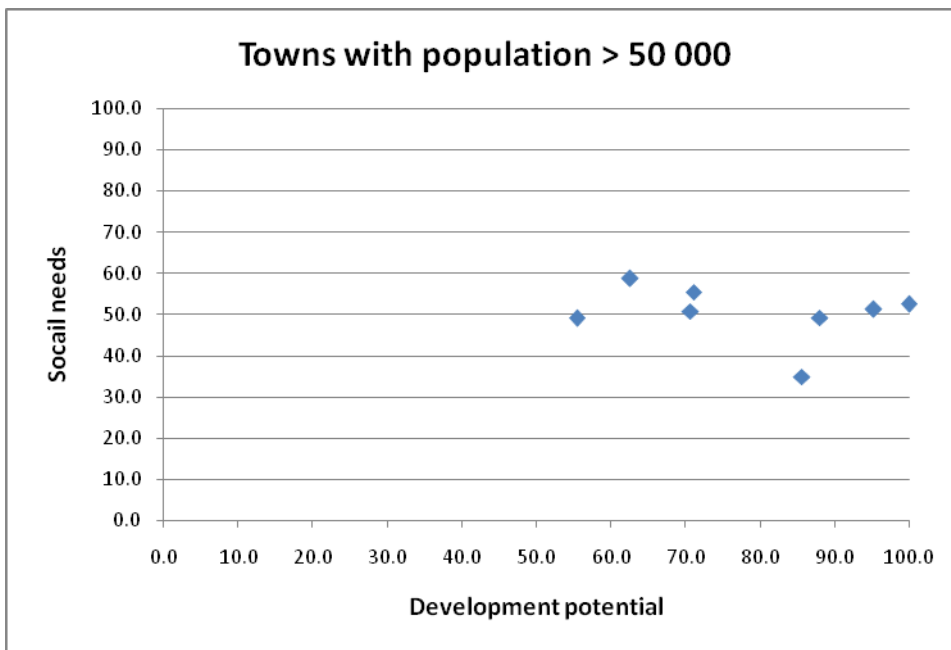


Figure 28 Scatter plot comparing the social needs and development potential of settlements with population more than 50 000

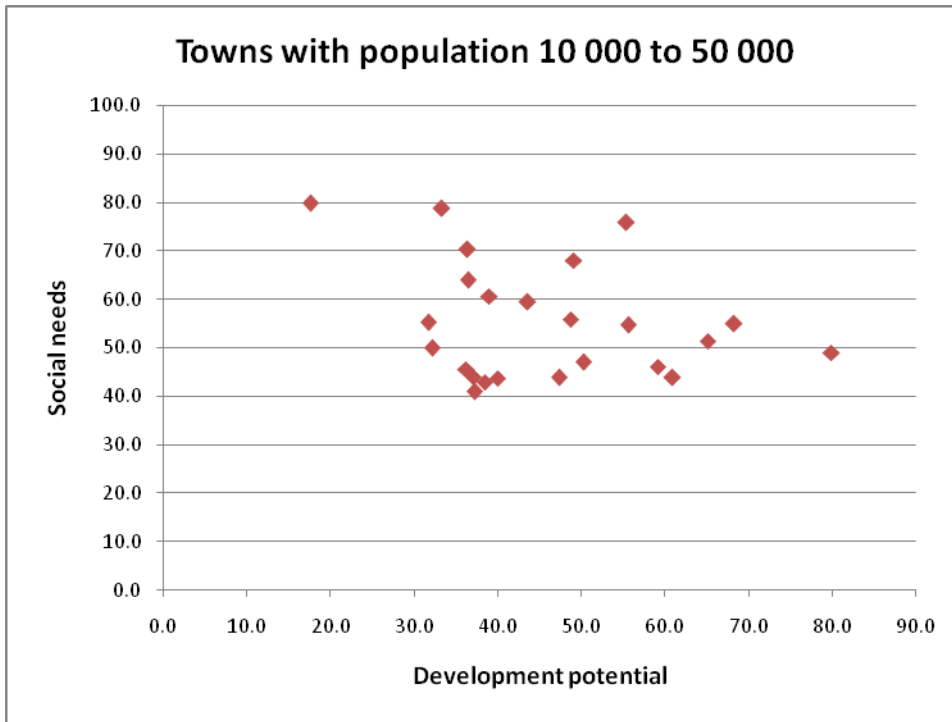


Figure 29 Scatter plot comparing the social needs and development potential of settlements with populations between 10 000 and 50 000

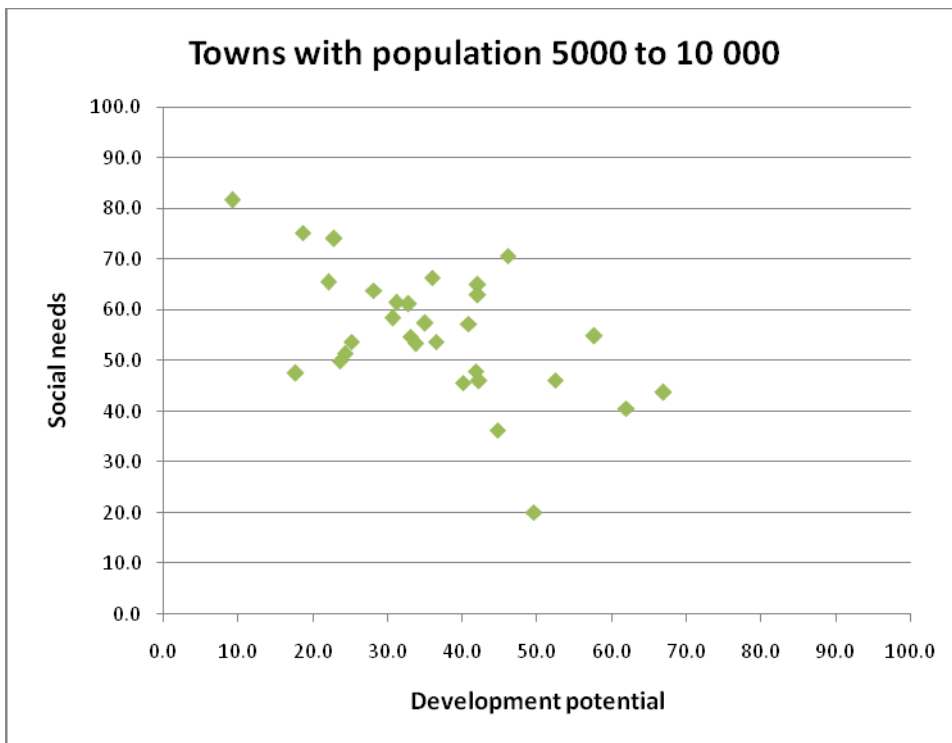


Figure 30 Scatter plot comparing the social needs and development potential of settlements with populations between 5 000 and 10 000

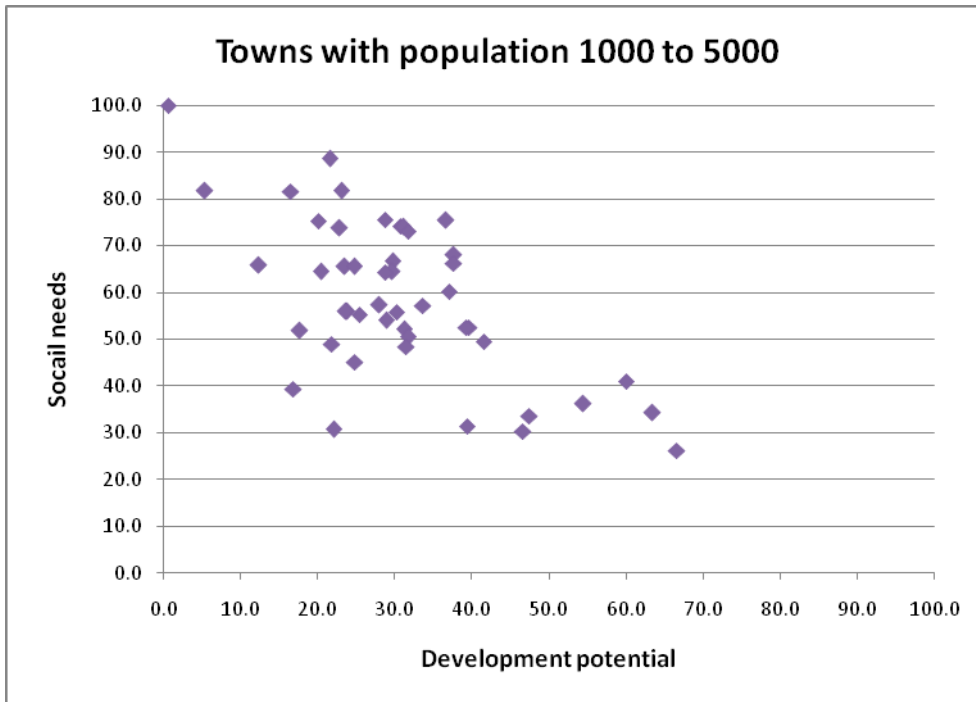


Figure 31 Scatter plot comparing the social needs and development potential of settlements with populations between 1 000 and 5 000

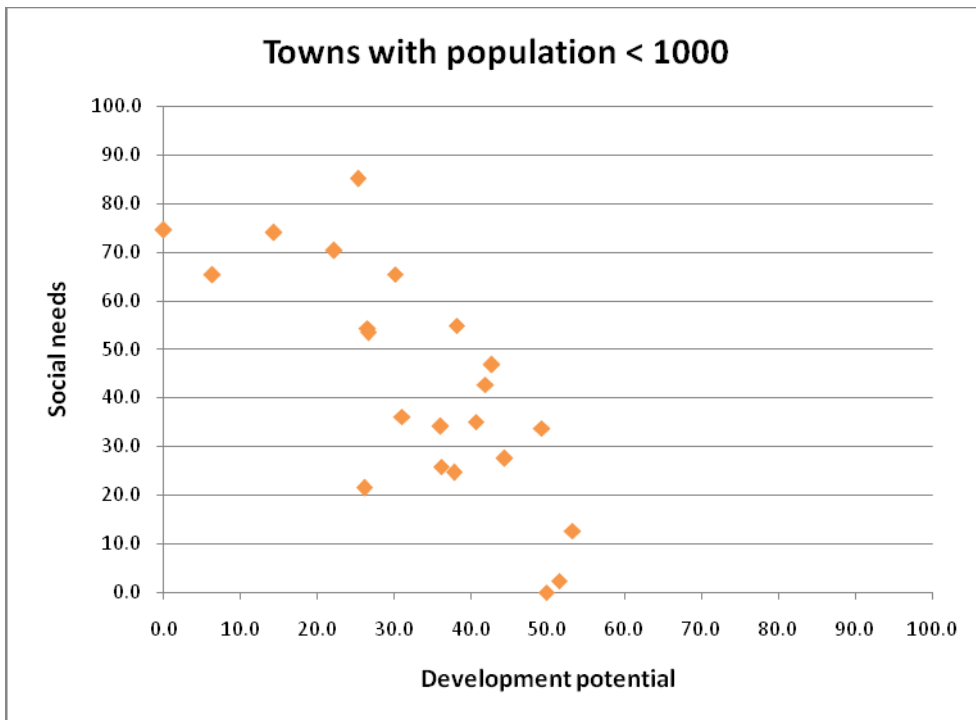


Figure 32 Scatter plot comparing the social needs and development potential of settlements with population less than 1000

5.5 Municipal level analysis

The same framework of five indexes and 75 indicators that were used to determine development potential and social needs at settlement level was used for the 24 local municipalities and 3 district management areas in the province. The indicators that were available at municipal level are described in detail in Appendix A. The potential indicators for each index were subjected to a factor analysis to select appropriate core indicators for inclusion in the composite indexes (see Section 0). Based on their overall performance in the various indexes, the municipalities were classified into three categories, namely high, medium and low.

