



PIXLEY KA SEME DISTRICT

Spatial Development Framework /

Land Development plan

2013 - 2018

**PIXLEY KA SEME DISTRICT SPATIAL DEVELOPMENT FRAMEWORK/
LAND DEVELOPMENT PLAN
(SDF)
2013-2018**



Sixth draft

May 2014



**Prepared
by CK Rumboll & Partners**



FOREWORD BY THE HONORABLE EXECUTIVE MAYOR OF THE PIXLEY KA SEME DISTRICT MUNICIPALITY, Cnr J.Z. LOLWANA

Pixley Ka Seme District Municipality successfully completed the compilation of its Spatial Development Framework (SDF). The Pixley Ka Seme SDF proudly takes its place in the Northern Cape Province to support not only provincial initiatives, but also national directives as it aligns with provincial planning legislation as well as the latest national planning legislation.

This plan enhances and embraces Council's vision:

"Pixley Ka Seme DM, PIONEERS of DEVELOPMENT, a HOME and FUTURE for all!!!"

The SDF forms part of Council's continued drive to eradicate wrong doings from the past by means of colonial and apartheid manipulation regarding development, settlement structures as well as economic activity within the district. The SDF was compiled in collaboration with the Department of Land Reform and Rural Development as well as the provincial administration and follows onto the SDF completed in 2007 to provide a focused approach for sustainable development. The SDF supports and ensure much needed economic growth as linked to job creation and the eradication of poverty. The SDF identifies development areas and nodes as well as corridors on a regional level as supported by sound base data to ensure growth and development for the next 5 years. Spatial proposals culminated in identified and prioritized projects that will be linked to Council's budget via the IDP process and as such implemented. Of these projects the SKA project at Carnarvon ensured international focus on the Pixley Ka Seme District while the potential locked up in the development corridors as identified together with the range of renewable energy projects can secure a bright future for the region and its residents.

The SDF was prepared subject to a prescribed public participation process whereby all interested and affected parties as well as the general public were approached for input and comments to ensure a transparent process. I, therefore wish to thank all who participated and contributed to the compilation of this spatial framework for development. The SDF was prepared as a practical tool to promote sustainable spatial development as linked to economic growth to ensure a home and future for our communities residing within the Pixley Ka Seme District.

CONTENTS

	Page
EXECUTIVE SUMMARY	
ACRONYMS	
Chapter 1: Purpose, Scope and Development Phases	
1.1 Introduction	1
1.2 Purpose and Objectives	2
1.3 Scope of Work	5
1.4 Development Phases of Spatial Development Framework	6
1.5 Public Participation	10
1.6 Summary	13
Chapter 2: Provincial & Regional guidelines, Perspective & Issues	
2.1 Provincial Spatial Development Framework Directives	14
2.2 Provincial Land Use Management Guidelines	15
2.3 Spatial Planning Categories	16
2.4 Provincial Development Regions and Corridors	19
2.5 Bioregional Planning Principles	20
2.6 Provincial Spatial Development Framework strategic focus and priorities	21
2.7 Regional Context	23
2.8 Vision and Mission	28
2.9 Spatial Interpretation	29
2.10 Regional Perspectives	30

Chapter 3: Bio Physical Environment,

3.1	Geology and Soils	37
3.2	Climate	43
3.2.1	Climate change	45
3.3	Topography	47
3.4	Hydrology	48
3.4.1	Water Resources and Groundwater Capacity	49
3.5	Vegetation	53
3.6	Conservation and Heritage	57
3.7	Agriculture	61
3.8	Mining	64

Chapter 4: Socio Economic Environment

4.1	Demographic Profile	67
4.2	Economic Profile	75
4.2.1	Labour force	77
4.2.2	Income	78
4.2.3	Education & skills levels	78
4.2.4	Unemployment & labour	79
4.2.5	Economic characteristics of district	83
4.2.6	Location quotient	84
4.2.7	Tress indicators	86
4.2.8	Sector profile	86
4.2.9	Local Economic Development (LED) SDF input	88
4.3	Health Services	102

4.4	Education	106
4.5	Safety & security	110
4.6	Community services	113
4.7	Tourism	117
4.8	Land Reform	119
4.9	Land Use Planning Standards	123

Chapter 5: Built Environment

5.1	Hierarchy of settlements	125
5.2	Transport	130
5.3	Water/ Infrastructure	136
5.3.1	Regional Bulk Infrastructure Grant	136
5.3.2	Accelerated Community Infrastructure Program	137
5.3.3	War on Leaks Program	137
5.4	Waste Water Treatment (Sanitation)	142
5.5	Solid Waste Management	145
5.6	Energy	147
5.6.1	Renewable Energy Hub	147
5.6.2	Hydraulic Fracturing	150
5.6.3	Biomass to biofuels	152
5.6.4	Electricity	154
5.6.5	Hydro-electric power	158
5.7	Telecommunications	160
5.7.1	KAT7	160
5.7.2	MeerKAT	160
5.7.3	SKA Project	164
5.7.4	Telephone communication	170

5.8	Human settlements	171
5.8.1	Emthanjeni Municipality	173
5.8.2	Kareeberg Municipality	187
5.8.3	Thembelihle Municipality	198
5.8.4	Siyathemba Municipality	210
5.8.5	Renosterberg Municipality	219
5.8.6	Ubuntu Municipality	227
5.8.7	Siyancuma Municipality	237
5.8.8	Umsobomvu Municipality	247

Chapter 6: Proposals

6.1	Regional Perspectives	256
6.2	The Strategic Directives	257
6.2.1	Pixley Ka Seme in terms of the Global Bio-physical Context	259
6.2.2	Pixley Ka Seme within the Northern Cape provincial and South African Context	263
6.2.3	Bioregional Planning	265
6.2.4	Spatial Planning Categories	268
6.2.5	Strategies for Implementation Guidelines	270
6.2.6	Regulating the Development of Industrial Areas	271
6.2.7	Ensuring the development of efficient Surface Infrastructure	272
6.2.8	Sustainable use of Capital Resources	276
6.2.9	Planning for responsible Tourism	279
6.3	Regional Proposals	280
6.3.1	Interactions between Siyancuma and Siyathemba Local Municipality	286
6.4	Public private partnerships	287
6.4.1	Links with Gamagara Corridor	288
6.5	Projects	290

6.6	Implementation, monitoring, evaluation and review	293
6.7	Conclusion	293
	Addendums	294
	Addendum A	295
	Legislative alignment of the SDF	
	References	308

Tables

Table 1: Land Cover and population of the municipalities within Pixley Ka Seme District	3
Table 2: NCPsDF strategic focal points and priorities	21
Table 3: How the Pixley Ka Seme District IDP addresses the rural issues in the district	32
Table 4: Opportunities and Constraints of the Pixley Ka Seme District Municipal area	34
Table 5: The development challenges that the Pixley Ka Seme District faces	34
Table 6: Average rainfall per magisterial district in Pixley Ka Seme District	44
Table 7: Land Cover and population of the Municipalities within the Pixley Ka Seme District	71
Table 8: Population Distribution between the rural and urban areas in the Municipalities within the Pixley Ka Seme District	72
Table 9: Age Structure of the Pixley Ka Seme District Municipality	74
Table 10: Population distribution by race and gender	74
Table 11: Economic growth and Sectoral GDP contribution	75
Table 12: Employment Status per Local Municipality	79
Table 13: Labour ratio	82
Table 14: Population by municipality living below the minimum living levels in the district.	82

Table 15: % GDPR of district municipalities per economic sector for 2003 and 2004	83
Table 16: Location Quotients of Economic Sectors	86
Table 17: PKSD Economic Sectors 2011	90
Table 18: Health Care facilities in Pixley Ka Seme District Municipal area	102
Table 19: Schools per Municipal area within the Pixley Ka Seme District Municipal area	107
Table 20: Learner distribution per Municipal area within the Pixley Ka Seme District Municipal area	107
Table 21: Distribution of Safety and Security services in the Urban Centre towns in Pixley Ka Seme District Municipality	111
Table 22: Distribution of Safety and Security services in the Urban Satellite towns in Pixley Ka Seme District Municipality	112
Table 23: Community Facilities in the towns of Pixley Ka Seme District Municipal Area	114
Table 24: Identification class of the development potential of the towns in the Northern Cape	125
Table 25: Major routes in Northern Cape Province	132
Table 26: Source of Water per Local Municipality	138
Table 27: Access to piped water	139
Table 28: Access to water by households	140
Table 29: Backlogs March 2011	141
Table 30: Sanitation per Local Municipality	143
Table 31: Sanitation Backlogs 2011	144
Table 32: Refuse removal according to Census 2011	145
Table 33: Energy for heating per Local Municipality	156
Table 34: Energy for lighting per Local Municipality	156
Table 35: Energy for lighting per Local Municipality	157

Table 36: Household access to Telephone	170
Table 37: Enumeration Area type by Local Municipality	171
Table 38: Emthanjeni Municipality Population Growth	173
Table 39: De Aar Classification	178
Table 40: Britstown Classification	182
Table 41: Hanover Classification	185
Table 42: Kareeberg Municipality Population Growth	189
Table 43: Carnarvon Classification	191
Table 44: Van Wyksvlei Classification	194
Table 45: Vosburg Classification	196
Table 46: Thembelihle Municipality Population Growth	200
Table 47: Hopetown Classification	202
Table 48: Strydenburg Classification	205
Table 49: Orania Classification	207
Table 50: Siyathemba Municipality Population Growth	209
Table 51: Prieska Classification	212
Table 52: Marydale Classification	215
Table 53: Niekerkshoop Classification	217
Table 54: Copperton Classification	218
Table 55: Renosterberg Municipal Population Growth	219
Table 56: Petrusville Classification	221
Table 57: Phillipstown Classification	223
Table 58: Vanderkloof Classification	225
Table 59: Investment required in the larger Ubuntu municipal area according to the Ubuntu IDP	227
Table 60: Ubuntu Municipal Population Growth	228

Table 61: Victoria West Classification	231
Table 62: Richmond Classification	233
Table 63: Loxton Classification	235
Table 64: Siyancuma Municipal Population Growth	237
Table 65: Douglas Classification	241
Table 66: Griekwastad Classification	243
Table 67: Campbell Classification	245
Table 68: Umsobomvu Municipal Population Growth	247
Table 69: Colesberg Classification	250
Table 70: Norvalspont Classification	253
Table 71: Noupoot Classification	254
Table 72: Opportunities and Constraints of the Pixley Ka Seme District	256

Figures

Figure 1: Spatial Planning Categories and Sub-Categories for the Northern Cape	17
Figure 2: Solar Index of South Africa	43
Figure 3: Northern Cape population percentages per district	67
Figure 4: Population Percentage	68
Figure 5: Pixley Ka Seme District Population Growth per Municipal area	68
Figure 6: Growth by district 2001-2011	69
Figure 7: Growth by district 2001-2011	69
Figure 8: Annual growth in PKSDM 2001-2011	70
Figure 9: Percentage population growth 2001-2011	71
Figure 10: Gender distribution in Pixley Ka Seme District	73
Figure 11: Sex Ratio	73

Figure 12: Sectoral GDP contribution in Pixley compared to Northern Cape	76
Figure 13: Labour Force per Formal & Informal sector, Pixley Ka Seme	77
Figure 14: Level of Education, Pixley Ka Seme	77
Figure 15: Annual Household Income 2011	78
Figure 16: Unemployment rates per municipality, 2001 – 2011	80
Figure 17: Unemployment rate 2011	80
Figure 18: PKSD Production Structure 2011	86
Figure 19: Sectoral production structure 2011	89
Figure 20: Technical & Institutional Thrusts	90
Figure 21: Level of Education in Pixley Ka Seme District	106
Figure 22: Education levels per local municipality	108
Figure 23: Percentage % Piped Water Inside Dwelling	140
Figure 24: Percentage people with access to piped water	141
Figure 25: Households with access to flush toilets	143
Figure 26: Percentage Households with weekly removal	145
Figure 27: Percentage people with refuse removal	146
Figure 28: Solar bid projects	148
Figure 29: Solar irradiation	149
Figure 30: SA Renewable Energy Resource Database	149
Figure 31: Renewable project locations	150
Figure 32: Exploration areas by different companies	151
Figure 33: ESKOM network	154
Figure 34: Independent Power Producers	155

Maps

Map 1: Administrative Boundaries & Demographics	4
Map 2: Geology	41
Map 3: Water Resources and Groundwater Capacity	51
Map 4: Veld Types and Vegetation	56
Map 5: Sensitivity Map	60
Map 6: Transport and Associated Infrastructure	134
Map I: Northern Cape Development regions & corridors	19
Map II: Rivers of the Northern Cape Province	48
Map III: Diamond mines within Pixley Ka Seme District	65
Map IV: Northern Cape Health facilities catchment areas 2014	104
Map V: Distribution of Police Stations, Prisons and Magistrate offices in Pixley Ka Seme District	110
Map VI: Development potential index of settlements in the Northern Cape	126
Map VII: Transport modes & facilities for the Northern Cape area	131
Map VIII: Road freight volumes	133
Map IX: Rail freight volumes	134
Map X: North Hydro- electric power site on the Orange River	159
Map A: Issues and Constraints Emthanjeni Municipality	177
Map B: Issues and Constraints Kareeberg Municipality	190
Map C: Issues and Constraints Thembelihle Municipality	201
Map D: Issues and Constraints Siyathemba Municipality	211
Map E: Issues and Constraints Renosterberg Municipality	220
Map F: Issues and Constraints Ubuntu Municipality	230

Map G: Issues and Constraints Siyancuma Municipality	240
Map H: Issues and Constraints Umsobomvu Municipality	249
Map I: Pixley Ka Seme Spatial Development Framework	294

ACRONYMS

CBA	Critical Biodiversity Area
CKR	CK Rumboll & Partners (Service Provider)
COGTA	Department of Cooperative Governance and Traditional Affairs
DEA	Department of Environmental Affairs
DM	District Municipality
DMR	Department of Mineral Resources
DoT	Department of Transport
DRDLR	Department of Rural Development and Land Reform
DWA	Department of Water Affairs
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
GIS	Geographical Information System
IDP	Integrated Development Plan
ITP	Integrated Transport Plan
LED	Local Economic Development
LUMS	Land Use Management System
MSA	Municipal Systems Act, 2000 (Act 32 of 2000)
MEC	Member of Executive Council
MIG	Municipal Infrastructure Grant
NEMA	National Environmental Management Act (Act 107 of 1998)

NEMBA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
NHRA	National Heritage Resources Act (Act 25 of 1999)
NCGDS	Northern Cape Growth and Development Strategy, 2004 - 2014
NCPDA	Northern Cape Planning and Development Act, 1998 (Act 7 of 1998)
NCPSDF	Northern Cape Provincial Spatial Development Framework
NSDP	National Spatial Development Perspective
NWA	National Water Act
SALGA	South African Local Government Association
SEZ	Special Economic Zone
SPLUMA	Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)

1.1 Introduction

Pixley Ka Seme District Municipality is located within the south eastern section of the Northern Cape Province. The District Municipality represent of 15.5% of the Northern Cape Province population and approximately 0.2% of South Africa's population. The area is known for its Karoo landscapes, friendly people, vast open skylines and a highly productive agricultural sector. Apart from the many positive aspects the area is also burdened by remote rural communities, long distances between urban centres, limited economic growth potential in the towns, segregated communities as a result of past political planning policies such as apartheid, many constraints concerning services and infrastructure delivery, high levels of unemployment and poverty with related social and health problems. The Pixley Ka Seme District Spatial Development Framework (SDF) will attempt to provide the required spatial planning guidelines and focus areas to support the drive towards the creation of equitable and sustainable development opportunities within the district.