5.5.1 Socio-demographic

In the index of socio-demographic indicators, 63% of local municipalities were in the medium category, whilst 19% were categorised as high and 19% as low (Figure 33).

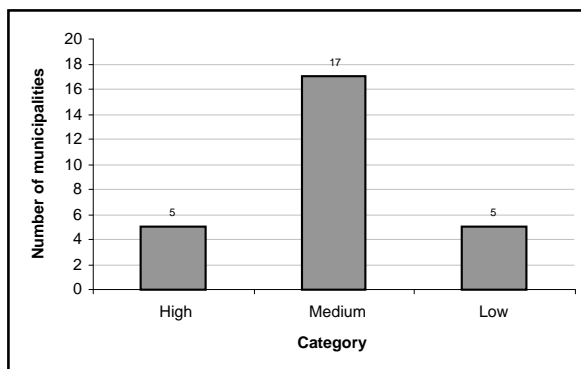


Figure 33 Distribution of categorisation in socio-demographic index

Those local municipalities that scored high in the socio-demographic category are Saldanha, Overstrand, Swartland, Bitou and George. Conversely, the local municipalities that scored low in this index are the Central Karoo DMA, Beaufort West, Kannaland, South Cape DMA and the West Coast DMA. The low-scoring local municipalities in this category are the relatively sparsely populated district management areas and inland local municipalities.

5.5.2 Economic

The index of economic indicators presents a picture whereby only 15% of local municipalities were classified as having a high economic potential (Figure 34). These local municipalities are George, Drakenstein, Stellenbosch and Saldanha.

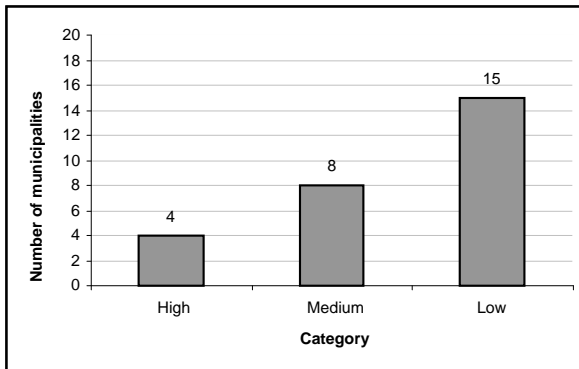


Figure 34 Distribution of categorisation in economic index

Whilst 30% of local municipalities were categorised as medium, 56% of local municipalities were in the low category in the economic index. This statistic speaks to the need for a multi-sectoral approach in addressing a diverse range of economic factors in local municipalities.

5.5.3 Physical environment

The index of physical environment indicators presented a clustering of local municipalities towards the medium category with 48% of local municipalities represented (Figure 35). The high and low categories were comprised of 22% and 30% of the local municipalities respectively. Whilst the strength of indicators in this index for local municipalities is largely determined by what is physically present in the physical environment, changing hi-technology market demands may have an impact. A relevant example of this is the recent planned re-commissioning of a disused mine between Vanrhynsdorp and Kliprand in order to extract rare earth minerals for use in cellphones, hybrid vehicles, etc. (Ferreira 2010).

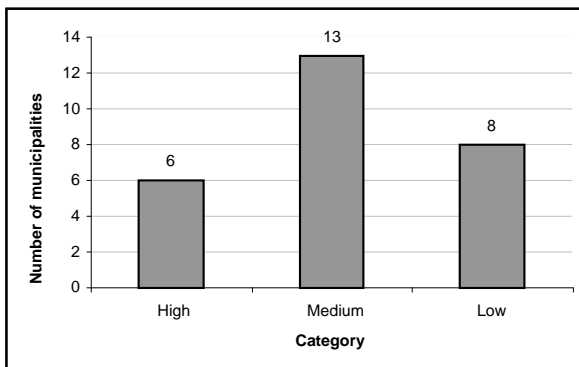


Figure 35 Distribution of categorisation in physical environment index

5.5.4 Infrastructure

The index of infrastructure indicators shows more of a balance in each of the three categories (Figure 36). There is however a slight tilt to a third of local municipalities represented in the low category. This serves to highlight the infrastructural challenges in the province. The local municipalities in the low category tend to be the district management areas and inland local municipalities.

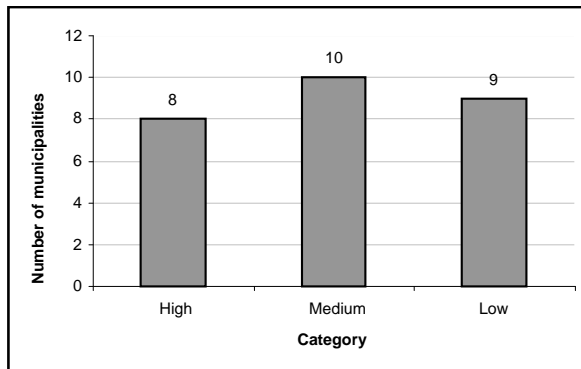


Figure 36 Distribution of categorisation in infrastructure index

5.5.5 Institutional

The index of institutional indicators displays a tendency for 48% of local municipalities represented in the medium category (Figure 37). Knysna, Stellenbosch, Cape Agulhas, Bitou, Mossel Bay and Oudtshoorn are represented in the high category. Local municipalities that score low in the institutional indicators are Witzenberg, George, West Coast DMA, Kannaland, South Cape DMA, Swellendam and Theewaterskloof.

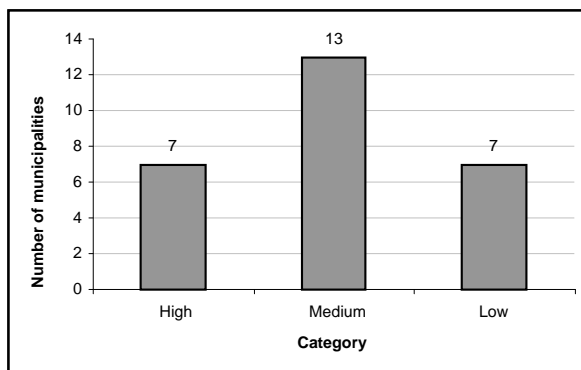


Figure 37 Distribution of categorisation in institutional index

5.5.6 Composite index

The economical, physical environment, infrastructure and institutional indexes were combined to produce a composite development potential index, while the socio-demographic index was used to represent social needs. In the latter case, the index was inverted to reflect that a low performance in the socio-demographic index is indicative of high social needs. Table 27 shows the performance of municipalities

in each individual index as well as the composite index. The raw index values were classified using Jenks' algorithm (see Section 4.9) into three classes (high, medium and low).

Table 27 Municipal categorisation of all indexes

Municipality	Economic	Physical environment	Infrastructure	Institutional	Development potential (composite)	Social Needs
Beaufort West	Low	Medium	Medium	Medium	Medium	High
Bergrivier	Low	Medium	Medium	Medium	Medium	Medium
Bitou	Low	Low	Low	High	Medium	Low
Breede Valley	Medium	Medium	Medium	Medium	High	Medium
Cape Agulhas	Low	High	High	High	High	Medium
Cederberg	Medium	Medium	Low	Medium	Medium	Medium
Central Karoo DMA	Low	Low	Medium	Medium	Medium	High
Drakenstein	High	High	Medium	Medium	High	Medium
George	High	Medium	High	Low	High	Low
Hessequa	Low	Medium	High	High	Medium	Medium
Kannaland	Low	Low	Low	Low	Low	High
Knysna	Medium	Low	Medium	High	High	Medium
Laingsburg	Low	Medium	Low	Medium	Medium	Medium
Langeberg	Medium	Low	Medium	Medium	Medium	Medium
Matzikama	Low	Medium	Low	Medium	Medium	Medium
Mossel Bay	Medium	Medium	High	High	High	Medium
Oudtshoorn	Medium	Low	Medium	High	Medium	Medium
Overstrand	Medium	Medium	High	Medium	High	Low
Prince Albert	Low	Low	Low	Medium	Low	Medium
Saldanha Bay	High	High	High	Medium	High	Low
South Cape DMA	Low	Low	Low	Low	Low	High
Stellenbosch	High	High	High	High	High	Medium
Swartland	Low	High	High	Medium	High	Low
Swellendam	Low	Medium	Medium	Low	Medium	Medium
Theewaterskloof	Medium	High	Medium	Low	Medium	Medium
West Coast DMA	Low	Medium	Low	Low	Low	High
Witzenberg	Low	Medium	Low	Low	Low	Medium

Figure 38 shows that 10 (37%) of municipalities have high development potential, while 12 (44%) and 5 (19%) of municipalities were classified into the medium and low development potential categories respectively. Decisions regarding interventions should, however, not be based only on the composite development index, but should rather focus on the individual indexes as presented in Table 28. For instance, although Drakenstein was classified as having a high development potential, its infrastructural and institutional performance can still improve. Thus, intervention strategies in Drakenstein may need to focus on the infrastructural and institutional components of the local municipality.

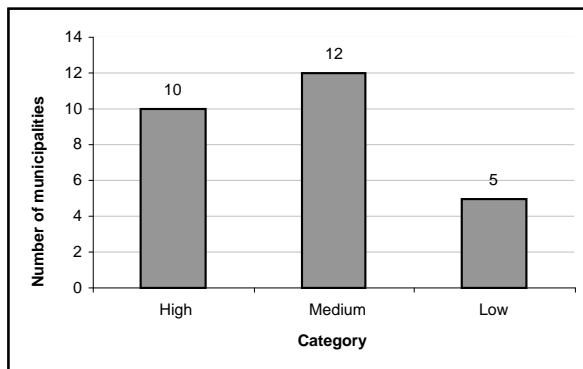


Figure 38 Distribution of categorisation in composite index

5.5.7 Conclusion

The results of the analysis carried out at municipal level can be used by municipalities for strategic planning purposes. Municipalities are encouraged to use the table in Appendix B to identify the indicators in each index where performance was low. By doing so, municipalities can pursue sector-driven intervention strategies to mitigate against low categorisation within any of the indexes. For instance, if a municipality scored low on the institutional index due to high crime rates, then sector-specific interventions can be explored by community-led crime initiatives. The analysis can also be used as a tool to assist the Western Cape Provincial government in steering its resources in order to stimulate growth and development interventions in areas where it is most required.

5.6 Comparative assessment of settlement and municipal level indexes

The results of the analyses carried out at settlement and municipal levels were discussed separately in the previous sections. In this section, a comparison of the settlement and municipal results are made to identify possible relationships. For instance, Table 28 compares settlement and municipal development potential. As can be expected, there is a strong relationship between development potential of settlements and the development potential of municipalities as none of the leader settlements (i.e. those with very high development potential) are located in municipalities with low development potential. Three (50%) of the leader settlements (i.e. those with very high developmental potential) can be found in municipalities with high developmental potential, while the other three leader settlements (George, Oudtshoorn, and Worcester) are located in municipalities with medium development potential. Conversely, most (75%) of the struggling settlements (i.e. those with very low development potential) are located in municipalities

with low potential for development. These settlements are Bitterfontein, Kliprand, Koekenaap, Lutzville, Matjiesfontein, Murraysburg, Nuwerus, Op-die-Berg and Rietpoort. Interestingly, Keurboomsrivier and Plettenberg Bay have relatively high development potential despite being located in a municipality with an overall low development potential.