The Pixley Ka Seme District Municipality is a category C Municipality consisting of (eight) category B municipalities which include Emthanjeni, Kareeberg, Thembelihle, Siyathemba, Renosterberg, Ubuntu, Siyancuma and Umsobomvu municipalities. These municipalities represent a total of 26 towns, which range from medium sized towns with populations of above 30 000 to very small rural towns with populations of below a 1000. The towns are sparsely placed in the vast landscape with long distances between them that hinder the effective delivery of services and limit economic connectivity.

The district municipal area is however well located in a central position in terms of its regional context with three major transport routes dissecting the municipal area. These routes include the N1 between Cape Town and Johannesburg, the N9 route from Colesberg joining the N10, which links Namibia with the Eastern Cape and the N12 route from Johannesburg via Kimberly to Cape

Town. The railway network around De Aar is one of the largest railway networks in South Africa linking various routes.

One of South Africa's largest rivers, the Orange River also flows through the heart of the municipal area providing water for irrigation, farming, drinking and recreational uses along the banks of the river. The Gariep Dam, Vanderkloof Dam and the Boegoeberg Dam area three major dams all located within the district municipal area. The abundance of water is however only limited to the areas around the river, with the largest part of the district municipal area identified as a water scare area, which adversely influence the economy of these areas. Water availability and quality is one of the main issues influencing the development potential of the municipal area.

1.2 Purpose and Objectives

The regulations as included in the White Paper on Spatial Planning and Land Use Management, Draft Land Use Management Bill and Municipal Planning and Performance Management Regulations (2001) do not distinguish between a local SDF and district municipality SDF. In order to avoid duplication of these different tears of SDF's it can therefore be assumed that the district municipality should focus more on broader spatial patterns that are informed by local municipalities SDF's in order to align to these SDF's where they are applicable.

The role of the SDF will be to:

- I. Guide spatial planning and land development in the Pixley Ka Seme District Municipality;
- II. Assist spatial planning and land development in the eight local municipalities (Emthanjeni, Kareeberg, Thembelihle, Siyathemba, Renosterberg, Ubuntu, Siyancuma and Umsobomvu) that form part of the District Municipality, within the framework of the National and Provincial spatial plans.

The purpose and objective of the document is to compile the Pixley Ka Seme District Spatial Development Framework which will:

- Address spatial, environmental and economic (triple bottom-line) issues confronting the district municipality;

- Facilitate the implementation of the IDP and all government programs to fight poverty and to facilitate rural development;
- Comply with the Municipal Systems Act and the Municipal Planning and Performance Management Regulations, 2001 and the Spatial planning and Land Use Management Act, Act 16 of 2013;
- Comply with the requirements of the Northern Cape Planning & Development Act, Act 7 of 1998 and the DRDLR-SDF guidelines;
- Align with the Northern Cape Spatial Development Framework;
- Comply with the requirements of the Spatial Planning and Land Use Management Act, 2013, (Act 16 of 2013) or SPLUMA in short.

Table 1: Land Cover and population of the municipalities within Pixley Ka Seme District

Municipality	Area (km²)	% of Total Area	Population 2011*
Emthanjeni	13 472	13.02	42 356
Kareeberg	17 702	17.11	11 673
Thembelihle	8 023	7.80	15 701
Siyathemba	14 725	14.23	21 591
Renosterberg	5 527	5.43	10 978
Ubuntu	20 389	19.70	18 601
Siyancuma	16 753	16.20	37 076
Umsobomvu	6 819	6.60	28 376
District (Total)	103 410	100	186 351

Source: SA Census 2011

1.3 Scope of Work

The development of a SDF for the Pixley Ka Seme District Municipality will focus on the spatial planning guidelines in terms of regional context of the municipalities' rural and urban areas.

The District Municipal SDF will:

- Give effect to the principles contained in the National Spatial Planning and Land Use Management Act of 2013 (Act 16 of 2013) or SPLUMA;
- Comply with the following provisions of the Municipal Systems Act of 2000 (Act 32 of 2000) and the Performance Management Regulations, 2001 and provided for in the SDF guidelines:
 - development of Spatial vision and objective of the Integrated Development Plan (IDP) and the whole of the Municipality;
 - development of a conceptual scenario for envisaged spatial form;
 - development of a broad Micro-Spatial Plan for core areas;
 - set out objectives that reflect desired spatial form of the district municipality.
- Contains strategies, policies and plans which:
 - Analyse opportunities and constraints;
 - Delineate agricultural land with high potential;
 - Indicate desired patterns of land use within the municipality;
 - Identify existing and potential future land reform projects;
 - Address the spatial reconstruction of the location and the nature of development within the municipality;
 - Provide strategic guidance in respect of the location and the nature of development in the municipalities.
- Set out basic guidelines of land use management systems in the municipality;
- Set out a capital investment framework for the municipality's development progress;

- Address sustainable bioregional planning;
- Analysis and clarification of how sector departments will implement the SDF;
- Identify programs and projects for the development of land within the municipality;
- Contain a strategic assessment of the environmental impact of the SDF;
- Provide a visual representation of the desired spatial form of the municipality in terms of;
 - Indicate where public and private land development and infrastructure investment should take place;
 - Indicate cross border issues, challenges and alignment with shared neighbouring municipalities, provinces in particular with regards to fracking and renewable energy.
 - Indicate the desired and undesired utilisation of spaces in particular areas;
 - Identify areas for priority spending.

1.4 Development Phases of Spatial Development Framework

The project will consist of **four** phases.

All reports compiled and illustrated will be discussed with and informed by the District Municipal Technical Committee.

Reports will then be circulated for comment at public meetings to be held at the facilities of local municipalities where the community will be engaged. Public meetings will take place before project management and steering committee meetings.

Meetings with the Project management and Steering committee shall take place in Kimberley.

The service provider will be the secretariat of the Technical meetings with Pixley Ka Seme District Municipality and will circulate minutes electronically as per communication protocol.

At the end of each phase, a report consisting of all the documents generated during the phase will be compiled.

The SDF for Pixley Ka Seme District Municipality will be developed in four broad phases which are:

Phase 1 – Inception, Spatial Vision & Issues

- 1.1 Meet with DRLR and Pixley Ka Seme District Municipal Officials (project management committee) to obtain approval for inception report and project plan.
- 1.2 Advice (Advertise and notify) the relevant authorities and stakeholders of the intent to draft a SDF for Pixley Ka Seme District Municipality i.e.:
 - Municipalities within jurisdiction of Pixley Ka Seme District and Neighbouring District Municipalities
 - Relevant government departments and
 - Relevant stakeholdersAdvertisement announces first round of public participation focussing on Issues and Vision.
- 1.3 Submit Monthly and Phase report to DRDLR (electronic copy).

Phase 2 – Data Collection, Analysis & SDF Drafting: Status Quo, Issues and Vision &

SDF Drafting

- 2.1 Undertake data collection and analysis of district environment, existing land use activities and land use management controls, sector strategies, focus areas and relevant matters as well as development issues.

Data collection include

a) Secondary research

Obtain existing information on SDFs/ Local Plans within DRDLR, Pixley Ka Seme District Municipality and all relevant organs of state (Department of Economic Development and Tourism regarding Renewable Energy Strategy) and units outside

government. Make contact with all relevant and required officials and units within and outside government to obtain relevant information required.

- b) **Targeted consultation** on the proposed initiatives for the identified area with the
 - a. Pixley Ka Seme District Municipality,
 - b. Sector departments and plans, sector specific engagement
 - c. Municipalities within jurisdiction of Pixley Ka Seme District and neighbouring Municipalities & District Municipalities
 - d. other stakeholders
- 2.2 Skills transfer to Pixley Ka Seme District Municipality
- 2.3 Compile an Issues and Vision section.
 - Conduct a SWOT analysis
- 2.4 Draft of **alternatives** (scenarios) for the best possible way to develop the area i.e.:
 - planning proposals and strategies
 - proposed projects of key interventions.
 - detailed design of proposed projects/ interventions including implementation costs.
 - include (but not limited to) a detailed indication of sector issues including infrastructure
- 2.5 Submit Monthly and Phase reports to DRDLR – (in electronic format).

Phase 3 – Consultation, Public participation and Incorporation of Comments, Finalization & Approval

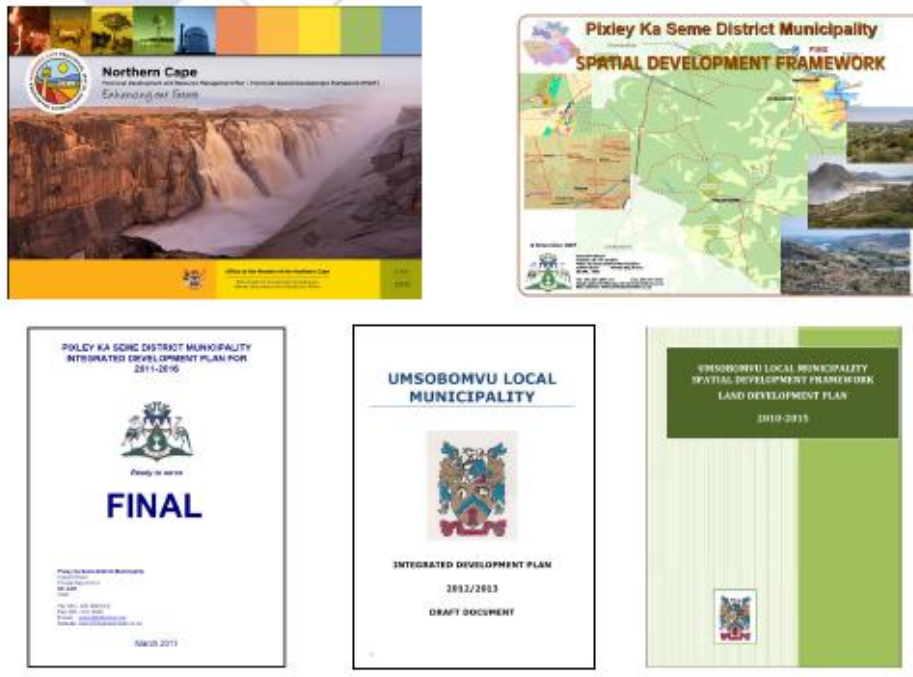
- 3.1 Submit draft SDF for Pixley Ka Seme District Municipality for review to the municipality to check alignment with local principles, policies and plans. An electronic (in MsWord and Shape files) and hard copy of draft SDF for Pixley Ka Seme District Municipality is to be submitted to DRDLR.

- 3.2 Amend and re-draft SDF for Pixley Ka Seme District Municipality including comments received from district municipality and DRDLR and any other members of Project Management Team.
- 3.3 Public notification and call for comments on the draft SDF for Pixley Ka Seme District Municipality for 30 days.
- 3.4 Skills transfer to Pixley Ka Seme District Municipality.
- 3.4 Sensitize relevant municipalities about the intentions of the District Municipality; as project continues to ensure that sufficient consultations are held with the relevant municipalities.
- 3.5 Consider all submissions and amend the draft SDF for Pixley Ka Seme District Municipality accordingly.
- 3.6 Presentation to Council to keep informed (there is no need for approval).
- 3.7 Submit Monthly and Phase report to DRDLR (electronic copy).

Phase 4 – Final Submission and Implementation of SDF for Pixley Ka Seme District Municipality

- 4.1 Submit the final draft SDF for Pixley Ka Seme District Municipality to the Project Steering Committee for review.
- 4.2 Submission of final draft SDF for Pixley Ka Seme District Municipality to Council for adoption.
- 4.3 Submission for approval from Premier/ MEC.
- 4.4 Submit Monthly/ Phase report to DRDLR – Directorate: Spatial Planning Services provincial office (electronic copy).

BASE DOCUMENTS



Source: CKR compilation

All available documents regarding spatial planning within the Pixley Ka Seme as well as applicable to the area were used for the compilation of the SDF together with *Guidelines for the Development of Municipal Spatial Development Frameworks* as distributed by the Department of Rural Development and Land Reform.

1.5 Public Participation

The project schedule includes all consultations with interested parties, management (technical committee), municipal planner and identified officials, relevant neighbouring municipal and district municipal staff and provincial government departments as well as the constituted project and steering committees. All meetings are to be concluded with a set Agenda and minutes.

PHASES	ACTIVITIES	TIMEFRAMES											
		Aug 13	Sep 13	Oct 13	Nov 13	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14
1. Inception	Project Technical Committee	27											
	Inception meeting (PMC)	28											
	Notice of intent to develop PKS DSDF	31											
	Project Steering Committee Meeting		5										
	Invoice and Phase Report		13										
2. Data collection, analysis and Drafting of SDF	Public workshops: Obtain issues and vision Ubuntu , Kareeberg, Siya Themba, Siyancuma Thembelihle, Renosterberg, Umsobomvu, Emthanjeni		30-4	14-19									
	Register Interested and Affected Parties			30-19									
	Project Technical Committee			28									
	Project Management Committee Meeting			29									
	Project Steering Committee Meeting				5								
	Invoice & Phase Report submitted				12								
3. Reviews, Public Participation and incorporation of comments	Project Technical Committee Meeting							26					
	Project Management Committee Meeting							27					
	Project Steering Committee Meeting								6				
	Public Workshops: Proposals								10 – 13; 17 -20				
	Due date for submission of comments									21			
	Invoice and Phase Report submitted								12				
4. Final submission & approval	Project Technical Committee										5		
	Project Management Committee Meeting										6		
	Project Steering Committee Meeting										13		
	Due date for submission of comments										14		
	Obtain Council decision											17	
	Invoice and supporting documents submitted										20		
Total													

The following departments within the Pixley Ka Seme District Municipality will be approached as they are responsible for sector plans:

- Shared Services – Senior Manager/ HOD;
- Human Settlements - Chief Human Settlement;
- Disaster Management – Disaster Management Officer (Please note this is not a department, but a unit within the Corporate Services Department);
- IDP - Falls under Planning Unit- Shared Services department. It's one of the KPA's associated with their role(It's not a Unit or a Department);
- Local Economic Development – LED Manager (It's a unit within the Infrastructure Development and Housing Department);
- Finance –Chief Financial Officer;
- Engineering Services: Technician - Under infrastructure Department;
- Land Use Management – Under shared Services Department -Planning Unit;
- Heritage Resources –consult with Manager Planning & Development to identify relevant building inspector. (Housing Manager and building inspector - Under Housing Unit - Infrastructure Department);
- Rural Development is a cross cutting function not assigned to any department – depending on the nature of the aspect in question it will be dealt with by the appropriate department (Senior Manager/ HOD Infrastructure Development and Housing department);
- Rural Development is a cross cutting function not assigned to any department – depending on the nature of the aspect in question it will be dealt with by the appropriate department (Technical, strategic services planning etc);
- Transport – deals primarily with transport infrastructure – Senior Manager/ HOD Infrastructure Development and Housing department;
- Economic Development and Tourism - Renewable Energy Strategy;
- Agriculture – not applicable.

1.6 Summary

It is the intention to compile a practical, user-friendly as well as credible Spatial Development Framework for the District of Pixley Ka Seme that can be implemented easily. The buy-in of the main role-players is critical to the success of this document with specific reference to the eight local municipalities within the area of jurisdiction.

Chapter 2: Provincial and Regional guidelines, Perspective and Issues

2.1 Provincial Spatial Development Framework Directives

The main functions of the Northern Cape Provincial Spatial Development Framework are to serve as a:

- Spatial land-use directive which aims to promote environmental, economic and social sustainability through sustainable development;
- Guideline for instilling a development state;
- Basis for prioritizing governmental programmes and projects;
- Basis for governmental performance management;
- Manual for integrated land use planning.

According to the Northern Cape Provincial Growth and Development Strategy, 2004-2014, the social and economic development of the province is imperative to address the most significant challenges facing the Northern Cape, being poverty. According to the strategy the only effective means by which poverty can be reduced is long-term sustainable economic growth and development in the region.

According to the Northern Cape PSDF Sustainable development should be facilitated in accordance with a set of principles that will collectively aim to give effect to the vision and goals of the PSDF. It is important the Pixley Ka Seme District SDF should also accept these principles in order to facilitate sustainable development in its region.

The principles as included in the Northern Cape PSDF, 2012, are as follows:

❖ *Social Sustainability:*

- a) Improve the quality of human life, including the elimination of poverty;*
- b) Recognise the extent of cultural diversity and respond accordingly;*
- c) Protect and promote human health through a healthy environment;*
- d) Implement skills training and capacity enhancement for historically disadvantaged people.*

❖ *Economic Sustainability:*

Ensure that new development promotes qualitative urban integration, affordable housing, and densification in a financially viable manner, without undermining existing property values.

- a) Ensure that as a whole, the for- and non-profit projects combine into a financially viable local economy that benefits all stakeholders;*
- b) Promote employment creation;*
- c) Enhance competitiveness within the context of the promotion of policies and practices that advance environmental sustainability;*
- d) Invest a meaningful share of the proceeds from the use of non-renewable resources in social and human-made capital, to maintain the capacity to meet the needs of future generations;*
- e) Protect and enhance the property and investments of all inhabitants;*
- f) Biophysical Sustainability: In the Northern Cape a premium will be placed on the conservation of natural resources, biodiversity and landscapes.*

❖ *Biophysical Sustainability:*

- a) Minimise the use of the four generic resources, namely energy, water, land and materials;*
- b) Maximise the re-use and/or recycling of resources;*
- c) Use renewable resources in preference to non-renewable resources;*
- d) Minimise air, land and water pollution;*
- e) Create a healthy, non-toxic environment;*
- f) Maintain and restore the Earth's vitality and ecological diversity;*
- g) Minimise damage to sensitive landscapes, including scenic, cultural, and historical aspects.*

❖ *Technical Sustainability:*

- a) Construct durable, reliable and functional structures;*
- b) Pursue quality in creating the built environment.*

All these principles will be integrated in the Pixley Ka Seme SDF in order to support the way forward towards sustainable development in the region.

2.2 Provincial Land Use Management Guidelines

The Northern Cape PSDF strives to integrate and standardise planning at all spheres of government in the province with specific reference to the following:

- a) Supporting the district and local municipalities in the preparation of their SDFs:*

(prepared in terms of the Northern Cape Planning and Development Act, 1998 - Act 7 of 1998, the Local Government Municipal Systems, 2000 - Act 32 of 2000, and the Spatial Planning and Land-use Management Bill -- 2011) with reference to:

- (i) The land-use classification of all land in the province according to a standard set of Spatial Planning Categories (SPC's);
- (ii) Describing existing and desired spatial patterns to guarantee integrated, efficient and sustainable settlements for the province.

b) Guiding public investment by means of:

- (i) Providing a credible context for public investments;
- (ii) Promoting rational and equitable development of neglected areas;
- (iii) Providing certainty regarding spatial and socio-economic implications development as planned for the Northern Cape;
- (iv) Providing a basis for co-ordinated decision-making and policy-formulation regarding future land-use.

c) Facilitating cross-boundary co-operation and co-ordination:

(between district and local municipalities, adjoining provinces, and bordering countries).

A high priority for the Northern Cape Province is to prepare a provincial industrial development strategy. The responsible institution to commission this is the Department of Economic Development and Tourism.

2.3 Spatial Planning Categories

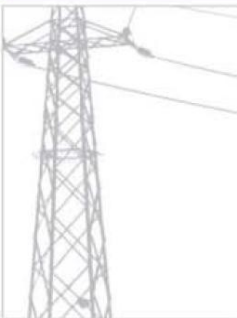
To assist with the standardizing of planning within the Northern Cape and the implementation of Spatial Planning Categories or what is more commonly known as SPC's are being prescribed for planning on all local levels. Six (6) main *SPATIAL PLANNING CATEGORIES* have been formulated in terms of the bioregional planning principles to be applied to the province.



Source: NCPSPDF-2012

Detail regarding the six SPC categories (including sub-categories) to be applied is as follows:

Figure 1: Spatial Planning Categories & sub-categories for the Northern Cape

SPATIAL PLANNING CATEGORIES			
	A CORE	A.a	Statutory Protected Areas
	B BUFFER	B.a	Non-Statutory Conservation Areas
		B.b	Ecological Corridors
		B.c	Urban Green Areas
	C AGRICULTURAL AREAS	C.a	Extensive agricultural areas
		C.b	Intensive agricultural areas
	D URBAN RELATED	D.a	Main Towns
		D.b	Local Towns
		D.c	Rural Settlements
		D.d	Tribal Authority Settlements
		D.e	Communal Settlements
		D.f	Institutional Areas
		D.g	Authority Areas
		D.h	Residential Areas
		D.i	Business Areas
		D.j	Service Related Business
		D.k	Special Business
		D.l	SMME Incubators
		D.m	Mixed Use Development Areas
		D.n	Cemeteries
		D.o	Sports fields & Infrastructure
		D.p	Airport and Infrastructure
		D.q	Resorts & Tourism Related Areas
		D.r	Farmsteads & Outbuildings
	E INDUSTRIAL AREAS	E.a	Agricultural industry
		E.b	Industrial Development Zone
		E.c	Light industry
		E.d	Heavy industry
		E.e	Extractive industry
	F SURFACE INFRASTRUCTURE & BUILDINGS	F.a	National roads
		F.b	Main roads
		F.c	Minor roads
		F.d	Public Streets
		F.e	Heavy Vehicle Overnight Facilities
		F.f	Railway lines
		F.g	Power lines
		F.h	Telecommunication Infrastructure
		F.i	Renewable Energy Structures
		F.j	Dams & Reservoirs
		F.k	Canals
		F.l	Sewerage Plants and Refuse Areas

Source: NCPsDF-2012

Development guidelines according to the SPC's as mentioned are as follows:

SPC	TYPE OF DEVELOPMENT	CONDITION
A	No development allowed.	
B	a) Resort development. b) Infrastructure required for research.	a) To be changed to SPC D, depending on the proposed type of development. b) Must be undertaken in accordance with site-specific design and planning guidelines (refer to Chapter C6).
C	a) Agricultural development and infrastructure required for extensive and intensive agricultural land-uses. b) Resort development on game farms. c) Agricultural industry.	a) To be changed to SPC D, depending on the proposed type of development. b) Must be undertaken in accordance with site-specific design and planning guidelines.
D	All urban-related developments.	Must be undertaken in accordance with site-specific design and planning guidelines.
E	Full spectrum of industrial developments required by the economic sectors.	a) Must be undertaken in accordance with site-specific design and planning guidelines. b) All industrial activities must be regulated and managed in accordance with sustainability standards (e.g. ISO 14001).
F	All surface infrastructure and buildings that are required for sustainable socio-economic development and resource use.	a) Must be undertaken in accordance with site-specific design and planning guidelines. b) All industrial activities must be regulated and managed in accordance with sustainability standards (e.g. ISO 14001).

Source: NCPSDF-2012

Detailed description of different industrial areas to be adhered to:

CATEGORY E: INDUSTRIAL AREAS		
E.a	Agricultural industry	Agriculture-related industrial development, e.g. silos, wine cellars, packing facilities, excluding abattoirs.
E.b	Industrial Development Zone	Dedicated industrial estate ideally linked to an international, or national, port that leverages fixed direct investments in value-added and export-orientated manufacturing industries.
E.c	Light industry	Areas designated for light industrial activities associated with the service industry (e.g. repair of motor vehicles) including warehouses and service stations.
E.d	Heavy industry	Areas designated for robust industrial activities, e.g. chemical works, brewery, processing of hides, abattoirs, stone crushing, crematoriums.
E.e	Extractive industry	Settlements and infrastructure associated with multiple consumptive resource extraction, e.g. mining.

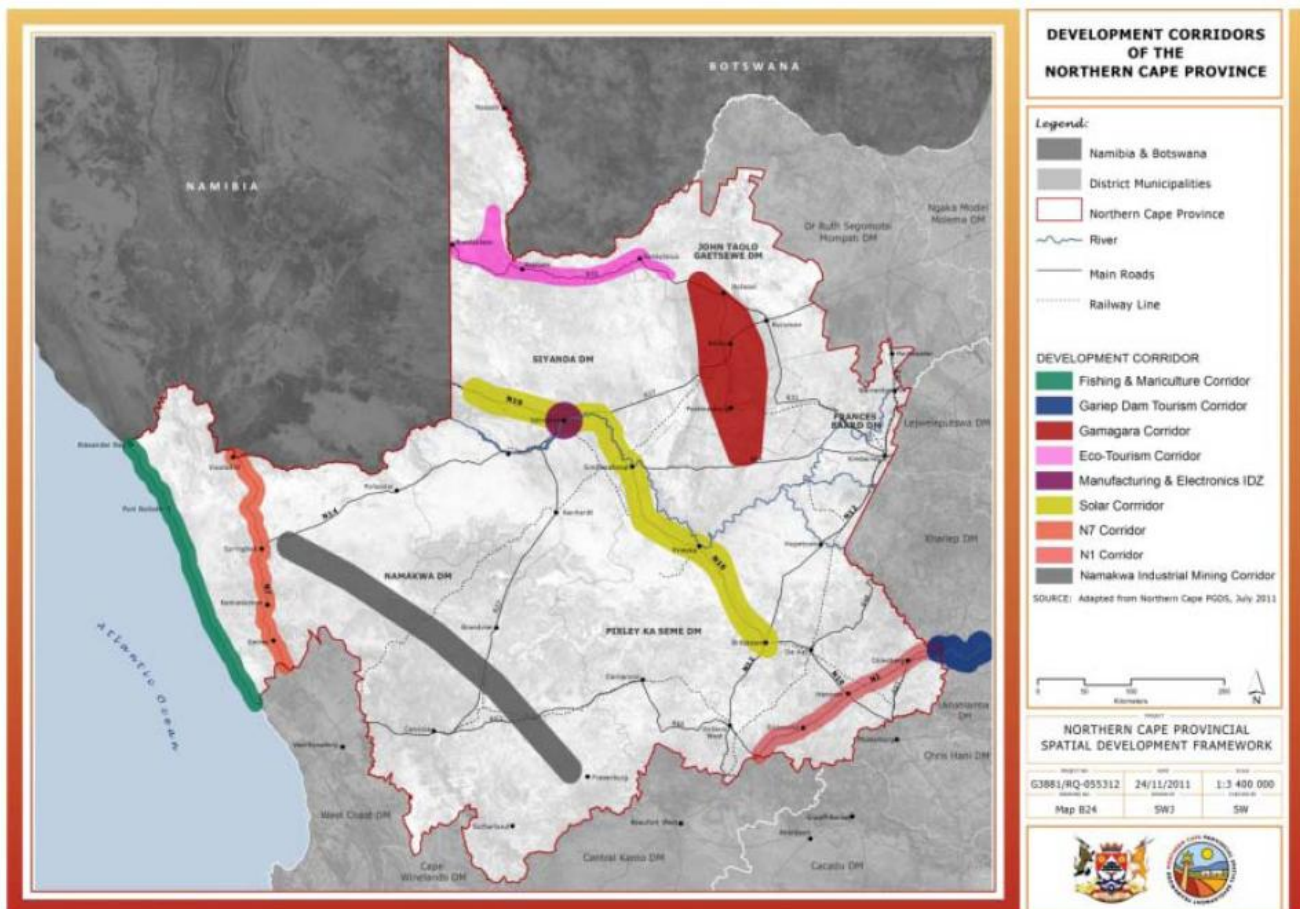
2.4 Provincial Development Regions and Corridors

Settlement patterns in the province are informed by economic development opportunities. Specific economic development regions and corridors developed over time responding to:

- environmental capital (soil potential, availability of water, minerals, etc.), and
- infrastructural capital (roads, bulk engineering infrastructure, electricity).