Table 29 compares the social needs of settlements and municipalities. As with development potential, there seems to be a strong relationship between settlements and municipal social needs. For instance, the majority (90%) of settlements with high social needs are located in municipalities with high or medium social needs. The only exceptions are Kranshoek and Kurland, which are located in a municipality with low social needs. The majority (66%) of settlements with low social needs are located in municipalities with low social needs. There are no cases where settlements with low social needs are located in a municipality with high social needs.

Table 30 compares social needs and development potential at settlement and municipal level respectively. The majority (60%) of settlements with high human needs are located in municipalities with low development potential. This situation is clearly problematic as it is unlikely that municipalities with low development potential will be able to address the social needs of its settlements without some form of intervention from provincial government. None of the settlements with high human needs are located in municipalities with high development potential. On the other side of the spectrum, Jacobsbaai and Langebaan, both holiday resorts on the West Coast, are the only settlements with low human needs that are located in municipalities with high development potential. Local municipalities with high development potential are perhaps better equipped/suited to mitigate the human needs of settlements in their jurisdiction, while municipalities with low development potential are perhaps less equipped to do so and may require assistance from third parties.

Table 28 Comparison between settlement and municipal development potential (composite index)

	Settlements with very high development potential	Settlements with high development potential	Settlements with medium development potential	Settlements with low development potential	Settlements with very low development potential
Municipalities with high development potential	George Paarl Stellenbosch Vredenburg Worcester	Brenton-on-Sea Franskraalstrand Hawston Hermanus Hopefield Jamestown Kleinmond Knysna Kylemore Langebaan Mossel Bay Paternoster Pniel Saldanha St Helena Bay Wellington	Arniston Betty's Bay Bredasdorp Buffelsbaai Darling Franschhoek Gansbaai Gouda Groot Brakrivier Herolds Bay Jacobsbaai Klapmuts Malmesbury Moorreesburg Onrus Pringle Bay Rawsonville Rheenendal Sedgefield Stanford Struisbaai Wilderness Yzerfontein	Elim Friemersheim Herbertsdale Kalbaskraal Koringberg Napier Pearly Beach Riebeek-Kasteel Riebeek-Wes Saron Touwsrivier	De Doorns
Municipalities with medium development potential	Oudtshoorn	Grabouw Keurboomsrivier Plettenberg Bay Velddrift	Albertinia Ashton Aurora Beaufort West Bonnievale Botrivier Caledon Dwarskersbos Gouritsmond Jongensfontein Kranshoek Nature's Valley Piketberg Robertson Stilbaai Vanrhynsdorp Villiersdorp Vredendal Wittedrift	Barrydale Citrusdal Clanwilliam De Rust Doringbaai Dysselsdorp Ebenhaesar Elandsbaai Genadendal Goedverwacht Graafwater Greyton Heidelberg Klawer Kurland Laingsburg Lamberts Bay McGregor Merweville Montagu Porterville Redelinghuys Riversdale Riviersonderend Strandfontein Suurbraak Swellendam Volmoed Witsand	Eendekuil Koekenaap Lutzville Matjiesfontein Murraysburg Slangrivier
Municipalities with low development potential			Ceres Tulbagh Wolseley	Calitzdorp Haarlem Ladismith Leeu Gamka Prince Albert Prince Alfred Hamlet Uniondale Zoar	Bitterfontein Kliprand Nuwerus Op-die-Berg Rietpoort

Table 29 Comparison between settlement and municipal social needs

	Settlements with very high social needs	Settlements with high social needs	Settlements with medium social needs	Settlements with low social needs	Settlements with very low social needs
Municipalities with high social needs	Kliprand Merweville Murraysburg Nuwerus Rietpoort Zoar	Beaufort West Bitterfontein Calitzdorp Uniondale	Ladismith	Haarlem	
Municipalities with medium social needs	De Doorns De Rust Doringbaai Dysselsdorp Elandsbaai Grabouw Koekenaap Leeu Gamka Slangrivier Suurbraak Touwsrivier Volmoed	Arniston Ashton Ebenhaesar Franschoek Genadendal Gouda Heidelberg Klapmuts Laingsburg Matjiesfontein McGregor Prince Albert Rheenendal Riversdale Riversonderend Robertson Saron Tulbagh Villiersdorp Wolseley	Albertinia Aurora Barrydale Bonnievale Botrivier Ceres Citrusdal Clanwilliam Eendekuil Elim Friemersheim Goedverwacht Graafwater Greyton Herbertsdale Klawer Knysna Lamberts Bay Lutzville Montagu Mossel Bay Napier Oudtshoorn Paarl Porterville Prince Alfred Hamlet Rawsonville Redelinghuys Struisbaai Swellendam Vanrhynsdorp Wellington Worcester	Bredasdorp Buffelsbaai Caledon Dwarskersbos Gouritsmond Groot Brakrivier Jamestown Kylemore Op-die-Berg Piketberg Pniel Sedgefield Stellenbosch Stilbaai Veldrift Vredendal Witsand	Brenton-on-Sea Jongensfontein Strandfontein
Municipalities with low social needs	Kranshoek Kurland	Kalbaskraal Koringberg	Darling Gansbaai George Hawston Herolds Bay Hopefield Kleinmond Pearly Beach Riebeek-Wes Saldanha Vredenburg Wittedrift	Betty's Bay Franskraalstrand Hermanus Malmesbury Moorreesburg Nature's Valley Paternoster Plettenberg Bay Riebeek-Kasteel St Helena Bay Stanford Wilderness	Jacobsbaai Keurboomsrivier Langebaan Onrus Pringle Bay Yzerfontein

Table 30 Comparison between settlement human needs and municipal development potential

	Settlements with very high human needs	Settlements with high human needs	Settlements with medium human needs	Settlements with low human needs	Settlements with very low human needs
Municipalities with high development potential	De Doorns Touwsrivier	Arniston Franschhoek Gouda Kalbaskraal Klapmuts Koringberg Rheenendal Saron	Darling Elim Friemersheim Gansbaai George Hawston Herbertsdale Herolds Bay Hopefield Kleinmond Knysna Mossel Bay Napier Paarl Pearly Beach Rawsonville Riebeek-Wes Saldanha Struisbaai Vredenburg Wellington Worcester	Betty's Bay Bredasdorp Buffelsbaai Franskraalstrand Groot Brakrivier Hermanus Jamestown Kylemore Malmesbury Moorreesburg Paternoster Pniel Riebeek-Kasteel Sedgefield St Helena Bay Stanford Stellenbosch Wilderness	Brenton-on-Sea Jacobsbaai Langebaan Onrus Pringle Bay Yzerfontein
Municipalities with medium development potential	De Rust Doringbaai Dysselsdorp Elandsbaai Grabouw Koekenaap Kranshoek Kurland Merweville Murraysburg Slangrivier Suurbraak Volmoed	Ashton Beaufort West Ebenhaesar Genadendal Heidelberg Laingsburg Matjiesfontein McGregor Riversdale Riviersonderend Robertson Villiersdorp	Albertinia Aurora Barrydale Bonnievale Botrivier Citrusdal Clanwilliam Eendekuil Goedverwacht Graafwater Greyton Klawer Lamberts Bay Lutzville Montagu Oudtshoorn Plettenberg Bay Porterville Redelinghuys Swellendam Vanrhynsdorp Wittedrift	Caledon Dwarskersbos Gouritsmond Nature's Valley Piketberg Stilbaai Velddrift Vredendal Witsand	Jongensfontein Keurboomsrivier Strandfontein
Municipalities with low development potential	Kliprand Leeu Gamka Nuwerus Rietpoort Zoar	Bitterfontein Calitzdorp Prince Albert Tulbagh Uniondale Wolseley	Ceres Ladismith Prince Alfred Hamlet	Haarlem Op-die-Berg	

6 CONCLUSIONS

6.1 Summary of Western Cape settlement and development profile

The analysis of the Western Cape development profile was presented based on a categorisation of settlements and municipalities rather than mere rank ordering. Settlements were also grouped according to their functional classification in order to compare settlements that have similar functional identities (Section 5.1). The development potential of settlements were categorised into: very high, high, medium, low and very low. Similarly, the development potential of municipalities were categorised into: high, medium and low.

The economic index is influenced by the number of service sector businesses, tourism potential and the weighted distance to two metropolitan regions and fourteen leader towns as identified in the 2004 study. There exists a strong correlation between settlement category and economic potential: the economic potential of leader- and aspirant leader settlements are very high and high respectively; whilst for struggling settlements the economic potential is low (Figure 39). Large businesses tend to be concentrated in the leader settlements which add to the economic potential of these settlements. Settlements that have a very high and high economic potential tend to be situated in municipalities that are categorised as having high and medium economic potential. Municipalities that have a number of settlements that are ranked from very low to medium economic potential, generally seem to have a low economic potential.

The physical environment index is influenced by groundwater potential, surface water area, perennial crops and the extent and status of unexploited minerals. Most of the municipalities around the metropolitan area of Cape Town have a high physical environment index. Municipalities along the coast and two municipalities in the Karoo are rated as medium. The ranking of the municipalities in the Karoo is due to the presence of unexploited minerals. One finds a number of settlements that scored very low and low for this index are situated in medium rated municipalities (Figure 40).

The infrastructure index consists of six indicators. Very high and high category settlements scored very high and high in the infrastructure index. Similarly, low and very low settlements have low and very low scores in this index. On the municipal level one finds that the infrastructure index is spread evenly between the three municipal categories and points to the extent of infrastructure challenges within municipalities. Municipalities close to the metropolitan area and along the southern coast of the province are generally rated high and medium in this index. Infrastructure challenges are most severe in municipalities along the West Coast and the Karoo, with settlements in these municipalities also facing similar challenges (Figure 41).