Development regions and corridors are formed by the clustering of nodes where the capacity of entities and stakeholders within these nodes are coming together to ensure leadership and institutional capacity to constitute regional equity. The current development regions and corridors in the Northern Cape are shown in the Map below.

Map I: Northern Cape development regions & corridors.



The table below describe the development regions & corridors within the Northern Cape Province:

CORRIDORS/ REGION	DESCRIPTION
KIMBERLEY FOOD CORRIDOR	FOOD PRODUCING AREA FROM HARTSWATER/ JAN KEMPDORP TO PRIESKA, HOPETOWN & DOUGLAS
SKA CORRIDOR	AREA AROUND CARNARVON/ WILLISTON UP TO DE AAR & UPINGTON
SOLAR CORRIDOR	CORRIDOR FOR AREA AROUND UPINGTON EXTENDING FROM KAKAMAS IN THE NORTH TO DE AAR IN THE EAST
TOURISM: LAKE GARIEP	LAKE GARIEP FORMS CENTRE OF CORRIDOR AND HOLDS POTENTIAL OF AN INTERPROVINCIAL TOURISM HUB AFFECTING THE NORTHERN CAPE, FREE STATE AND EASTERN CAPE
TOURISM: N1	CORRIDOR CONNECTS GAUTENG, FREE STATE, EASTERN CAPE. TOURISM HUBS FORMED BY TOWNS ON THIS ROUTE (COLESBERG, RICHMOND, ETC.)
TOURISM: N7	CORRIDOR CONNECTS WESTERN CAPE THROUGH NAMAQUALAND TO NAMIBIA AND HAS UNIQUE AESTHETIC APPEAL TOGETHER WITH A YEARLY SPRING FLOWER DISPLAY

Source: NCPSPDF-2012

2.5 Bioregional Planning Principles

Bioregional planning is defined in the Northern Cape PSDF “as planning and land management that promote sustainable development by enhancing environmental integrity and human well being through economic efficiency within a defined geographical area, the boundaries of which are determined in accordance with environmental, social and economic criteria. From a philosophical

perspective bioregional planning refers to reconnecting people to their living environment allowing a better understanding of the areas and dynamics of the area.

The Northern Cape PSDF was prepared in accordance with principles of Bioregional Planning. The objective is to provide a coherent and place-specific methodology for planning and management of the Northern Cape as a district and unique place and to facilitate its management in accordance with local and global best-practice.

Bioregional planning is not about solving problems for people, but rather creating circumstances for people to address their own challenges in a way that acknowledges the uniqueness and value of each person and place. This viewpoint is acknowledged in the Pixley Ka Seme SDF and will be integrated into the development proposals for the district and for each of the Municipalities.

2.6 Provincial Spatial Development Framework strategic focus and priorities

The following provide a summary of the strategic focal points and priorities that were identified in the Northern Cape SDF whereby these strategies also form part of the strategic directives in the Pixley Ka Seme SDF.

Table 2: NCPSPDF strategic focal points and priorities.

Northern Cape SDF Directives	Description	Pixley Ka Seme
Vision of Sustainable Society	Meeting the fundamental needs of people by effectively managing the limited ecological resources for future generations. Advancing efficient and effective integrated planning through national, regional and global collaboration.	Support sustainable development through a proactive strategy.
Support Bioregional planning	Provide a coherent and place-specific methodology for planning and management of the Northern Cape as a district and unique place and to facilitate its management in accordance with local and global best-practice.	Identify unique place specific elements.
Support and focus along Development corridors	Focus development and investment along identified development corridors that highlight the various existing unique characteristics in	Include the development corridors in the Pixley SDF with development to focus around these identified corridors.

	the regions. Corridors include: • Solar Corridor. • N1 Corridor. • N12 Corridor. • N10 Corridor. • Industrial development along N1.	
Spatial planning according to Biosphere reserve zones	Implements spatial planning categories (SPC's) according to the biosphere areas	Identify different SPC's within Pixley Ka Seme.
Effective management of the natural environment	Identify and manage the natural environment according to the identified Spatial Planning Categories including: Core areas; Buffer areas, Agricultural areas, Urban areas, Industrial areas Surface infrastructure.	Each Municipal SDF to incorporate the Spatial Planning Categories (SPC's) within their local municipal areas.
Support a Rule-based decision making process	Decisions for development should be based on a thorough understanding of the environment and its process and functions. The desirability and scale of a development must be based on site specific environmental criteria, the broader environmental context and the potential cumulative impact of development as well as innovative town planning and urban design criteria.	Ensure that the development scale and design are determined by the carrying capacity of the environment.
Support a strategic approach to investment	New infrastructure should be prioritised in settlements with high economic growth potential. Fixed investment should be directed towards urban settlements with a high economic growth potential in the first instance and high human needs in the second instance.	Pixley Ka Seme towns with a high development potential: • De Aar • Colesberg • Hanover • Hopetown • Orania • Noupoot.
Support the development of efficient surface infrastructure.	Surface infrastructure including transport, water, energy, telecommunication and household services.	Identify priority infrastructure investment within the district.
Enabling the sustainable use of resources.	Ensure that use of resources unlocks meaningful and lasting benefits for the local people and the environment.	Pixley to take the sustainable development initiative approach.
Planning for responsible	Support tourism as an engine of	Identify tourism routes and

Tourism	growth, capable of mobilising and rejuvenating	attractions within the district municipal area.
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2.7 Regional Context

Pixley Ka Seme District Municipality is located on the south eastern boundary of the Northern Cape Province, bordering on the Western Cape to the south and the Eastern Cape to the south east and the Free State to the east. Pixley Ka Seme forms part of the identified central Karoo area that also includes sections of the surrounding provinces. The demarcation of the Northern Cape and the adjoining provinces was not necessarily based on the applicable social and economic criteria and the biophysical, topographical boundaries. Existing interactions between the different adjoining districts and provinces exist and will continue to exist. There are also formal areas of co-operation existing between the different district and provincial areas which include health services.

2.7.1 Central Karoo District Spatial Development Framework (Western Cape) - in process

The topography and natural arid conditions are similar to the western region of the Pixley Ka Seme District with extensive farming and harsh climate conditions. According to the Central Karoo District IDP economic development in the area should focus on poverty alleviation with creation of improved road networks strengthening the influence of the N1 through the region.

Central Karoo and Pixley District Municipalities also share an area that was identified in the Northern Cape PSDF as an area of potential cross region co-operation due to its locality and bioregional context. This area includes the link between the Ubuntu Municipal area within the Pixley Ka Seme District area and the Central Karoo District Municipality. The area of proposed co-operation is located along the southern boundary of Ubuntu Municipal area.

2.7.2 Namakwa District Spatial Development Framework 2012 (Northern Cape)

The Namakwa District Municipality is located along the western boundary of Pixley Ka Seme District Municipality. The Karoo Hoogland Municipality is the municipality within the Namakwa District Municipality that directly borders on Ubuntu and Kareeberg municipal areas within the Pixley Ka Seme District municipal area. The areas are connected with a road and rail link between Carnarvon

and Williston. Large areas within the Karoo Hoogland Municipality are designated as environmental conservation areas with two Ecological Corridors (CBA's) links between the Karoo Hoogland and Pixley Ka Seme District Municipality.

This area also forms part of the solar corridor within the Northern Cape Province, with two wind energy facilities proposed south and east of the town of Sutherland.

The Square Kilometre Array (SKA) covers portions of the Municipality with potential benefits from the SKA that will include:

- Potential for improved broadband internet access to areas and communities that are not connected.
- The investment can lead to potentially improve education resources in the area.
- The SKA initiative promotes education and training of local communities through the provision of science and engineering bursaries.

2.7.3 Previously Siyanda District Spatial Development Framework 2012 (Northern Cape)

Siyanda District Spatial Development Framework (Northern Cape), now known as the ZF Mgcawu District Municipality, is located on the north western boundary of Pixley Ka Seme District Municipality and borders directly on the Siyancuma and Siyathemba municipalities.

A major transport link exists between the two district municipalities along the N10 and N8 routes. The N10 route also forms part of one of the identified development corridors in the Northern Cape PSDF. It provides links between the Eastern Cape and Western Cape to Namibia with the potential for tourism and development. The areas along the N10 also provide a Solar corridor link between the two municipal areas.

The N8 route linking Kimberly with Upington also transgress through the northern part of the Pixley District municipal area with various potential existing around this route. This road link also provides people in the northern part of Pixley easy access to two large regional centres for service delivery.

A railway link from Prieska, De Aar up to Upington and beyond provides an important economical link that can be further enhanced.

The Orange River Corridor also forms an important link between the two municipal areas. The Orange River is identified as a development and tourism corridor cutting across a number of municipalities within the Northern Cape. This area requires detailed planning due to the wide range of activities, opportunities and infrastructure demands. The Siyanda District Spatial Development framework propose that thought should be given to extending the corridor as an international development corridor to the west which will require co-operation between Namibia and South Africa. This will include activities additional to the conservation tourism that is already addressed in the Trans-frontier Park. The SDF propose a River Valley Project similar to the famous Tennessee River Authority in the United States of America.

The Square Kilometre Array (SKA) covers portions of the Municipality with potential benefits from the SKA that will include:

- Potential for improved broadband internet access to areas and communities that are not connected;
- The investment can lead to the potentially improving education resources in the area;
- The SKA initiative promotes education and training of local communities through the provision of science and engineering bursaries.

ZF Mgcawu and Pixley District Municipalities also share an area that was identified in the Northern Cape PSDF as an area of potential cross region co-operation due to its locality and bioregional context. This area includes the link between Tsantsabana Municipality within the ZF Mgcawu District Municipality and the northern boundary of Siyancuma municipal area in the Pixley Ka Seme District municipality.

2.7.4 Francis Baard District Spatial Development Framework 2013 (Northern Cape)

This district municipality forms the north eastern boundary with the Pixley Ka Seme District Municipality with the Sol Plaatjies local municipality in Francis Baard bordering directly onto Siyancuma local municipality within Pixley.

The N12 route provides a development corridor between Pixley and the Francis Baard District Municipal area. It also provides an important link between the Western Cape and Northern Cape, with the influence sphere around Kimberley as the main regional centre within Francis Baard also serving various of the northern parts of Pixley District Municipality. The area along the N8 linking Kimberley in Francis Baard with Griquatown in Pixley and Upington in ZF Mgcawu District Municipality (previously Siyanda District Municipality) also forms not only an important transport route, but is identified in the Northern Cape PSDF as a important regional and international energy transfer link.

2.7.5 Xhariep District Municipality Integrated Development Framework 2010 (Free State)

The district forms the southern part of the Free State province and boasts abundant natural resources such as water, with the largest dam in South Africa located on the southern tip of the municipality. The Orange River forms the boundary between the Pixley Ka Seme District Municipality in the Northern Cape Province and the Xhariep District Municipality in the Free State Province.

The Xhariep region faces various challenges ranging from widespread poverty to service delivery and infrastructure backlogs. The main contributor to the economy in the region is agriculture with more intensive agricultural uses along the Orange River boundary with Pixley.

The Northern Cape PSDF identifies a regional and national energy transfer link between Xhariep and Pixley. A main development corridor existing between Pixley and Xhariep is located along the N1 route in a north south direction. This route links Bloemfontein, Trompsburg, Gariepdam (Xhariep

District) and Colesburg (Pixley District) with one another along the N1 route. Economic development should be promoted along the development corridors but care should be taken not to impact negatively on the mobility of the corridor.

2.7.6 UKhahlamba District Municipality Spatial Development Framework 2009 (Eastern Cape)

UKhahlamba District Municipality in the Eastern Cape borders on the south eastern corner of the Pixley Ka Seme district Municipality directly to the east of Umsobomvu local municipality. The Gariep is the local municipality within UKhahlamba district that borders onto Pixley, with the area known for its extensive stock farming.

The District Municipality is known for its wide diversity in physical landscape, disparity in density of land use, diversity in elevation above sea level and even extremities in relative affordability linked to poverty and access to economic opportunities throughout the District.

The Orange River is the most important source of water in the District, with the area located along the southern shore of the Gariep Dam. This area is known for its tourism potential which includes the Gariep Dam and Oviston Nature Reserve. This area is located immediately to the west of Norvalspont in the Pixley district. The R53 provides a road link between Burgersdorp in Ukhahlamba District and Colesburg in the Pixley District.

2.7.7 Chris Hani District Municipality Spatial Development Framework 2013 (Eastern Cape)

Chris Hani District Municipality is located within the centre of the Eastern Cape Province on the southern boundary of the Pixley Ka Seme District Municipality. This district includes the Karoo Hartland with the agricultural sector playing an important role in the local economy and forming one of the key potential growth sectors in the Chris Hani District Municipality.

The N10 links the Eastern Cape with the Northern Cape and Namibia and transgress through the Chris Hani and Pixley Ka Seme District Municipalities. This route forms an important national and regional linkage in South Africa. The link is also identified in the Northern Cape SDF as an important development corridor, and within the Chris Hani District Municipal SDF as an important tourism link between the east coast and the interior hartland extending to Namibia.

Pixley and Chris Hani District Municipalities also share an area that was identified in the Northern Cape PSDF as an area of potential cross region co-operation due to its locality and bioregional context. This area includes the link between Middelburg in Chris Hani and Noupoot in Pixley ka Seme. The town of Middelburg also has a direct link with Richmond via the R398.

2.7.8 Cacadu District Municipal Spatial Development Framework 2013 (Eastern Cape)

The Cacadu District Municipality is located in the Eastern Cape with a very short boundary with Ubuntu Municipality within the Pixley Ka Seme District Municipality. The R63 links Graaff-Reinet with the N1 as well as Victoria West in Pixley Ka Seme District via Murraysburg in the Central Karoo District while the N9 provides a link between Graaff-Reinet in Cacadu and the N1 at Colesburg in Pixley Ka Seme District Municipality. Therefore there are good transport links between these two districts for freight as well as for tourism.

2.8 Vision and Mission

The Pixley Ka Seme District Municipality vision informs the municipal council's vision for the long term development of the region with a focus on the most important development needs. This vision must also reflect the spatial vision needs that are to be developed that will support the strategic guidelines within the plan. For this purpose the Northern Cape Provincial Spatial Development Framework vision as well as the existing vision of Pixley Ka Seme District was considered.