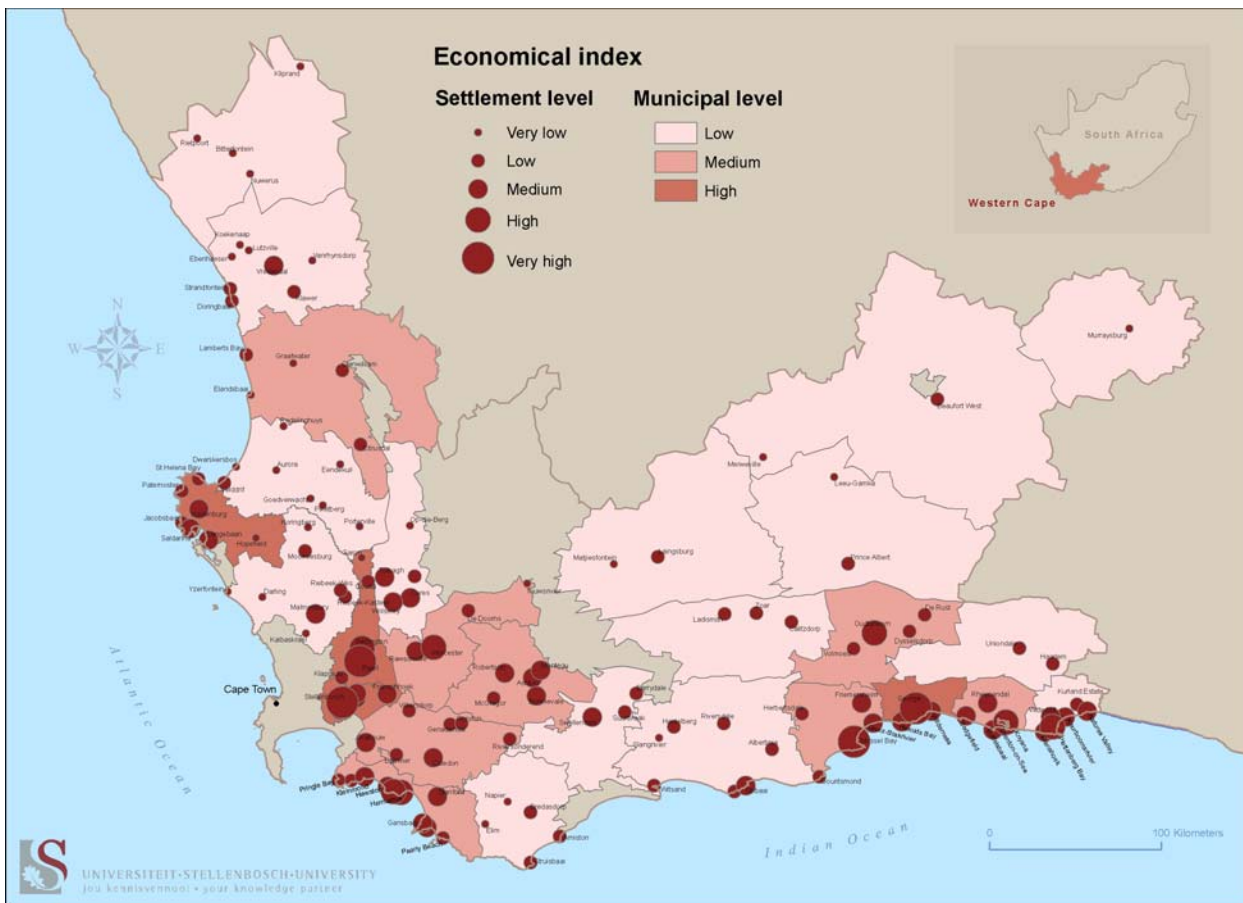


Figure 39 Economical index

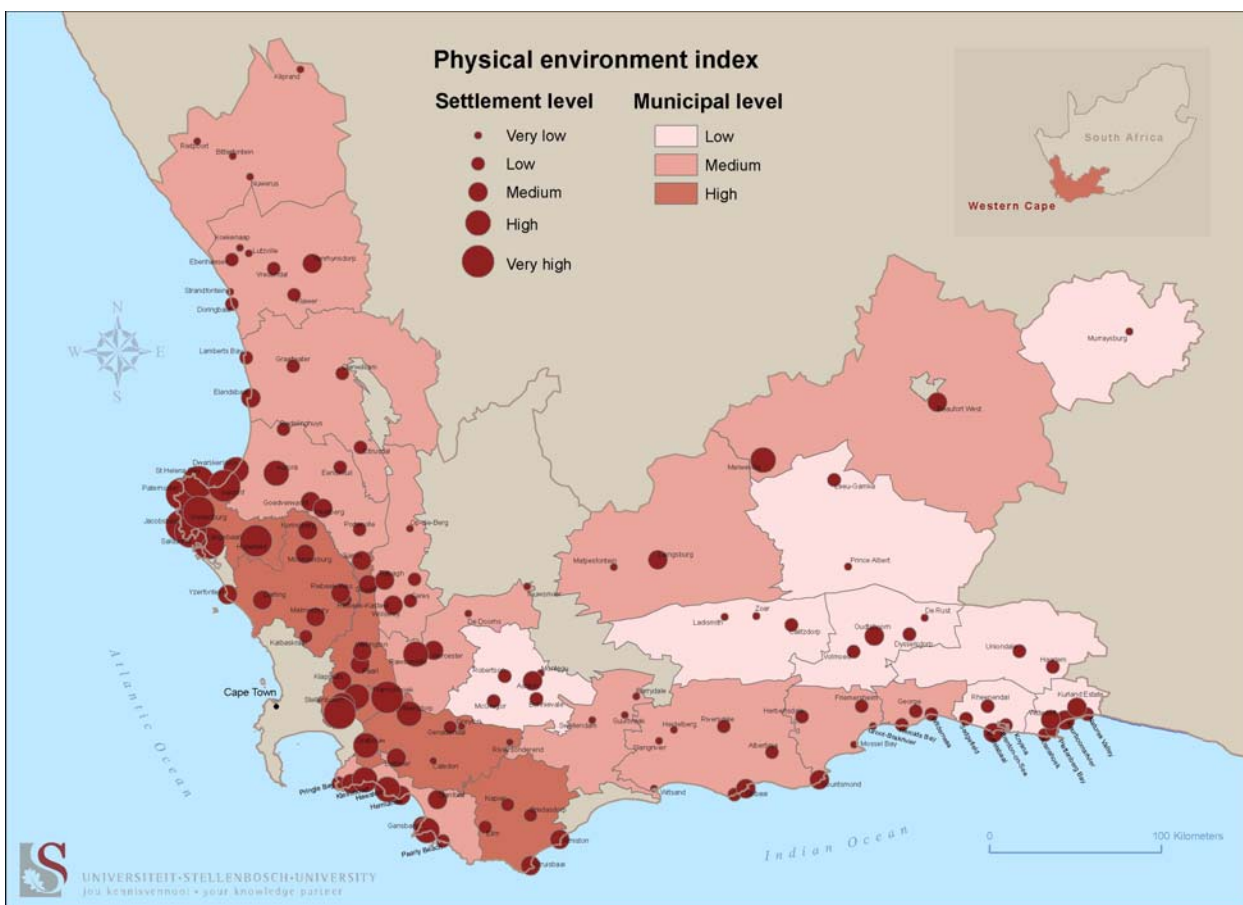


Figure 40 Physical environment index

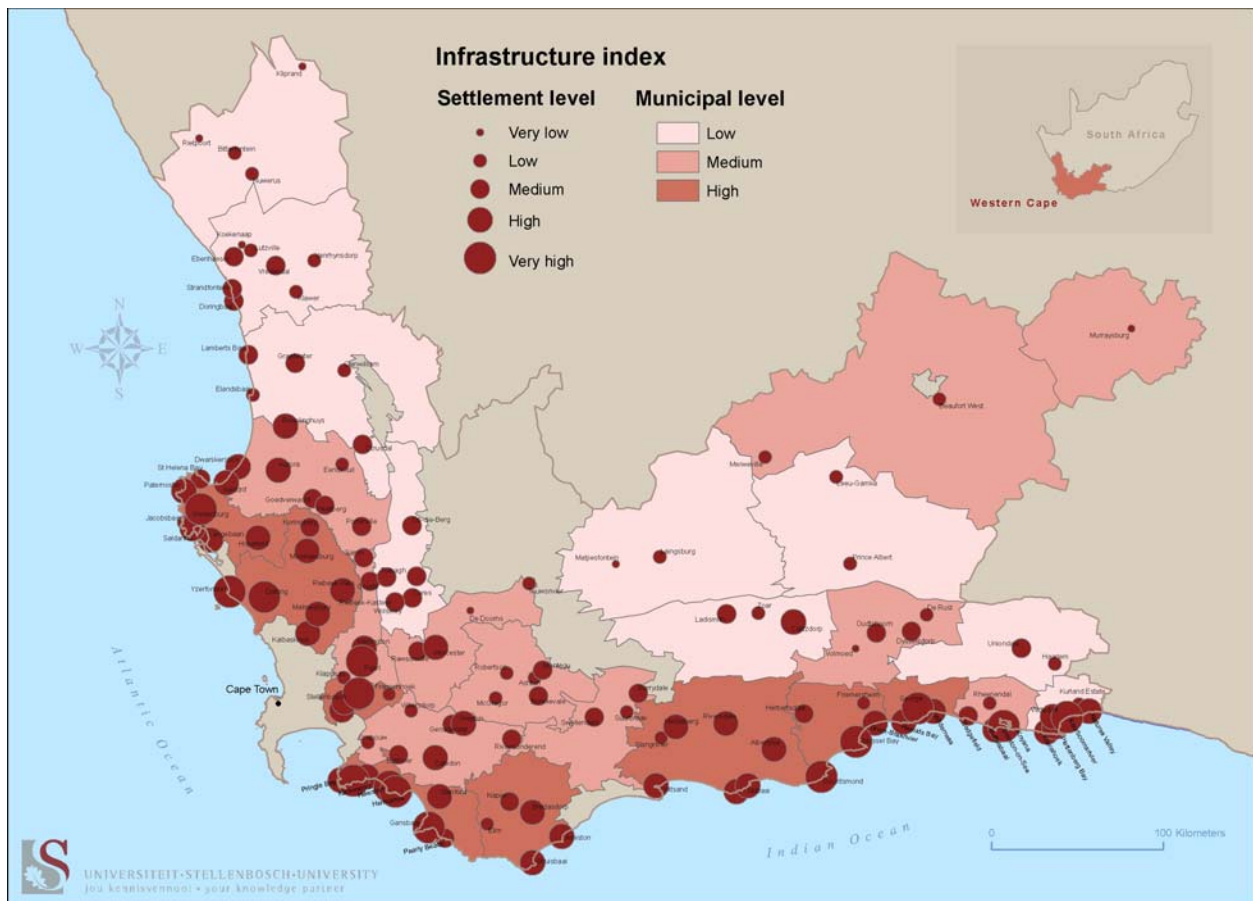


Figure 41 Infrastructure index

The institutional index is comprised of two crime indicators and an amenity indicator. Crime rates were higher in coping and struggling settlements while stable and leader settlements has lower crime rates. Similarly, public amenities were fewer in number if coping and struggling settlements and higher in the leader settlements. Approximately half of municipalities were placed in the medium category in the institutional index, the least number of municipalities featuring in the low category. Most settlements were categorised as very high, high and medium in this index which indicates that institutionally, the province is strong. It must be mentioned that those municipalities that were categorised as low were not necessarily translate to settlements in those municipalities also having a low ranking (Figure 42).

Most municipalities have a high and medium development potential index (Figure 43). However, the focus should be on individual indexes in order to prioritise areas of intervention within municipalities. Focussed intervention strategies on the identified indexes could assist in strengthening the composite development potential index. The same strategy of focussed intervention can be applied at the settlement level, particularly on settlements that are categorised as very low and low.

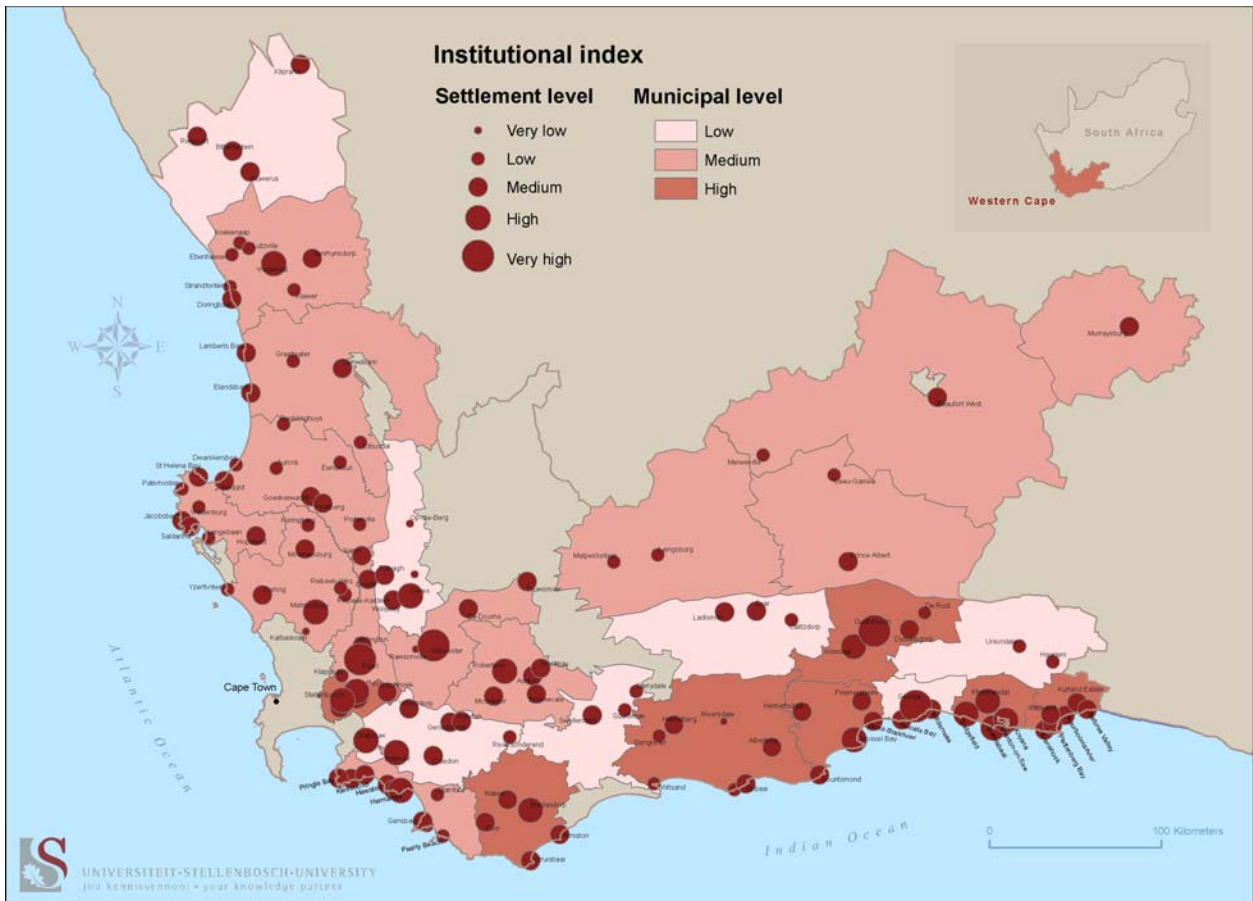


Figure 42 Institutional index

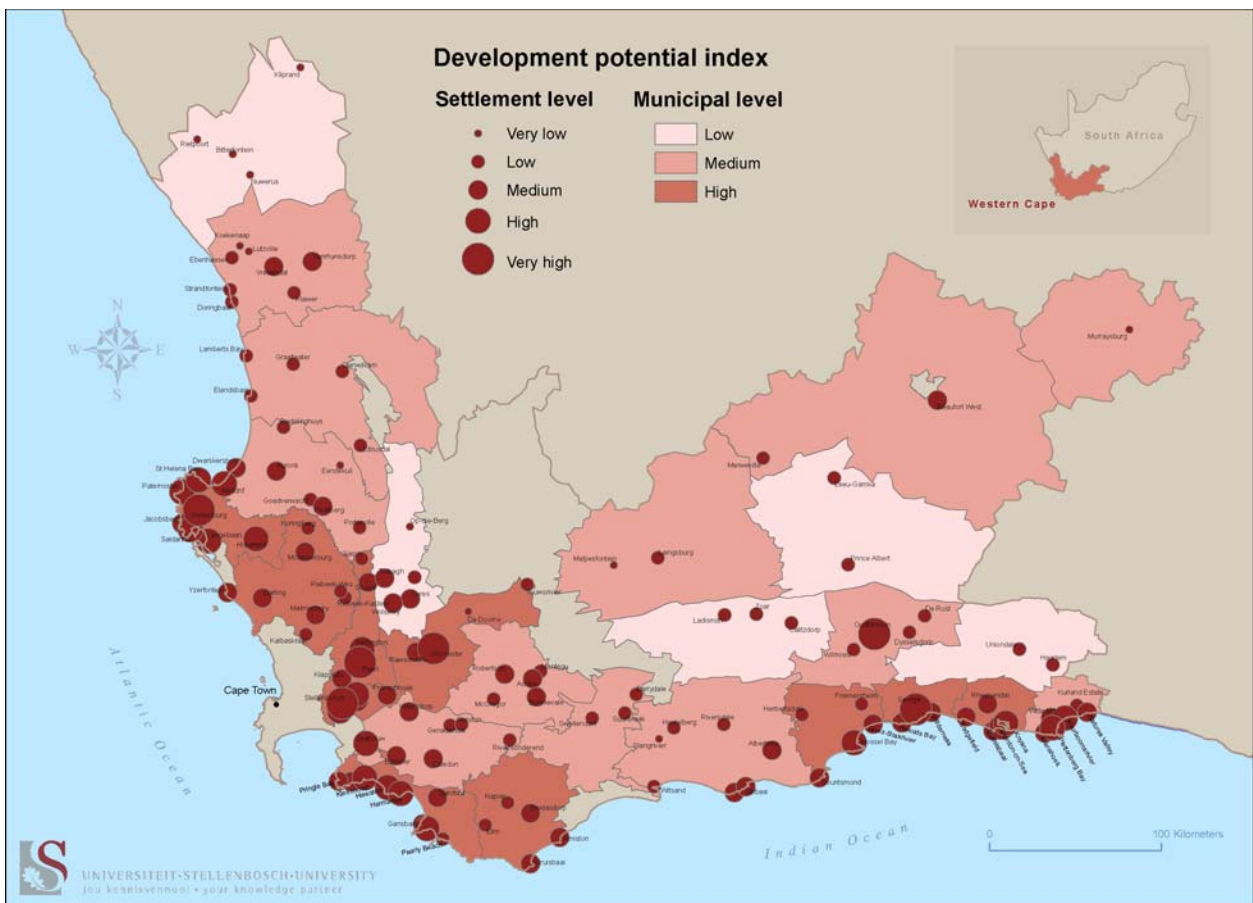


Figure 43 Development potential index

The municipalities with the highest social needs are generally located along the border of the province (Figure 44). This may point to the implementation of cross-border interventions in order to address the social needs on a regional level. Most municipalities are in the medium category of social needs with only five municipalities in the low social needs category.

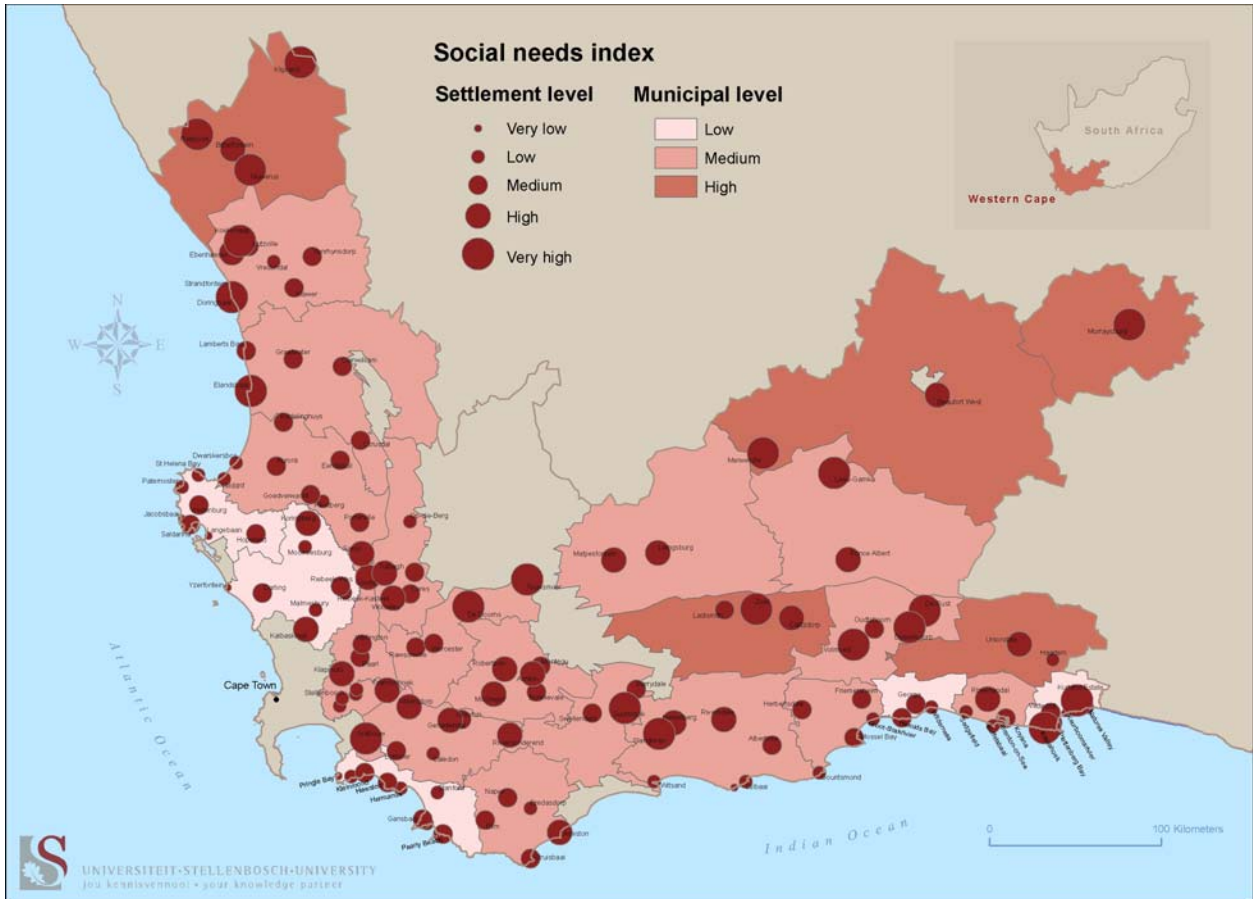


Figure 44 Social needs index

The cross-tabulation between development potential and social needs of settlements (Table 31) also holds important implications for typical policy interventions that would be most suited to the individual circumstances associated with each of these groups of settlements.