The vision for the Northern Cape Province as per the provincial SDF read as follows:

“Enhancing our future”

The current vision for Pixley Ka Seme District Municipality is as follows:

“Pixley Ka Seme DM, PIONEERS of DEVELOPMENT, a HOME and FUTURE for all!!!”

The aim of a vision is to motivate people and therefore good visions are short and to the point so that it can make an impact and also easily be memorized.

In comparing the two visions it is clear that the focus is on the future and to better this future with Pixley Ka Seme DM planning to achieve this through innovative development (Pioneers of Development) and also being a place like home for all its residents. Through this vision the

commitment of the District Municipality to serve its entire people and better their future is once again reiterated.

Whilst the vision outlines what the Pixley Ka Seme District Municipality wants to achieve in their service to all the people of the region, its mission gives direction to how the municipality is going to achieve its vision:

Mission statement:

We strive to achieve:

- ✓ **Effective and efficient service delivery;**
- ✓ **Optimal human and natural resource development;**
- ✓ **Local economic growth and development, job creation and poverty alleviation;**
- ✓ **A vibrant tourism industry;**
- ✓ **To participate in the fight to reduce the infection rate and lessen the impact of HIV/ Aids and other communicable diseases;**
- ✓ **A safe, secure and community friendly environment.**

If applied or unpacked according to the Standard Priority Matrix the following structuring elements can be taken from the *VISION* and *MISSION* statements of Pixle Ka Seme DM.

		Structuring Elements				
	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6
MISSION	Good Service delivery	Human & natural Resource development	LEG/ More Jobs/ Fight Poverty	Tourism	Fight communicable diseases	Safe & secure community
VISION	Development Pioneers	Development Pioneers	Future for all	Future & home for all	Home & future for all	Home & future for all

Source: DRDLR/ CKR

The SDF will focus on these six (6) structuring elements to be incorporated in objectives, strategies and proposals.

2.9 Spatial Interpretation

The SDF, as one of the sector plans, should focus on the spatial interpretation of the IDP to ensure the alignment with the national and provincial planning requirements and guidelines. The IDP reflects the key development focus areas that were agreed upon by the communities and stakeholders with the SDF to guide and inform land development and management in the area. The SDF gives spatial effect to the multi-sectoral projects identified in the IDP and assists with the co-ordination and implementation of the various sector plans that require spatial interpretation. The SDF

therefore does not operate in isolation, but is directly linked to the IDP to ensure consistency and harmony in the municipal management of the area.

The Pixley Ka Seme District IDP (2011-2016) strategically focuses its strategy on three areas:

2.9.1 Socio-Economic Development: these issues are of key importance to long term survival and prosperity of the municipal area and include economic growth, job creation, eradication of poverty, broad based black economic empowerment and maintaining the integrity of the environment.

The building of a sound economic base is one of the main challenges in the area. This will require effective planning and strategizing to position the area in the domestic and international markets. This can be achieved by making the locality functional and appealing through the provision of proper infrastructure and services by building on the skills and confidence of the local communities. There should be a focus on economic growth through incentive investment in strategic infrastructure that will attract investment. The growth in social spending should also be balanced with the public sector economic investment.

Each municipality should be strategically analyzed in terms of its potential to identify sustainable projects that will enhance economy growth and job creation in the long term. It is also important that development plans and proposals should be realistic and within the bounds of the available resource capacity of the municipality.

The Municipalities within the Pixley Ka Seme area of jurisdiction are to a large extent reliant on the natural environment, and it is therefore very important to support development that protect the environment while allowing for optimal sustainable use of the environment.

2.9.2 Service Delivery: this relates to the most basic functions of a municipality which is also one of the most important and includes the delivery of quality and efficient services (water, electricity, sanitation and waste removal) to the community.

2.9.3 Governance: these issues revolve around the relationship between the district and local municipalities as well as between the different local municipalities in the region.

2.10 Regional perspectives

Regional related issues and constraints that were identified as part of the first phase of the Public Participation Process that hamper economic development in the area are as follows:

- Limited economic opportunities exist in most of the smaller towns within the Pixley Ka Seme District Municipality;

- Low levels of education, poverty, abuse and unemployment create many social issues that reflect negatively on the towns and negatively impact their progress;
- The vast distances between the towns and the lack of public transport and in some areas poor road networks impact negatively on the growth of the area as well as service delivery;
- The lack of payment of services and property tax influence service and infrastructure delivery in many of the areas;
- There is a poor connection between the farming community and the municipality, resulting in poor communication and limited co-operation;
- Overgrazing of municipal commonages in many of the towns result in the spreading of alien vegetation and environmental degradation;
- Spatial planning directives for the Municipalities and the individual towns are to minimum;
- Existing housing backlog – directives for the identification of towns for provision of houses in a sustainable manner.

The consolidation and integration of the spatial urban form created by apartheid is a very important and vital consideration of the municipalities in the development and provision of housing in their towns. The Integrated Housing Plan of the Pixley Ka Seme District Municipality identifies the following issues in the delivery of houses:

- Very few people in the district (9% of total population) qualify for bonded housing;
- There is a high demand for housing;
- Backlog in housing provisions;
- Low rate of housing delivery in the region;
- Huge shortage of land/ sites for housing;
- Many informal settlements in towns;
- Infrastructure backlog which affects the housing delivery.

All these issues need to be addressed and planned for accordingly in order to set a target for improved and sustainable delivery of housing in the area. Alternative solutions need to be considered in addressing the rising need for formal housing and access to land tenure.

The key factors for providing sustainable Human Settlements are:

- Provide housing in areas in which it will make economic sense, i.e. where there is some form of economic growth and in areas where it is in easy reach of economic activity and job opportunities;
- Roads should be developed in locations where they will ensure easy and affordable movement, especially in the poorer communities and where they can grow, sustain and support the local and regional economy;
- Stimulate land reform to ensure that previously disadvantaged communities gain access to the economy. It is however very important that these areas are well managed through providing proper education and capacity building programs for upcoming farmers;
- Develop and manage the living environment in a manner that will ensure sustainable quality of life. This needs to be done through effective integration of land, transport and infrastructure planning in order to create effective an equitable spatial form.

The table below summarizes typical rural issues and how the Pixley Ka Seme District IDP addresses each of these:

Table 3: How the Pixley Ka Seme District IDP addresses the rural issues in the district

Issues	IDP
Land Reform	○ Need for more commonage. ○ Council need to review their leasehold agreements. ○ Make more land available for emerging farmers. ○ Land needed for community projects for food security. ○ Improve the management system of the commonage to ensure the protection of the environment from overgrazing. ○ Lack of full ownership of properties need to be addressed. ○ Utilize the land audit compiled by the District Municipality to identify productive land for land reform.
Housing	● All municipalities need additional land for the provision of sites for housing. ● Demand for housing for people living in informal dwellings. ● Upgrading of existing housing units that are in a poor condition. ● District Municipality to fast track land availability and transfer of land for housing. ● Need to develop houses in sustainable manner. ● Need to improve on the slow delivery of housing developments. ● Utilize the land use audit compiled for the District Municipality to identify areas for housing development.
HIV/AIDS	○ Improve the HIV/ Aids awareness campaign. ○ Alcohol misuse campaign. ○ Need for more aftercare health facilities in region. ○ Vulnerable communities.

Health Facilities	• Insufficient health facilities. • Provision of public transport for patients. • Aftercare and supporting services for patients. • Rendering of 24 hour health services.
Safety and Security	○ Police stations not accessible to many communities. ○ Lack of police stations in areas and lack of police resources. ○ High level of unemployment and poverty. ○ High levels of domestic violence and rape. ○ Substance and alcohol abuse. ○ Theft and illegal activity. ○ Need for more recreation facilities to stimulate youth.
Water	• Some municipalities still have water backlogs with poor services on the farms in the rural areas. • Most water treatment works in the district are old and this affects the quality of drinking water. • Not all municipalities have water treatment works which affects the quality of the water. • Municipalities do not have the necessary resources and funding to maintain the required standard of potable water • Municipalities to make use of the District municipality for taking and testing of water samples and the testing thereof.
Sanitation	○ Purification works in many municipalities are too small and the pumps need to be upgraded. ○ Extension of many of the oxidation dams required.
Refuse removal	• High cost of waste removal. • Most of the waste disposal sites do not comply with the legal requirements and some need to be closed. • Upgrading of many sites required. • Great need for vehicles and equipment.
Roads	○ Dirt roads in most of the rural areas with poor maintenance that impact on the accessibility of the district. ○ Most areas lack a formal stormwater system. ○ Lack of maintenance of rural dirt road impact on service delivery in these areas. ○ Lack of capacity and resources to maintain road network
Education	• A shortage of institutions for higher learning in the district. • Lack of transport for farm schools. • Illiteracy. • Brain drain from the area. • Lack of basic services in the schools such as water, electricity and sanitation.

Source: Pixley Ka Seme District IDP 2011-2016

Opportunities and constraints provided by the District:

Table 4: Opportunities and Constraints of the Pixley Ka Seme District Municipal area

Opportunities	
Regions Geo-political location	○ Optimizing the region's geo-political location between Cape Town, Bloemfontein, Johannesburg and Pretoria.
Major transport network	● Optimizing the opportunities presented by the N1, N12, N9 and the N10 and major transport corridors.
Renewable Energy	○ Potential opportunities presented by the identified renewable energy hub in the region.
Incentives	● Provide incentives to attract international capital.
Environment	○ Maintenance and conservation of the pristine natural environment to support sustainable farming into the future.
Constraints	
Provision of basic services	● Backlog in the provision of basic services such as water sanitation, electricity and housing especially in rural areas and informal settlements.
Water supply	○ Limited availability of bulk water supply in the district.
Water availability	● Overall scarcity of water for agriculture, industries, commercial and housing developments have a regional impact on development.
HIV/AIDS	○ The HIV/Aids pandemic and its impact on regional development.
Land Release	● Land for development and land reform mainly privately owned, which is problematic for the effective release of the land.
Spatial inequalities	○ Not all communities have same level and type of social and infrastructure services available.
Unemployment and Poverty	● High levels of unemployment and poverty.

Source: Pixley Ka Seme District IDP 2011-2016

The development challenges that face the Pixley Ka Seme District Municipality are as follows:

Table 5: The development challenges that the Pixley Ka Seme District faces

Development Challenges	
Physical	○ Dust pollution
Demographics	● Declining populations in some of the municipal areas.
	● Reasonably low population growth.
	● Low levels of education.

Social and Community facilities	● Shortage of skilled manpower in the district. ● Many people live below the poverty line. ○ Inadequate schools in farming areas resulting in children having to travel long distances to areas where they go to school. ○ Inadequate tertiary institutions to support the district. ○ Insufficient health centres. ○ General lack of public transport. ○ Lack of recreational services and poor management of services where they do exist. ○ Housing backlog result in overcrowding in homes and informal settlements. ○ Many of existing informal areas need to be serviced with basic services. ○ Poor state of cemeteries. ○ Number of libraries inadequate and not very resourceful. ○ Poor levels of refuse removal – with no services that existing in towns such as Victoria-West, Richmond and Loxton.
Infrastructure and Public utilities	● Many households still rely on boreholes and other natural sources to meet their water needs. ● Many sewerage and water reticulation facilities need upgrading ● Poor levels of sanitation, with half of the households in the district having access to flush toilets. ● More regular solid waste collection to limit waste pollution and health risks caused by illegal dumping. ● Electricity supply in the district is not a major problem, but internal networks do need upgrading. ● Inadequate street lighting. ● Well distributed communication services. ● Lack of formal stormwater drains, especially in previously disadvantaged communities poses problems. ● Poor conditions of internal road network in some areas. ● Need for a integrated regional transport plan to address the inadequate public transport in the district. ● Inadequate pedestrian walkways in all the municipal areas. ● No cycle tracks exist in the towns.
Socio-economic conditions	○ High unemployment rate ○ Level of income is very low indicating a high poverty rate which place increasing demand on service delivery because very few people are able to pay for service.

- Rapid growth of informal settlement in many towns.
- Increased HIV infection amongst youth.
- Alcohol and substance abuse.
- More visible policing.
- Land ownership and tenure – limited opportunities still available to the previously disadvantaged communities.
- Limited land available for economic development – business and industrial development.
- Very little land owned by national, provincial and local government.
- White population still own majority of the farms.

Chapter 3: Bio Physical Environment

3.1 Geology and Soils

The Pixley region's rocky areas and hilltops are mostly caved standstone with a shallow covering of loose sandy soils. The lower lying areas, flatter slopes and undulating territory have deeper layers of loose sandy top soils that are underlain either by decomposed shale, mudstones or sandstones. The shale areas normally decompose turning into clay. In many of the areas where the drainage is poor it is found that the underlying soils consist of decomposed clay minerals. These clays are notoriously known for their expansive properties that lead to cracks in buildings. Sandstone normally decomposes to form dense clayey sand. Due to the high amount of decomposed clay soils that are found in some areas, a lot of cracked buildings have emerged in many of the towns. The so called escort soils, which are clays with an excess of sodium have dispersive properties which leads to rapid erosion in rain water. These soil types therefore need certain engineering treatment to stabilise them for building purposes.

The geology in the Pixley Ka Seme District Municipal area is dominated by horizons of dolerite rocks. Dolerite covers approximately 36% of the area, followed by Tillite (12%) and the rock types Sand, Andesite, and Quartzite covering between 7% and 5% of the area. The remainder of the rock types cover less than 4%. (Pixley Ka Seme District SDF 2007)

The following information provides an overview of the qualities of the different rock types found in the region as set out in the Pixley Ka Seme District SDF of 2007.

Dolerite:

Engineering Qualities: The clayey soils are known to expand and may cause damage to foundations. Dolerite is however an excellent construction material especially the slightly weathered varieties that occur in the west of the country are used as a road base. The weathered rock is widely used as

concrete aggregate and in road and dam construction. Care should be taken with the rapid weathering types, which may break down rapidly (over a period of days or months).

Unique qualities:

Dolorite's general resistance to weathering is the reason behind the district's positive linear topographic features seen in the horizontal sedimentary rock strata of the Karoo. It is also generally regarded as a good aquifer in the dry regions. The general use of dolerite as a construction material has caused the widespread occurrence of quarries along roads and near towns and dams.

Tillite:

Engineering Qualities: It is a good construction material, but may break down. The soils are sometimes spread-out and usually dispersed over an area.

Sand:

Engineering qualities: The sands are sometimes too loose for normal foundations and settlements to take place. It is usually suitable for fine concrete aggregate. In the arid regions a major problem is the movement of these sands by the wind.

Andesite:

Engineering qualities: The residual soils are expansive. Soils are only non expansive in the early and late stages of weathering. Depth and stage of weathering vary significantly over short distances and may cause foundation problems. Large, unweathered core stones in the soil profile cause problems with installation of pipes. Damage to houses may be limited by using reinforced masonry work, flexible couplings in pipes and good site drainage with piled foundations or raft foundations to be used in larger structures.

Quartzite:

Engineering qualities: Quartzite is a very strong rock forming excellent foundations. It is fairly difficult to excavate in these rocks. The residual soils are usually strong, non-compressible and non-

heaving. The rock is widely used as concrete and for road building materials, although the high sulphur content due to the presence of pyrite cause some problems with salt blisters in roads and stains in concrete when used in the Witwatersrand:

Unique qualities: Quartzite is such an excellent aggregate that it is used as a reference aggregate.

Mudstone:

Description: Sedimentary rocks are built up of particles originating from the weathering of other rocks and deposited in one or other depositional basin. Clay-sized particles (mud) are transported in suspension in water and eventually settle in deep water marine or fresh water lakes. After compaction and cementing it is called mudstone. Mudstone occurs after a process of coarse-grained sandstone alternating with fine-grained mudrock. The most widespread occurrence is in the Karoo strata, which covers 75% of the central subcontinent.

Soil profile: Mudstone weathers to a clayey soil, which may have expansive characteristics depending on the origins of the soils from which the rock formed. In some areas mudrock is weathered to great depths. The soils are usually highly erodible and dispersive.

Engineering qualities: The unweathered rock is soft to very soft with properties similar to over-consolidated clay. The rock mass is impermeable and the rock may be of the rapid weathering (slaking) type, which break up after exposure to the atmosphere. If the rock mass is dipping at an angle, slopes are usually unstable and movement may take place along bedding planes. If the original clay was of the expansive type, then the rock and the residual soils will also be expansive and may cause damage to structures. Weathered and unweathered mudrock are used as brick-making material.

Unique qualities: The soils are highly dispersive and this result in deep dongas forming on many slopes in the Karoo.

Shale:

Description: Shale is a sedimentary rock consisting of silt and clay sized particles and with visible layering (fizzures) as opposed to a mudstone that is massive. Shale always occurs within a succession of coarse-grained sandstone alternating with fine-grained shale (mudrock). The most widespread occurrence is in the Karoo strata which covers 75% of the central subcontinent.

Soil profile: Shale weathers to a clayey soil, which may have expansive characteristics depending on the original mineralogy of the soils from which the shale formed. In some areas the shales are weathered to great depths. The soils are usually highly erodible.

Engineering qualities: The unweathered rock is soft to very soft with properties similar to overconsolidated clay. The rock mass is impermeable and the rock may be of the rapid weathering (slaking) type, which breaks up after exposure to the atmosphere. If the rockmass is dipping at an angle, slopes are usually unstable and movement may take place along bedding planes. If the original clay was of the expansive type, then the rock and the residual soils will also be expansive and may cause damage to structures. Weathered and unweathered shale is the main source for brick-making material.

Unique qualities: The soils are highly erodible and this results in deep dongas forming on many slopes in the Karoo.

Aesthetic and Scenic value: The shale layers form the shallower slopes in the Karoo where the sandstone beds or dolerite sills protect the softer shale below to form the typical table mountains.

The geology and soil conditions of the different areas should inform development in those areas. Geology features of an area also related to mining in the area which provide for economic opportunities.

Map 2 identifies the main geology groups within the Pixley Ka Seme District Municipal area.



SIYANDA
DISTRICT MUNICIPALITY

SAND

FRANCES BAARD
DISTRICT MUNICIPALITY

SEDIMENTARY

GEOLOGY

AMPHIBOLITE
ANDESITE
ARENITE
CONGLOMERATE
DIAMICTITE
DOLOMITE
GNEISS
GRANITE
IGNIMBRITE
IRON FORMATION
LUTACEOUS ARENITE
MUDSTONE
ORANGE RIVER BASIN
QUARTZ PORPHYRY
QUARTZITE
SCHIST
SEDIMENTARY
SHALE
SILICICLASTIC
SILTSTONE
TILLITE
VOLCANIC ROCKS
WATERBODY

SHALE

DOLERITE

FREE STATE

NAMAKWA
DISTRICT MUNICIPALITY

EASTERN CAPE

MUDSTONE

WESTERN CAPE

0 10 20 40 60 80
Kilometers

GEOLOGY MAP 2

SPATIAL ISSUES

- 1) DOLERITE: The clayey soils are expansive and may cause damage to foundations. The unweathered rock is widely used as concrete aggregate and in road and dam construction. The general use of dolerite as a construction material has caused the widespread occurrence of quarries along roads and near towns and dams.
- 2) MUDSTONE: The soils are highly dispersive and this results in deep donga's forming on many slopes in the Karoo.
- 3) SHALE: The soils are usually highly erodable.
- 4) SAND: The sands are sometimes too loose for normal foundations and settlements may take place. It is usually suitable for fine concrete aggregate. In the arid parts a major problem is the movement of these sands by wind.

Source: ENPAT (Environmental
Potential Atlas)

Issues:

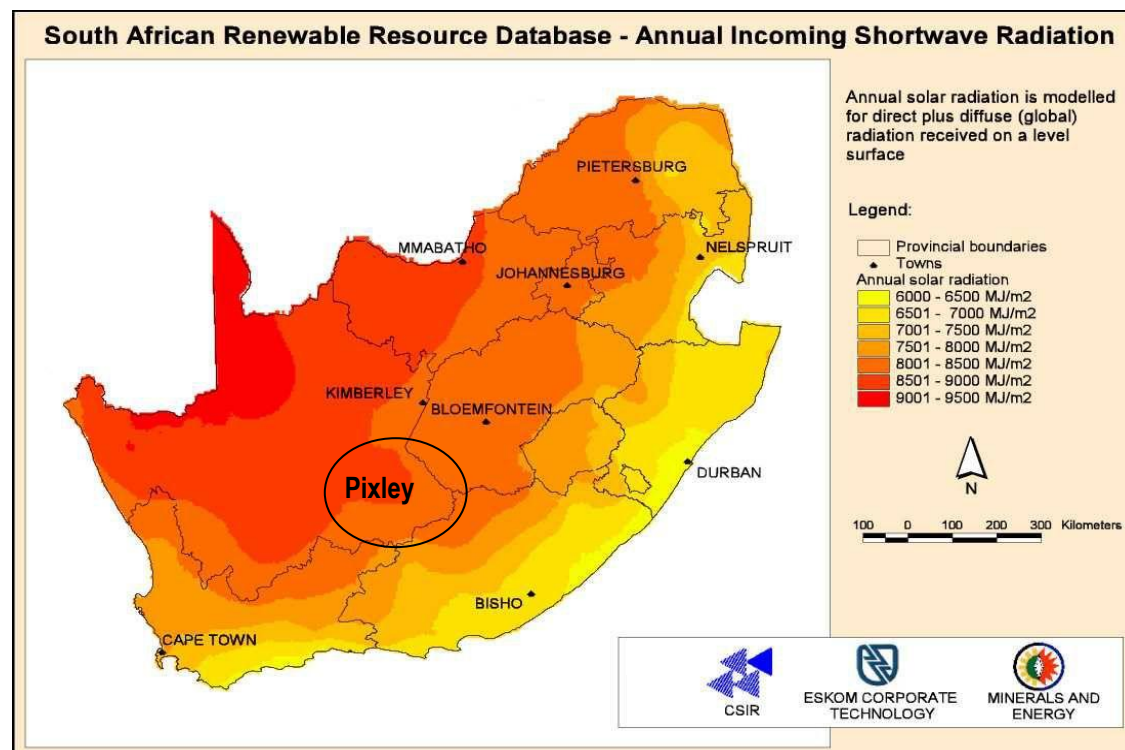
- Although the soil potential is generally high in some areas, when considered together with the climate the land capability in the region is generally poor;
- Due to the poor land capability in the largest part of the region the land is prone to erosion and degradation if not properly managed in accordance with its capacity. The environment also rehabilitates very slowly once degraded;
- Veld management and land use policies for the rural areas are therefore crucial and must include the education of small and upcoming farmers;
- Area known to have semi-precious stones;
- The potential threat of fracking to the environment;
- The northern part of the district, particularly Siyancuma municipal area, hosts some dolomite formations which should be taken into consideration with any new developments;
- All soil types should be considered during the planning process.

3.2 Climate

The Pixley Ka Seme District lies in the upper regions of the Karoo and experiences moderate to hot summers and cold dry winters. Being a very hot area the average annual maximum temperature is around 40°C, while the average annual minimum temperature is -10°C. The winters are cold and dry with moderate frost occurring during the night. The coldest months are during June and July.

The area is located in a summer rainfall region with very little rainfall. This region is very dry and most of the region receives less than 300mm of rain per annum with the areas in the east receiving generally more rain than the dryer areas in the west. Rain occurs predominantly in the form of summer thunderstorms and 60% of the average annual rainfall occurs between October and April. The mean annual rainfall ranges from 130mm - 300mm per year. Average annual evaporation ranges between 1600mm in the east and 2400mm in the west. The Pixley Ka Seme District is situated in part of the Orange and the Gamtoos River catchment areas. The Orange and Vaal Rivers are the two perennial rivers in the region.

Figure 2: Solar Index of South Africa



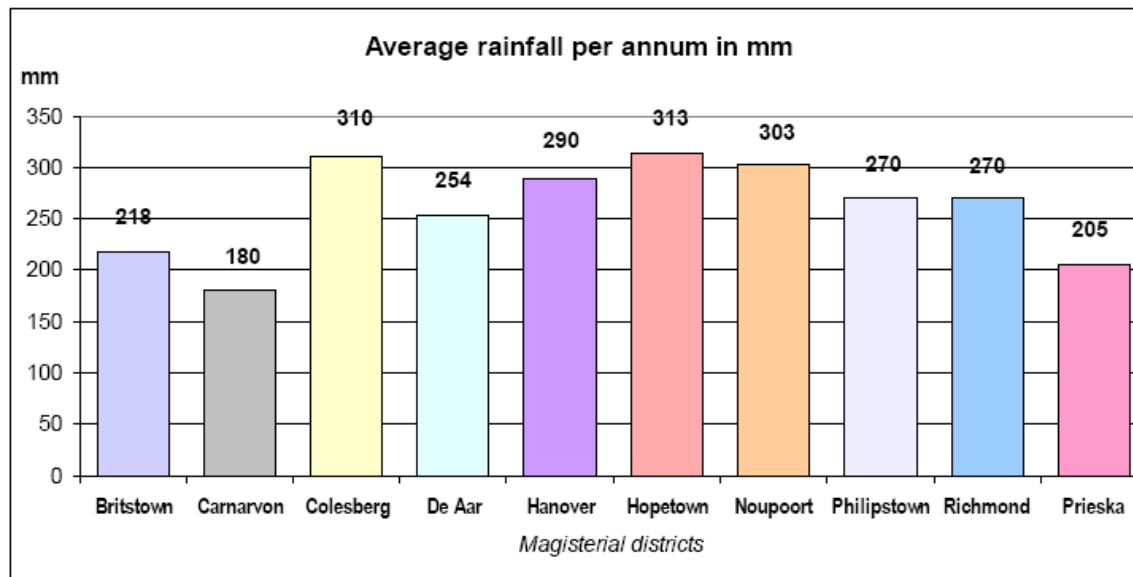
Source: CSIR

The Pixley Ka Seme District area with its abundance of sunshine and vast tracts of available land has been attracting considerable interest from solar energy investors of late. The high solar index of the area, as indicated by the Solar Index Diagram, provides many opportunities in terms of the development of renewable energy.

This was also acknowledged by the Northern Cape Government with the identification of the Renewable Energy Hub. The areas around the northern and eastern borders of the Pixley Ka Seme District Municipality, with a distance of 50 kilometres from the Orange River, forms part of this hub with the potential to stimulate special economic development zoned within the area that have the potential to stimulate industrial development.

The district is known for severe droughts and often experiences heavy rainfalls which leads to flooding and erosion. Due to the dry climate the area also experiences a lot of dust pollution that can be exacerbated by overgrazing and poor farming management systems.

Table 6: Average rainfall per magisterial district in Pixley Ka Seme District



Source: Pixley Ka Seme District SDF 2007

3.2.1 Climate change

Climate change can be described as the increased frequency with which anomalies occur, i.e. positive or negative weather conditions to which people have not as yet adjusted. Thus we need to identify what we should adapt to and when to start climate protection (i.e. switch to drought-resistant cereal strains, when to abandon some sportsfields). Measures should provide options for various degrees of extremity. These measures will not guarantee absolute protection, but will make damage controllable and provide a means of coping with climate related surprises. Climate protection¹ has to become each individual's concern through supporting climate protection measures or by responding to changeable climates to reduce the risks and take advantage of the opportunities.

It is predicted that the Karoo could experience more drought periods, coupled with increased evaporation and temperatures and this will negatively impact already restricted water supply. Regional predictions suggest a drying trend from west to east, a shift to more irregular rainfall of possibly greater intensity, and rising temperatures everywhere. It is likely that the greatest impacts will be on water supply (Midgley *et al.* 2005).

This highlights the importance of protecting water resources from over-abstraction, degradation and the spread of invasive alien plants (which uses more water than indigenous plants). Management of mountain catchment areas is critical in this regard, as they are the primary source of our water supply.

The increase in temperatures anticipated with climate change may result in increased fire frequencies. Invasive alien plants are often highly flammable and with their large volumes, are likely to fuel more frequent fires. The combination of more frequent and intense fires will have a devastating impact on the region.

One of the most effective ways to mitigate the impacts of climate change, at a the local level, is to safeguard the Biodiversity of areas. Crucial management actions for the Municipal areas include:

- maintaining intact riparian (river bank) vegetation;
- restricting building to above the 1:100 year flood line;
- protecting major landscape corridors with biodiversity compatible land-uses;
- protecting water resources;

¹ the reduction of greenhouse gas concentrations in the atmosphere

- appropriate fire management;
- removal of alien invasive plants; and
- restoring and maintaining biodiversity for carbon storage.

To ensure resilience against the impacts of climate change, landscape corridors need to be kept intact to function as large-scale ecological process areas. These corridors enable the migration of plants, animals and birds, and thereby enhance their ability to persist despite changing climatic conditions.