Table 31 Settlements' development potential versus social needs

	Very high development potential	High development potential	Medium development potential	Low development potential	Very low development potential
Very high social needs		Grabouw	Kranshoek	De Rust Doringbaai Dysselsdorp Elandsbaai Kurland Leeu Gamka Merweville Suurbraak Touwsrivier Volmoed Zoar	De Doorns Kliprand Koekenaap Murraysburg Nuwerus Rietpoort Slangrivier
High social needs			Arniston Ashton Beaufort West Franschhoek Gouda Klapmuts Rheenendal Robertson Tulbagh Villiersdorp Wolseley	Calitzdorp Ebenhaesar Genadendal Heidelberg Kalbaskraal Koringberg Laingsburg McGregor Prince Albert Riversdale Riviersonderend Saron Uniondale	Bitterfontein Matjiesfontein
Medium social needs	George Oudtshoorn Paarl Vredenburg Worcester	Hawston Hopefield Kleinmond Knysna Mossel Bay Plettenberg Bay Saldanha Wellington	Albertinia Aurora Bonnievale Botrivier Ceres Darling Gansbaai Herolds Bay Rawsonville Struisbaai Vanrhynsdorp Wittedrift	Barrydale Citrusdal Clanwilliam Elim Friemersheim Goedverwacht Graafwater Greyton Herbertsdale Klawer Ladismith Lamberts Bay Montagu Napier Pearly Beach Porterville Prince Alfred Hamlet Redelinghuys Riebeek-Wes Swellendam	Eendekuil Lutzville
Low social needs	Stellenbosch	Franskraalstrand Hermanus Jamestown Kylemore Paternoster Pniel St Helena Bay Velddrift	Betty's Bay Bredasdorp Buffelsbaai Caledon Dwarskersbos Gouritsmond Groot Brakrivier Malmesbury Moorreesburg Nature's Valley Piketberg Sedgefield Stanford Stilbaai Vredendal Wilderness	Haarlem Riebeek-Kasteel Witsand	Op-die-Berg
Very low social needs		Brenton-on-Sea Keurboomsrivier Langebaan	Jongensfontein Jacobsbaai Onrus Pringle Bay Yzerfontein	Strandfontein	

6.2 Comparison of 2004 and 2010 results

As discussed in Section 4, the methodology used in the 2004 study differed from the approach taken in this study. Whereas the 2004 study ranked the settlements from 1 to 131, natural breaks (see Section 4.9) was used in the 2010 study to group settlements into five categories depicting their developmental potential. These categories are: (1) Very high (leader settlements), (2) High (aspirant leader settlements), (3) Medium (stable settlements), (4) Low (coping settlements), and (5) Very low (struggling settlements). The same classification was carried out on the raw values of the 2004 study's development index to enable direct comparison with the results of the 2010 study. It was found that there is a moderate (0.697 with significance 0.01 (2-tailed)), positive statistical correlation between the settlement category rankings of the two studies. This correlation is clear when the 2004 and 2010 classifications of growth potential are compared per settlements category (see Figure 45).

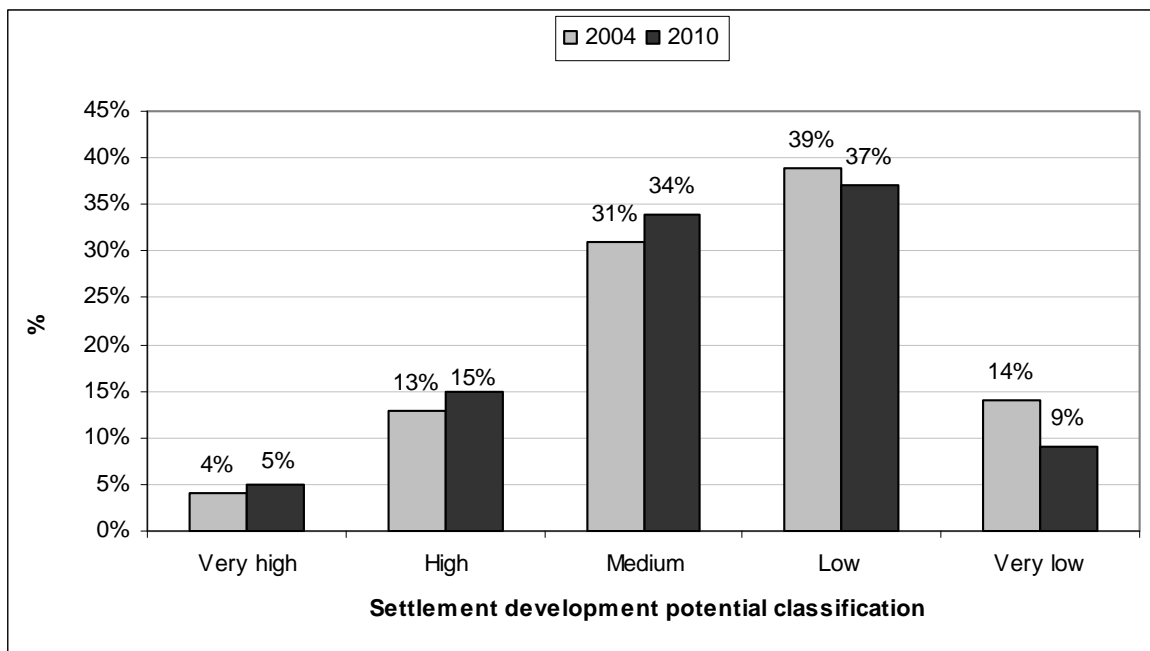


Figure 45 Percentage settlement development potential classification comparison: 2004 and 2010

More than half (51%) of settlements were found to have the same growth potential in 2004 and 2010. A total of 40 (31%) settlements has a higher growth potential than in 2004, while 24 (18%) has a lower potential. Table 33 shows the comparison for all the settlements sorted according to the five development categories of 2010. A total of five settlements experienced significant change from the 2004 rating and improved their developmental potential category by two categories (i.e. a significant change). These are Hopefield, Paternoster, St Helena Bay, Buffelsbaai and Nature's Valley. Four of these are coastal holiday tourism settlements, and three (Hopefield, Paternoster, St Helena Bay) of them are located within one municipality (Saldanha Bay Municipality). Only Lutzville showed a decrease of two categories (Figure 46). These settlements are discussed as case studies in Appendix E.

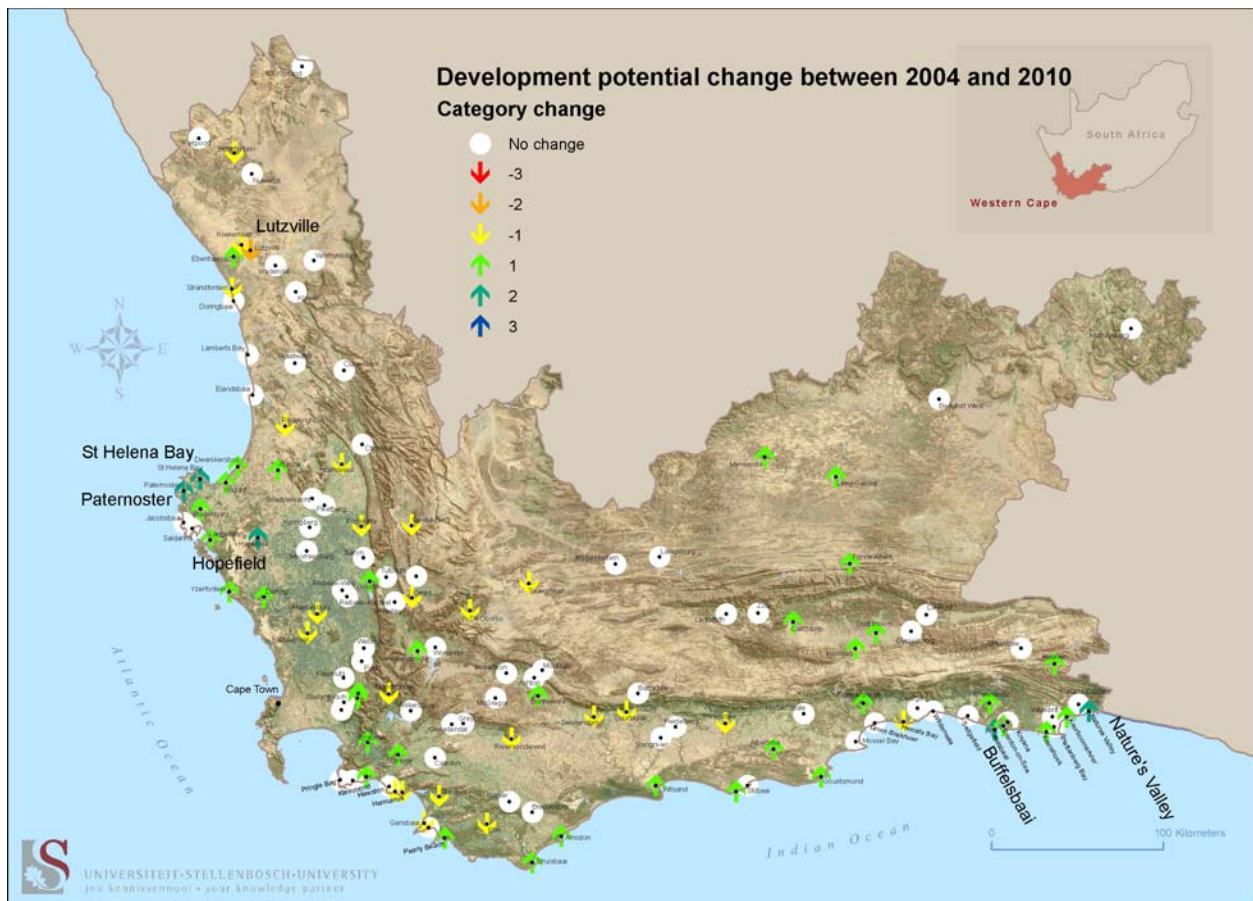


Figure 46 Development potential change between 2004 and 2010

The natural breaks categorisation, importantly, revealed that according to the 2004 index values only four settlements would have been classified as very high development potential compared to six in the 2010 study. Some municipalities may have based investment and spatial development for their spatial development frameworks and IDPs on the 2004 study's findings. It is for municipalities to see exactly to what extent their settlements may have changed in development potential since 2004.

When comparing the 2004 and 2010 data on social needs it is clear from Figure 47 that there is no significant percentage difference between settlements that have a very high, high, low and very low classification. However, a substantial number of settlements were classified as having a medium social need in 2010. In 2004, the majority of leader settlements and struggling settlements have had very high/high social needs. Conversely, the majority aspirant leader and stable settlements had a very low/low social need whereas coping settlements had slightly higher social needs. In 2010 the vast majority of leader towns have a medium social need (a significant change since 2004). Closer scrutiny of the data (Table 32) reveals that there is a marked improvement between 2004 and 2010 in social needs within leader settlements (from high needs to medium needs). The situation in the struggling settlements, however, remained bleak where high social needs remained unchanged since 2004. The 19 settlements that have lower social needs compared to 2004 include a mix of settlement categories. These settlements include the following: Eendekuil, Elim, Franschoek, Gansbaai, George, Goedverwacht, Gouritsmond, Haarlem, Herbertsdale, Hermanus, Knysna, Oudtshoorn, Paarl, Plettenberg Bay, Redelinghuys, Riebeeck-Kasteel, Strandfontein, Villiersdorp, and Worcester (Figure 48).

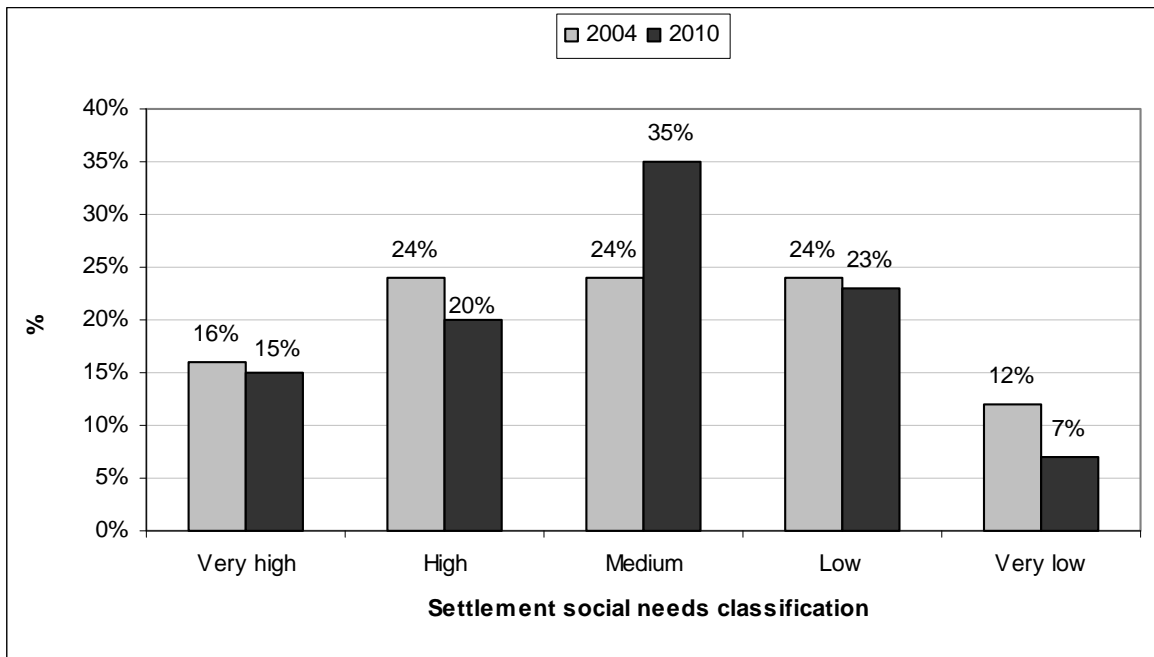


Figure 47 Percentage settlement social needs classification comparison: 2004 and 2010

Table 32 Comparison between 2004 and 2010 percentage social needs according to settlement type

Settlement Type	Very high		High		Medium		Low		Very low	
	2004	2010	2004	2010	2004	2010	2004	2010	2004	2010
Leader settlement	17%	0%	50%	0%	0%	83%	33%	17%	0%	0%
Aspirant leader settlement	10%	5%	5%	0%	20%	35%	25%	45%	40%	15%
Stable settlement	7%	2%	20%	24%	22%	27%	33%	36%	18%	11%
Coping settlement	17%	23%	31%	27%	35%	42%	17%	6%	0%	2%
Struggling settlement	58%	58%	25%	17%	0%	17%	17%	8%	0%	0%
Average	16%	15%	24%	0%	24%	35%	24%	23%	12%	7%

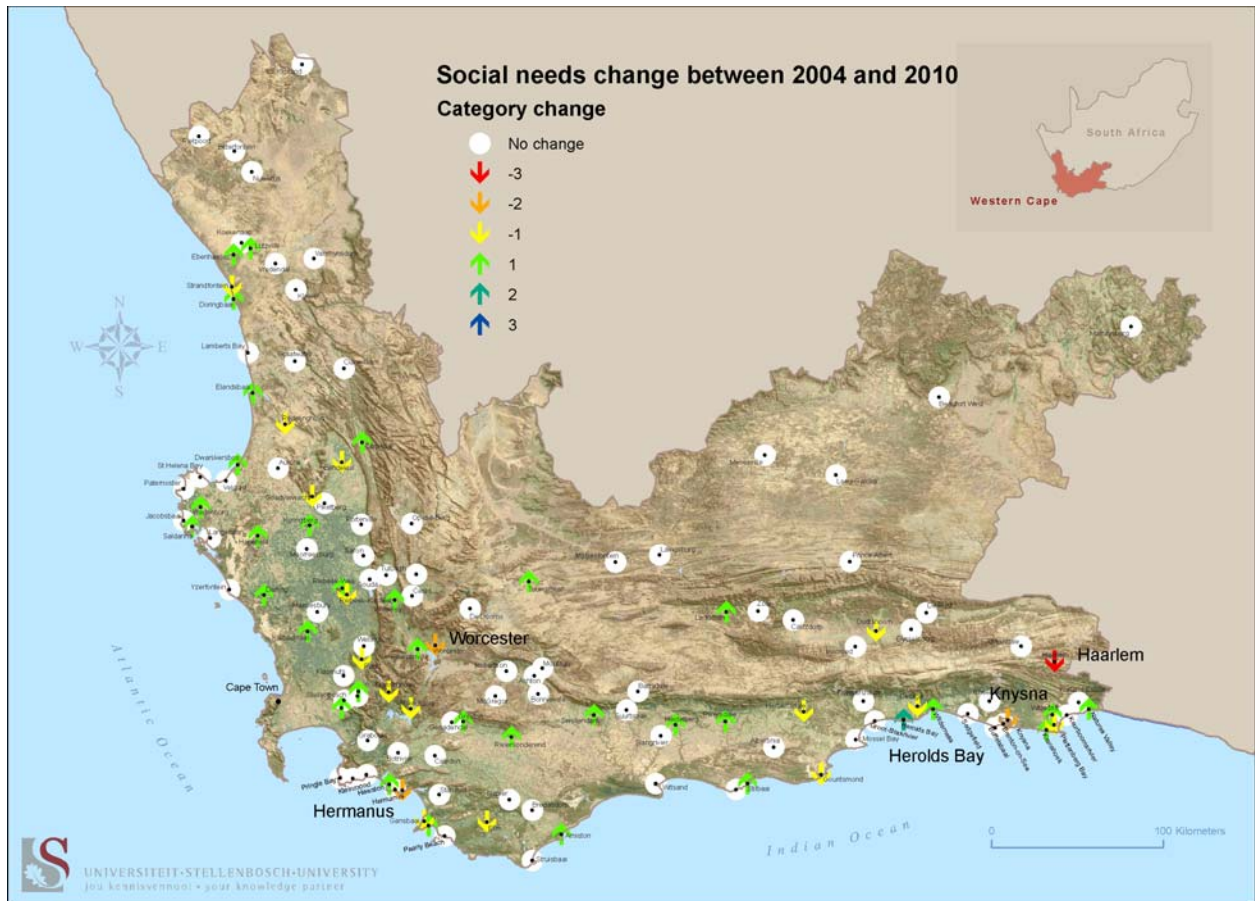


Figure 48 Social needs change between 2004 and 2010

Table 33 Comparison between 2004 and 2010 development potential and social needs categories

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Albertinia	Medium	Low	1	Medium	Medium	0
Arniston	Medium	Low	1	High	Medium	1
Ashton	Medium	Medium	0	High	High	0
Aurora	Medium	Low	1	Medium	Medium	0
Barrydale	Low	Low	0	Medium	Medium	0
Beaufort West	Medium	Medium	0	High	High	0
Betty's Bay	Medium	Medium	0	Low	Low	0
Bitterfontein	Very low	Low	-1	High	High	0
Bonnievale	Medium	Low	1	Medium	Medium	0
Botrivier	Medium	Low	1	Medium	Medium	0
Bredasdorp	Medium	Medium	0	Low	Low	0
Brenton-on-Sea	High	Medium	1	Very low	Very low	0
Buffelsbaai	Medium	Very low	2	Low	Low	0
Caledon	Medium	Medium	0	Low	Low	0
Calitzdorp	Low	Very low	1	High	High	0

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Ceres	Medium	High	-1	Medium	Medium	0
Citrusdal	Low	Low	0	Medium	Low	1
Clanwilliam	Low	Low	0	Medium	Medium	0
Darling	Medium	Low	1	Medium	Low	1
De Doorns	Very low	Low	-1	Very high	Very high	0
De Rust	Low	Low	0	Very high	Very high	0
Doringbaai	Low	Low	0	Very high	High	1
Dwarskersbos	Medium	Low	1	Low	Very low	1
Dysselsdorp	Low	Low	0	Very high	Very high	0
Ebenhaesar	Low	Very low	1	High	Medium	1
Eendekuil	Very low	Low	-1	Medium	High	-1
Elandsbaai	Low	Low	0	Very high	High	1
Elim	Low	Medium	-1	Medium	High	-1
Franschhoek	Medium	High	-1	High	Very high	-1
Franskraalstrand	High	High	0	Low	Very low	1
Friemersheim	Low	Very low	1	Medium	Medium	0
Gansbaai	Medium	High	-1	Medium	High	-1
Genadendal	Low	Low	0	High	High	0
George	Very high	Very high	0	Medium	High	-1
Goedverwacht	Low	Low	0	Medium	High	-1
Gouda	Medium	Low	1	High	High	0
Gouritsmond	Medium	Low	1	Low	Medium	-1
Graafwater	Low	Low	0	Medium	Medium	0
Grabouw	High	Medium	1	Very high	Very high	0
Greyton	Low	Low	0	Medium	Low	1
Groot Brakrivier	Medium	Medium	0	Low	Low	0
Haarlem	Low	Very low	1	Low	Very high	-3
Hawston	High	High	0	Medium	Low	1
Heidelberg	Low	Low	0	High	Medium	1
Herbertsdale	Low	Low	0	Medium	High	-1
Hermanus	High	Very high	-1	Low	High	-2
Herolds Bay	Medium	High	-1	Medium	Very low	2
Hopefield	High	Low	2	Medium	Low	1
Jacobsbaai	Medium	Medium	0	Very low	Very low	0
Jamestown	High	High	0	Low	Very low	1

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Jongensfontein	Medium	Low	1	Very low	Very low	0
Kalbaskraal	Low	Medium	-1	High	Medium	1
Keurboomsrivier	High	Medium	1	Very low	Very low	0
Klapmuts	Medium	Medium	0	High	High	0
Klawer	Low	Low	0	Medium	Medium	0
Kleinmond	High	Medium	1	Medium	Medium	0
Kliprand	Very low	Very low	0	Very high	Very high	0
Knysna	High	High	0	Medium	Very high	-2
Koekenaap	Very low	Low	-1	Very high	Very high	0
Koringberg	Low	Low	0	High	Medium	1
Kranshoek	Medium	Low	1	Very high	High	1
Kurland	Low	Low	0	Very high	Very high	0
Kylemore	High	Medium	1	Low	Low	0
Ladismith	Low	Low	0	Medium	Low	1
Laingsburg	Low	Low	0	High	High	0
Lamberts Bay	Low	Low	0	Medium	Medium	0
Langebaan	High	Medium	1	Very low	Very low	0
Leeu Gamka	Low	Very low	1	Very high	Very high	0
Lutzville	Very low	Medium	-2	Medium	Low	1
Malmesbury	Medium	High	-1	Low	Low	0
Matjiesfontein	Very low	Very low	0	High	High	0
McGregor	Low	Low	0	High	High	0
Merweville	Low	Very low	1	Very high	Very high	0
Montagu	Low	Low	0	Medium	Medium	0
Moorreesburg	Medium	Medium	0	Low	Low	0
Mossel Bay	High	High	0	Medium	Medium	0
Murraysburg	Very low	Very low	0	Very high	Very high	0
Napier	Low	Low	0	Medium	Medium	0
Nature's Valley	Medium	Very low	2	Low	Very low	1
Nuwerus	Very low	Very low	0	Very high	Very high	0
Onrus	Medium	High	-1	Very low	Very low	0
Op-die-Berg	Very low	Low	-1	Low	Low	0
Oudtshoorn	Very high	High	1	Medium	High	-1
Paarl	Very high	Very high	0	Medium	High	-1
Paternoster	High	Low	2	Low	Low	0