Issues:

- Limited rainfall within a mainly arid area;
- Area known for clean air and open skies with limited light pollution;
- Arid areas with limited rainfall should consider recycling of water where possible;
- Area known to have a high Solar Index to support renewable energy;
- Wind in the area can also support future wind farms;
- Potential impact of climate change.

3.3 Topography

The topography of Pixley Ka Seme region is one of its main assets with vast open spaces and unspoilt panoramic visual vistas stretching over great distances. This asset makes for excellent scenic drives throughout the whole of the region from the flat plains to crossing the main rivers of South Africa. The topography is related to the geology and relief with altitudes ranging between 1000m to 1800m above sea level. Land reforms associated with plains, hills and lowlands cover approximately 80% of the region. Plains have slopes of less than 5° (8%) and result in a gradual change of climatic conditions. Ridges have slopes of more than 5° and therefore have more variable climatic conditions.



Escarpment with scenic road

The ridges and escarpment have significant potential in terms of aesthetic or visual appeal as well as habitat for rare and endangered plants and animals. These features occur mainly in the north and on the borders of the region.

The general drainage pattern of the region is from the southeast to the north and northwest. The Orange and Vaal Rivers are the primary drainage channels in the area to which many other streams and rivers link.

Issues:

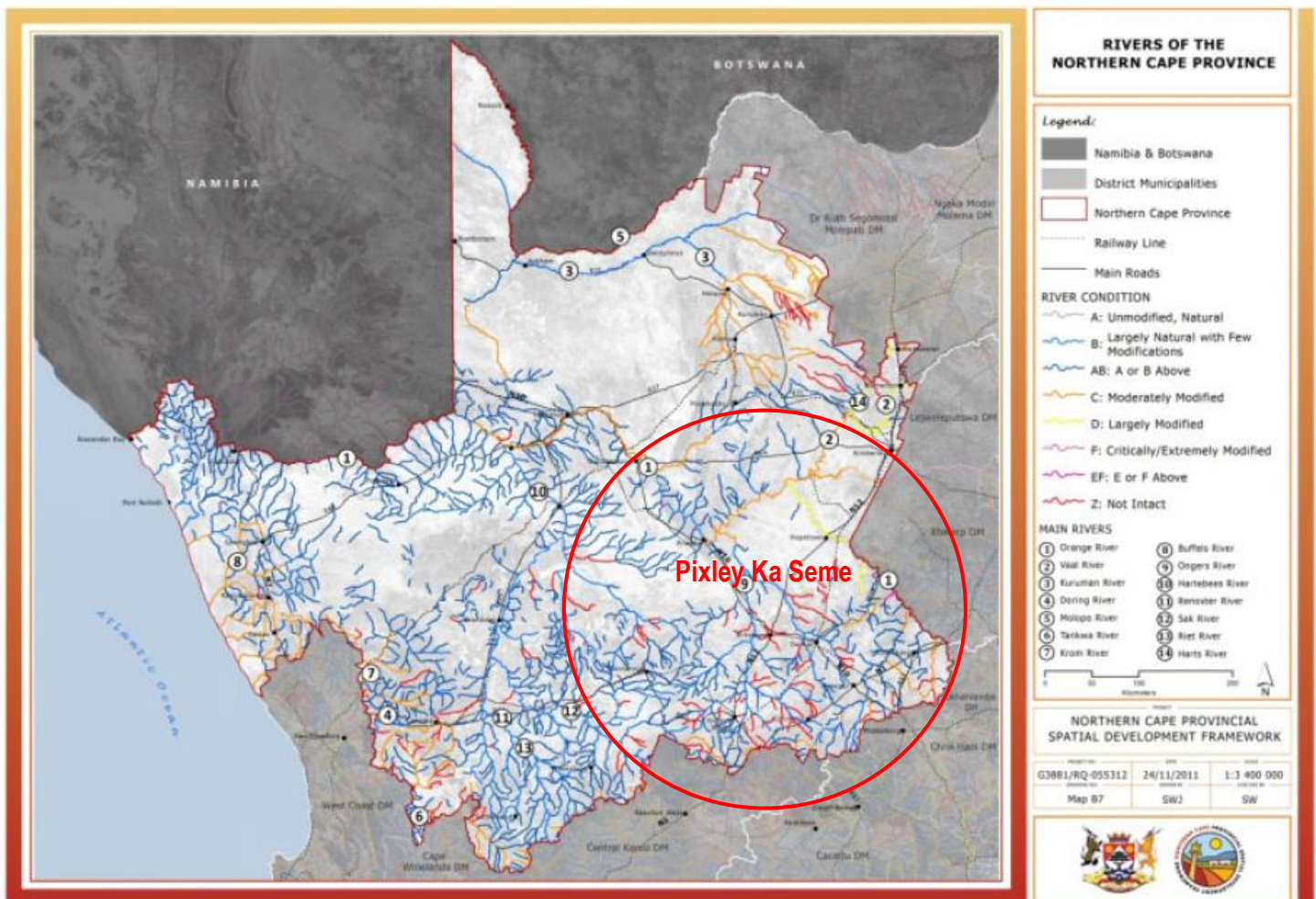
- Ridges and “koppies” are assets within the region and they must be handled with sensitivity;
- Visual vistas are another asset to be addressed;
- Fauna and flora forms complete the topography picture and must be handled with care;
- Rivers and river basins as lifelines to an arid region like Pixley have to be handled very great sensitivity.

3.4 Hydrology

The Pixley Ka Seme District is situated in part of the Orange- and the Gamtoos River catchment areas. The Orange- and Vaal Rivers are the two main perennial rivers in the region.

The main source of surface water in the Northern Cape is the Orange River with its various tributaries (see map below). The Nama or Koranna name for the river is Gariep, meaning the/ our great river. This is also where the Gariep Dam's name in the Orange River stems from.

Map II: Rivers of the Northern Cape Province



Source: NCPSDF-2012

The Orange River Basin is situated lower down in the river. It is an international river basin shared by South Africa, Lesotho, Botswana and Namibia can be found. The Orange River system drains 47% of South Africa's total surface area and is divided into three (3) main sections:

- 1) Upper section stretching from its origin to the Orange-Vaal confluence where 98% of runoff is generated;
- 2) Middle section from the Orange-Vaal confluence to Augrabies Falls;
- 3) Lower section stretching from Augrabies to its mouth at the Atlantic Ocean.

Four Water Management Areas are to be found in the Northern Cape:

- a) Lower Orange;
- b) Upper Orange;
- c) Olifants/ Doorn;
- d) Lower Vaal.

3.4.1 Water Resources and Groundwater Capacity

The Pixley Ka Seme region is very dependent on groundwater to supply community/ household water needs. Only 6 out of 28 settlements/ towns in the region use surface water as a supply source, with the remainder of the towns dependent on ground water as its only form of water supply. Towns that are dependant on surface water sources include Vanderkloof, Petrusville, Douglas, Hopetown, Colesberg and Prieska. Map 3 illustrates the water resources that the towns are dependent on. Settlements far from rivers depend on ground water as their main water source. Ground water and the sustainable capacity of good quality ground water in the area therefore play a very important part in the development of the region.

Aspects related to sanitation, waste disposal or other sources that may cause pollution and that should be taken into account when planning, developing or managing activities are:

- Rock type or geology, which plays an important role in the feasibility and design of specific sanitation systems for specific settlements that indirectly affects the costs of sanitation systems and if ignored, can affect the health and lifestyle of a community;
- Shallow rock or deep soils occurring within the confines of a development;
- Sandy or clayey soils resulting in excavations collapsing or remaining open and unstable;
- The soils and rocks are permeable and absorb water or are impervious so that no water penetrates them;

- A temporary or permanent shallow ground water table exists which serves as water supply for the population and may be easily polluted;
- Rock formations where the development is located contain zones of groundwater storage, which are of regional, national or local importance (aquifers). If the water in them is polluted and becomes unusable or requires treatment before it can be used it may result in acute water shortages and hold high cost implications;
- No development upstream of a water source should be planned without professional advice regarding the potential impact on the resource;
- National environmental legislation prescribes buffer zones close to any water source to be kept open as well as impact assessment procedures to be followed should development take place close to water sources.

The main dams in the region include the following:

Large dams:

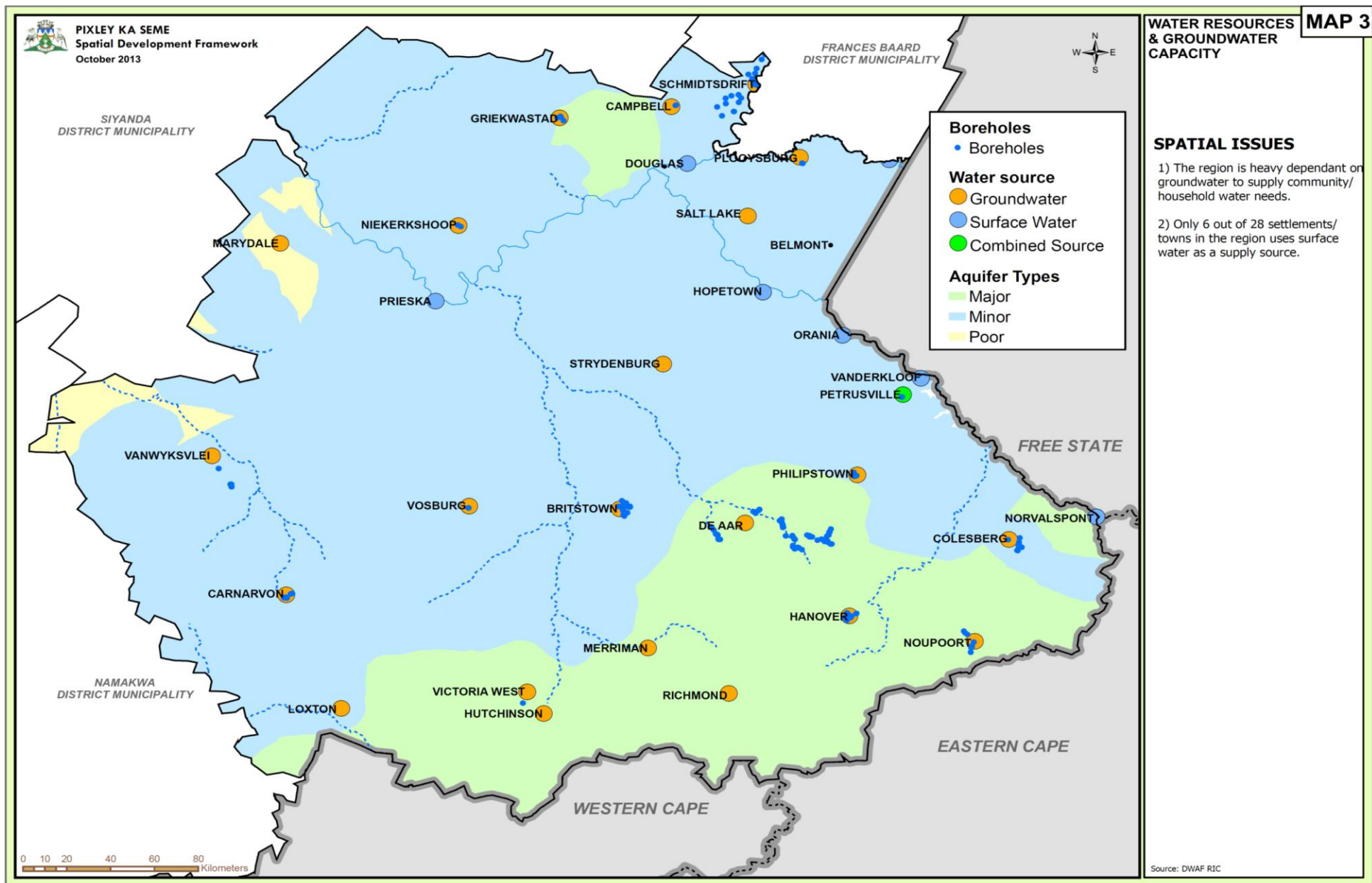
- i. Gariep Dam. Largest reservoir dam in the Orange River – Department of Water Affairs/ Eskom;
- ii. Vanderkloof Dam. Second largest dam in Orange River – Department of Water Affairs/ Eskom;
- iii. Boegoeberg Dam. The Boegoeberg dam is located in the Orange River close to Groblershoop and Langberg. The dam is used for irrigation, but a huge problem with this dam is sedimentation and that it has lost half of its original capacity (now only approximately 20 million m³);
- iv. Smart Syndicate Dam;
- v. Spitskop Dam. This dam is on the Harts River (Lower Vaal) near Kimberley.

Small dams:

- i. Van Wyksvlei Dam;
- ii. Killowen Dam.

Weirs:

- i. Vaalharts Weir. This weir can be found in the Vaal River near Hartswater and is a very important scheme in the Northern Cape, because it feeds the Vaalharts WUA (Water User Association), Magareng Municipality and Phokwane Municipality;
- ii. Douglas Weir. The weir near Douglas is upstream of the Orange-Vaal confluence in the Vaal River and is used for storage purposes.



Source: Pixley ka Seme District SDF 2007

The analysis did not identify any significant wetlands in the district. It is however known that many of the non-perennial tributaries and river beds function as wetlands and riparian zones, providing an important habitat in this mostly arid region.

The protection and maintenance of the water quality of the various water resources is of the utmost importance for future sustainable development in the region. The recycling of water as an additional source of water should be considered in areas with a Waste Water Treatment Plant and the installation of smaller recycling plants should be investigated and promoted as part of new developments to assist in water recycling.

Issues:

- Water is a scarce resource in the largest part of the region and has to be managed accordingly;
- Most of the towns in the region depend on ground water as their only source of water for household and agricultural uses;
- Protect ground water sources from pollution and over extraction;
- Limited water resources limit potential industrial development in the region;
- Effective management of all water resources;
- Maintain the necessary buffers along rivers to limit the potential impact of urban and rural development on the water resources;
- Consider the recycling of waste water.

3.5 Vegetation

The Pixley Ka Seme District Municipality is located in a unique biodiversity area of South Africa, with a typical Karoo type veld. The majority of the rural areas are dominated by natural vegetation that, although classified as hardy due to the limited rainfall that support it, can be very sensitive and slow to recover and rehabilitate if not managed in an appropriate manner.

There are three biomes that occur in the Pixley Ka Seme District. Biomes can be defined as the major biodiversity communities of the world, classified according to their predominant vegetation types and characterised by adaptations of organisms to that particular environment. Biomes are characterised by a similar association of species, comparable climates and consistent soil types. The four major types of biomes are: Aquatic, Grasslands, Forests and Desert. The following biomes occur in the Pixley district and are identified on Map 4.