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Pearly Beach	Low	Very low	1	Medium	Medium	0
Piketberg	Medium	Medium	0	Low	Low	0
Plettenberg Bay	High	High	0	Medium	High	-1
Pniel	High	Medium	1	Low	Very low	1
Porterville	Low	Medium	-1	Medium	Medium	0
Prince Albert	Low	Very low	1	High	High	0
Prince Alfred Hamlet	Low	Low	0	Medium	Medium	0
Pringle Bay	Medium	Medium	0	Very low	Very low	0
Rawsonville	Medium	Low	1	Medium	Low	1
Redelinghuys	Low	Medium	-1	Medium	High	-1
Rheenendal	Medium	Low	1	High	High	0
Riebeek-Kasteel	Low	Low	0	Low	Medium	-1
Riebeek-Wes	Low	Low	0	Medium	Low	1
Rietpoort	Very low	Very low	0	Very high	Very high	0
Riversdale	Low	Medium	-1	High	Medium	1
Riviersonderend	Low	Medium	-1	High	Medium	1
Robertson	Medium	Medium	0	High	High	0
Saldanha	High	High	0	Medium	Low	1
Saron	Low	Low	0	High	High	0
Sedgefield	Medium	Medium	0	Low	Low	0
Slangrivier	Very low	Very low	0	Very high	Very high	0
St Helena Bay	High	Low	2	Low	Low	0
Stanford	Medium	High	-1	Low	Low	0
Stellenbosch	Very high	Very high	0	Low	Low	0
Stilbaai	Medium	Medium	0	Low	Very low	1
Strandfontein	Low	Medium	-1	Very low	Low	-1
Struisbaai	Medium	Low	1	Medium	Medium	0
Suurbraak	Low	Medium	-1	Very high	Very high	0
Swellendam	Low	Medium	-1	Medium	Low	1
Touwsrivier	Low	Medium	-1	Very high	High	1
Tulbagh	Medium	Medium	0	High	High	0
Uniondale	Low	Low	0	High	High	0
Vanrhynsdorp	Medium	Medium	0	Medium	Medium	0
Velddrift	High	Medium	1	Low	Low	0

Settlement	2010 Development potential category	2004 Development potential category	Difference in development potential category	2010 Social needs category	2004 Social needs category	Difference in social needs position
Villiersdorp	Medium	Medium	0	High	Very high	-1
Volmoed	Low	Very low	1	Very high	Very high	0
Vredenburg	Very high	High	1	Medium	Low	1
Vredendal	Medium	Medium	0	Low	Low	0
Wellington	High	High	0	Medium	Medium	0
Wilderness	Medium	Medium	0	Low	Very low	1
Witsand	Low	Very low	1	Low	Low	0
Wittedrift	Medium	Medium	0	Medium	Low	1
Wolseley	Medium	Medium	0	High	Medium	1
Worcester	Very high	Very high	0	Medium	Very high	-2
Yzerfontein	Medium	Low	1	Very low	Very low	0
Zoar	Low	Low	0	Very high	Very high	0

Settlements were also classified in terms of five broad functional/town identity categories:

- regional centres;
- agricultural service centres;
- fishing/industrial;
- residential; and
- tourism.

A summary of the development potential and social needs of settlements within each of these categories is outlined in Figure 49.

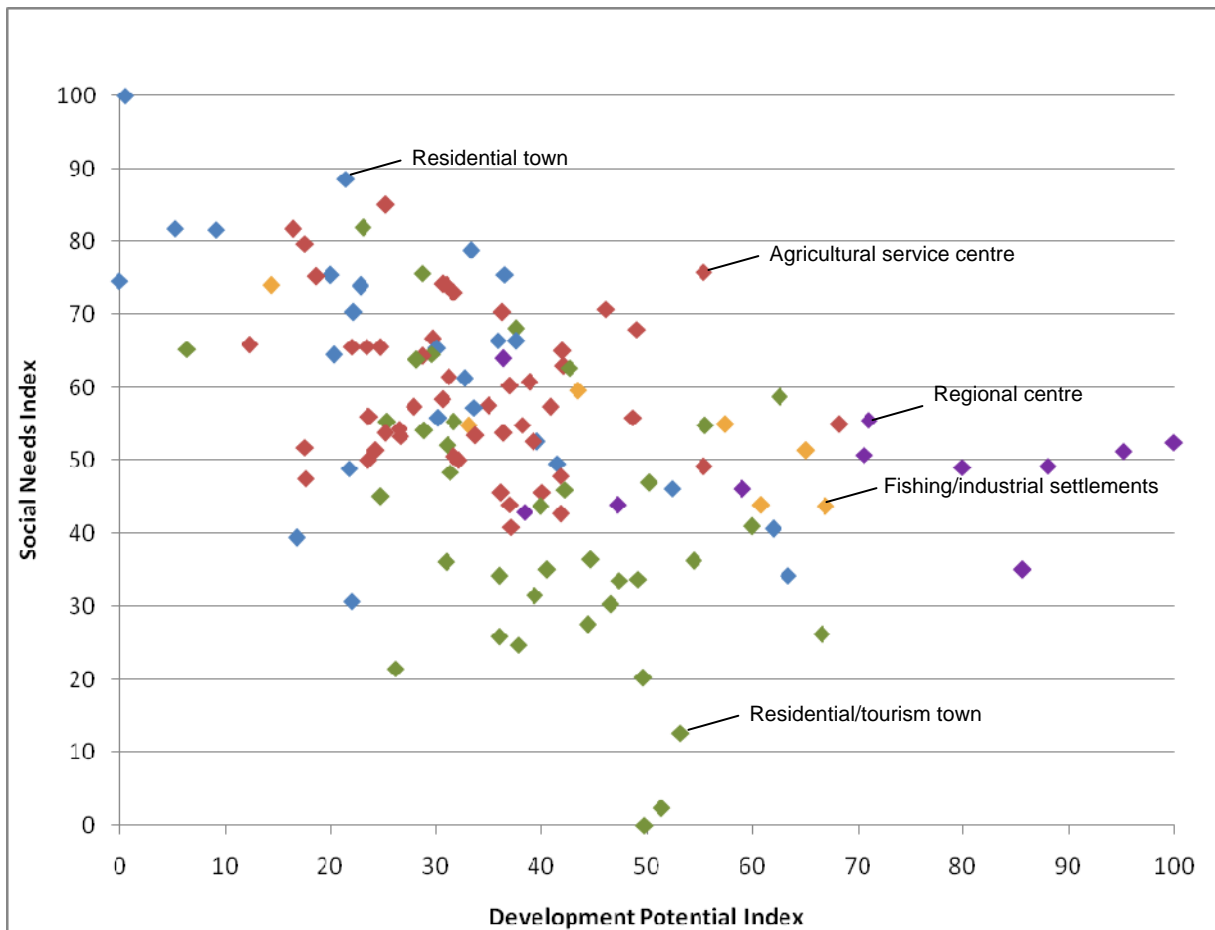


Figure 49 Scatter plot comparing the social needs and development potential of all settlements

Similar scatter plots were shown in Section 5.3. A number of important general characteristics are evident from this information:

- The regional centres (Section 5.3.2) are mostly located in the south-eastern quadrant of the scatter plot reflecting settle.
- The agricultural service centres (Section 5.3.3) are mostly located in the north-western quadrant of the scatter plot, and mostly achieved low scores on the composite development potential index and are characterised by medium to high values on the social needs index. Most of these settlements also scored low on both on the economic potential and physical potential indexes .
- The fishing/industrial settlements (Section 5.3.4) are generally classified as having medium to high levels of development potential, and medium levels of social needs. These settlements generally scored low to very low on the economic and institutional indexes, and medium to high on the infrastructure index.
- The residential settlements (Section 5.3.5) are generally located in the north-western quadrant of the scatter plot with social needs mainly within the high to very high range, and low to medium levels of development potential. These settlements generally performed poorly on the economic potential, physical potential and institutional indexes.

The tourism settlements (Section 5.3.6) are mostly located in the bottom half of the scatter plot, indicating a wide range of development potential ranging from low to high and generally characterised by low or very low levels of social needs. With the exception of Knysna and Plettenberg Bay, these settlements generally achieved relatively low scores on the economic potential index. Most of these tourism settlements are also relatively well provided with infrastructure and mostly scored medium to high on the infrastructure index.

6.3 Conclusion

The overarching aim of this project was to review and update the Growth Potential Study of Towns in the Western Cape by revising the indicators from the 2004 through a comprehensive policy assessment and theoretical literature review; compiling a revised and updated database of indicators; and applying the revised indicators to calculate the various indexes and compare the results with those of the 2004 study.

From the outset it was clear that some modifications of the 2004 methodology would be required to refine and improve the methodology, building on the sound basis provided by the 2004 study. The methodology applied in this study thus differed in certain aspects from the process used in the 2004 study:

- The application of data reduction techniques in the 2010 study to overcome the potential danger and inherent risk of compensability of using large numbers of indicators in composite indexes. Through the application of factor analysis, the 75 potential indicators were reduced to 20 core indicators for the town level analysis and 21 core indicators for the municipal analysis.
- The 2010 study also included an additional municipal level analysis in addition to the town level indexes.
- The allocation of weights (i.e. importance) to different indicators in the 2010 study by using statistical methods, thus reflecting the relative importance of each of the variables.
- The analysis and classification of settlements in terms of development potential and social needs according to five categories instead of a rank order classification as used in the 2004 study.
- The analysis and classification of development potential and social needs according to functional/place identity categories with a view to inform development and investment decisions that would be applicable and targeted to each group of settlements in terms of its functional classification.

The results indicated that a total of six settlements (i.e. 5% of settlements) can be classified as having a very high development potential (leader settlements). These include George, Oudtshoorn, Paarl, Stellenbosch, Vredenburg and Worcester. A further 20 (15%) settlements fall in the high development potential category (aspirant leader settlements) and 45 (34%) in the medium development potential category (stable settlements). Many of the settlements, namely 48 (37%) fall in the low category (coping settlements). There are 12 (9%) settlements with a very low development potential (struggling

settlements). Of the 131 settlements studied, 20 (15%) have very high social needs, while 9 (7%) have very low social needs. The remainder (78%) were classified as having high, medium or low social needs.

The results of the 2010 study largely confirmed the findings of the 2004 study. A comparison of the results of the 2004 and 2010 studies revealed that more than half (51%) of settlements were found to have remained in the same growth potential category between 2004 and 2010. A total of 40 (31%) settlements are classified in a higher growth potential category than in 2004, while 24 (18%) has a lower potential.

The analysis of settlements according to their functional/place identity categorisation revealed a number of important characteristics:

- The regional centres generally have high levels of development potential and comparatively lower social needs.
- The agricultural service centres mostly achieved low scores on the composite development potential index and are characterised by medium to high values on the social needs index.
- The fishing/industrial settlements are generally classified as having medium to high levels of development potential, and medium levels of social needs.
- The social needs of the residential settlements are mainly within the high to very high range, and with low to medium levels of development potential.
- The tourism settlements have a wide range of development potential, ranging from low to high and are generally characterised by low or very low levels of social needs.

The cross tabulation of development potential and social needs hold important implications for the type of development and investment decisions on a broad scale. In order to avoid what Atkinson (2008:4) refers to as the NSDP becoming a self-fulfilling prophecy where so-called “areas lacking in economic potential” will “continue to be starved of government funding and development effort ...” it is necessary to identify innovative approaches to support development in settlements outside the metropolitan area and formulate development and investment policies and strategies sensitive to the function and identity of individual settlements.

The software developed for this study provides the ability to rapidly update the database of indicators and recalculate the development indexes (using different weights if required). This will enable its application on a regular (annual) basis to measure the impact of specific investment decisions and interventions and can assist in monitoring development progress at both settlement and municipal levels within the province.

7 REFERENCES

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