The **Grassland** biome can be subdivided into savanna, temperate grasslands (prairie) and tundra. Savannas are the wooded grasslands of the tropics and subtropics that account for 46% of the South African landscape. **Savannas** are located mostly in the areas north of the Orange River and cover 11% of the area in the Pixley Ka Seme District. They are second only to tropical forests in terms of their contribution to terrestrial primary production. They are the basis of the livestock industry and the wildlife that forms part of this biome in these areas is a key tourist draw card.

The **Nama-Karoo** covers most of the vast central plateau region of the Western and Northern Cape Provinces. Nama-Karoo covers 87% of the area in the Pixley Ka Seme District. The area forms the transition area between the Cape flora area to the south and the tropical savanna areas in the north. Many of the plant species of the Nama-Karoo also occur in the savanna, grassland, succulent Karoo and fynbos biomes. Species that occur in the Nama-Karoo include the sweet-thorn (*Acacia karroo*), stone plant (*Lithops ruschiorum*) and blue Karoo daisy (*Felicia australis*). The former vast migratory herds of springbok have been replaced by domestic stock, particularly sheep and goats. A rich variety of rodents and reptiles, also occur in the Nama-Karoo. The few, endemic or near-endemic bird species include the Sclaters lark (*Spizocorys sclateri*).

Grasslands cover the high central plateau of South Africa, inland areas of Kwazulu-Natal and the mountain areas of the Eastern Cape Province. Grasslands cover only 1% of the area in the Pixley Ka Seme District and are mostly located on the south eastern boundary of the District. Grasslands are defined as those areas where grasses dominate the vegetation and where woody plants are absent or

rare. Most grasslands occur in high-rainfall areas, where thunderstorms and hail are common in summer and frost is common in winter.

The grassland biome is regarded as the third-richest area in terms of plant species diversity, with a total number of 3788 species. A surprisingly rich variety of birds are found in the grasslands, including the blue crane (*Antropoides paradiseus*), black korhaan (*Eupodotis afra*) and helmeted guineafowl (*Numida meleagris*).

The Pixley Ka Seme District Environmental Management Framework identified the following Adcock Veld types in the Pixley region. Within these veld types areas different sensitivities were identified as part of the Framework. The different management guidelines for these areas were also included in the Framework. The Adcock Veld types include:

- Central Upper Karoo;
- False Upper Karoo;
- False Arid Karoo;
- Arid Karoo;
- Desert False Grassland;
- Orange River Broken Veld;
- False Orange River Broken Veld;
- Kalahari Thornveld invaded by Karoo;
- Karroid Danthonia Mountain Veld;

The Environmental Management Framework for the Pixley region provides the guidelines for development in these areas with these guidelines to be included in the rural guidelines for the Pixley Ka Seme District SDF. The veld types and vegetation in the Pixley Ka Seme District are most suitable for livestock and game farming. In the Nama Karoo biome areas to the south east of the region and irrigation along the Orange River remain an important economic use.

The vegetation types in the District are generally poorly conserved, except for the areas immediately around the Vanderkloof Dam. It is important that appropriate stocking densities be maintained to allow

for sustainable use of the areas. Mesquite Prosopis and Threetorn Rhigozum are aggressive invaders of riverine areas, mainly in parts which are heavily grazed.

Issues:

- Hardy vegetation types that are sensitive to poor management practices;
- Natural vegetation in the area is slow to rehabilitate once it has suffered degradation;
- Adopt the appropriate management practices to allow for sustainable use of the natural areas for farming.



Synonym: Kalahari Thornveld
Economic Uses: Livestock farming of cattle, goats and sheep.
Conservation Status: Very poorly conserved.

Synonym: Kalahari Thornveld
Economic Uses: Livestock farming of cattle, goats and sheep.
Conservation Status: Very poorly conserved.

Synonym: Kalahari Thornveld
Economic Uses: Livestock and game farming, and mining.
Conservation Status: Extremely poorly conserved - the only Savanna Biome vegetation type which is not represented in any sizeable nature reserve.

Synonym: Kalahari Thornveld
Economic Uses: Livestock and game farming, and mining. Conservation Status: Conserved in the Vaalbos National Park and private game farms.

Synonym: False Arid Karoo, Central Upper Karoo
Economic Uses: Mainly livestock farming, with Dorper Sheep and Boer Goats.
Conservation Status: There are no major reserves in this vegetation type, but careful farming should result in the conservation of most of the indigenous plant species. Overgrazing is, however, a problem in some areas. As in many Nama Karoo vegetation types, riverine areas are heavily invaded by Mesquite Prosopis glandulosa and Threethorn Rhigozum trichotomum, which may form dense thickets in parts which are heavily grazed.

Synonym: Arid Karoo, False Succulent Karoo
Economic Uses: It is used mainly for small-stock farming: almost exclusively Dorpers and Karakul Sheep, and Boer Goats.

Conservation Status: Very poorly conserved - no major conservation areas occur within this type, but sustainable grazing should result in almost all the species being effectively conserved. Unfortunately, there is evidence of overgrazing in many areas. Riverine areas are seriously invaded by Mesquite Prosopis glandulosa and Threethorn Rhigozum trichotomum, mainly in areas which are heavily grazed.

NAMAKWA
DISTRICT
MUNICIPALITY

FRANCES BAARD
DISTRICT MUNICIPALITY

FREE STATE

WESTERN CAPE

0 10 20 40 60
Kilometers



VELD TYPES & VEGETATION

Source: Department of Environmental Affairs & Tourism (ENPAT 2001)

Biome

- Grassland
- Nama Karoo
- Savanna

Vegetation

Grassland

South-eastern Mountain Grassland

Nama Karoo

- Bushmanland
- Central Lower Karoo
- Eastern Mixed Nama Karoo
- Orange River Nama Karoo
- Upper Nama Karoo

Savanna

- Kalahari Mountain Bushveld
- Kalahari Plateau Bushveld
- Karroid Kalahari Bushveld
- Kimberly Thorn Bushveld

Prosopis areas

- High density
- Low density
- Prosopis projects

- 1) Nama Karoo covers largest area of the District (87%). Sheep-farming is the main agricultural activity in this region.
- 2) Savanna: Are located mostly in the areas north of the Orange River and covers 11% of the area in the Pixley ka Seme District. They are the basis of the livestock industry and the wildlife in these areas is a key tourism drawcard.
- 3) Environmental Impact:
The main ecological threats result from agriculture (development of irrigation lands, herb- & pesticides, desertification) spread of invasive plants (wild tobacco, mesquite, jointed cactus), mining operations and illegal collection of plants and animals.

Synonym: False Upper Karoo, False Karroid Broken Veld
Economic Uses: Although the wettest Karoo type, it is still too dry for crop production. However, this is the prime sheep and goat grazing area, producing much wool and meat. Irrigation along the Orange River is important - some of the biggest dams on the Orange River occur in this vegetation type. This vegetation type contains the agricultural research station at Carnarvon and is the best-researched Karoo type with regard to small-stock farming potential.
Conservation Status: Poorly conserved - most of the conservation areas are immediately around the major dams. Acocks considered this the most degraded of all the vegetation types in South Africa. This is where all the classical research on desertification and Karoo encroachment has been undertaken. Although there is much support for Acocks's theory on Karoo encroachment due to overgrazing, some scientists maintain that this "invasion" is determined by rainfall events and that drought periods result in an increase in Karoo elements. This process is reversed during wet cycles in which the grasses again dominate. However, overgrazing does encourage Karoo encroachment and it is important that stocking densities should be maintained at the carrying capacity of the vegetation as determined by its rainfall at the time.

3.6 Conservation and Heritage

Conservation of the unique Karoo landscape and fauna and flora is very important to maintain the environmental quality and resources in the Pixley Ka Seme District. These resources might be physical, biological or cultural. The conservation of an area must be seen as a form of land use, as it is an action taken to dedicate specific areas for a specific use which might include the use for a monument, or sustainable breeding of animals or as a habitat of animals and plants. These land areas dedicated for conservation uses needs to be carefully managed to ensure it remains a viable resource for the future. A heritage resource means any place or object of cultural significance. Heritage areas are defined areas of special significance with a character and quality that is managed and conserved through legislation. Buildings with heritage value include the following features:

- Historic importance;
- Architectural value;
- Contribute to character of the area;
- Are designed by renowned architects;
- Have received awards of excellence by the South African Institute of Architects;
- Contribute to the understanding of development/ technical achievements;
- Are unique or rare examples of its kind;
- Have association with significant people.

The two Nature Reserves in the Pixley Ka Seme District are:

- Rolfontein Nature Reserve with an total area of 6 200 Ha near Vanderkloof;
- Doornfontein Nature Reserve of 9 400 Ha near Colesberg.

There is also the Mokala (Kameeldoring) National Park 60km north of Hopetown and within Siyancuma Municipality to be noted (latest park to be proclaimed). The map indicating the sensitivity of areas in the Pixley Ka Seme District Municipal areas as well as the Pixley Ka Seme District Environmental Management Plan and programme provides guidelines for the effective management and conservation

of the highly sensitive areas. Care should always be taken to adhere to environmentally sustainable use of these areas to ensure the biodiversity of the areas.

The Karoo landscape also provides various other qualities, such as:

- clean Karoo air and environment;
- certain birds of prey ; and
- typical Karoo fauna and flora,

All these qualities support a very unique environment within South Africa and the necessary care should be taken to protect and use these resources in a sustainable manner.

The Environmental Management Framework identified only one known critically endangered species in the Pixley region, namely the Riverine Rabbit. Due to the extensive transformation of the riverine areas within the region it has destroyed most of the Riverine Rabbits habitat. The Giant Bullfrog, an amphibian that occurs in the region, is listed as being threatened.

There are many cultural and historical resources within the Pixley Ka Seme District Municipal area that are in need of conservation. The area is known for its role during the Anglo Boer War with many of the grave/ burial sites, monuments and battlefields within the area. The area also contains identified rock art sites and unique architectural features. A lot of towns also have museums that relate to historical resources. All these conservation features do not only allow for effective and sustainable management of environmental qualities, but also provide opportunities for tourism.

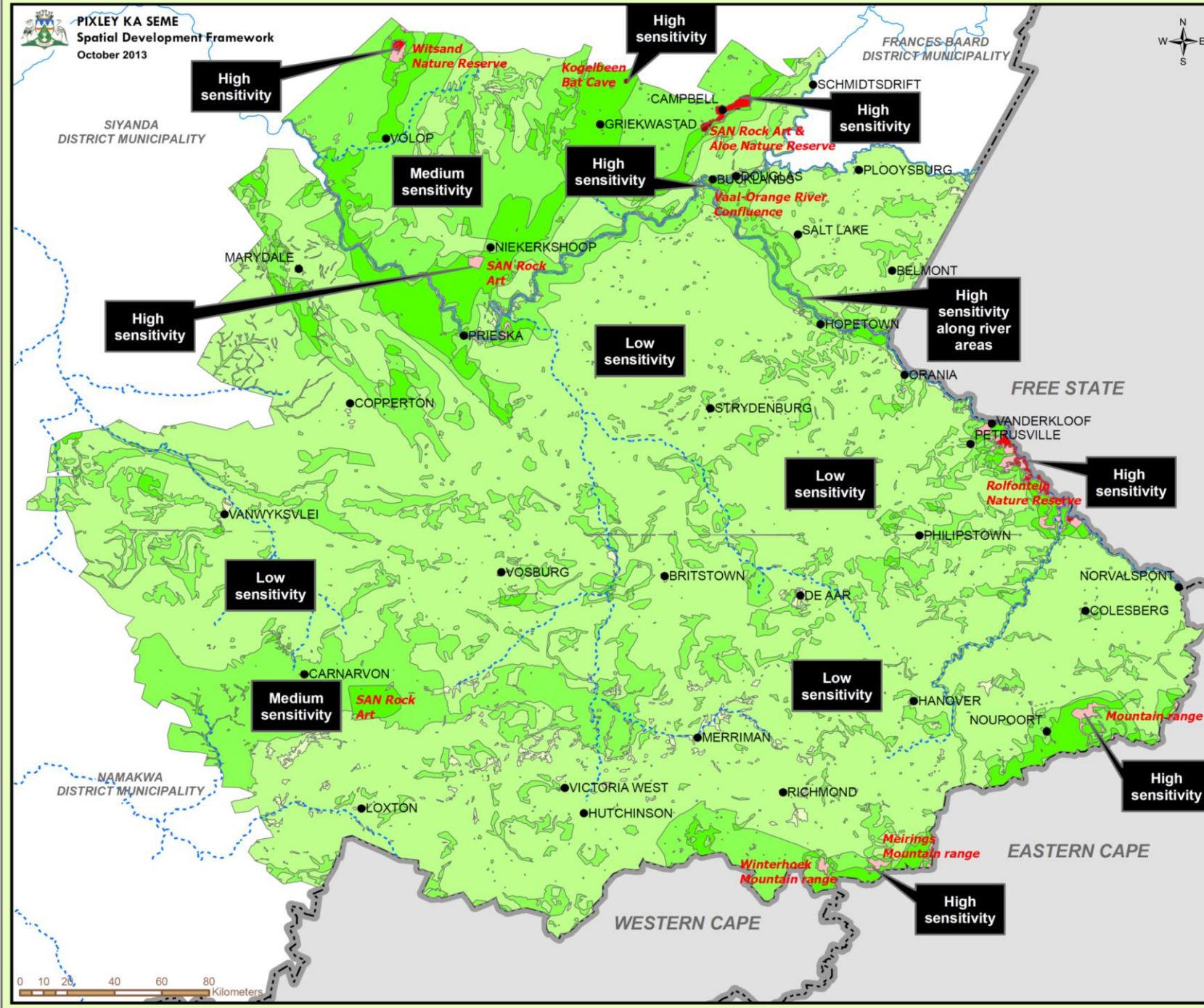
Conservation in the Pixley Ka Seme District should focus on, but not be limited to the following identified areas:

- All existing and identified future conservation areas;
- National parks;
- Provincial nature reserves;
- Regulated natural areas;
- Heritage sites;
- National Monuments;
- Local authority conservation areas;
- Private Nature reserves;
- Urban Open Space systems;

- Fragmentation of populations due to development;
- Clean and greening initiatives;
- Rivers and water source management;
- Fire prevention and management intervention;
- Community based forest management;
- Land care.

Issues:

- Karoo landscape provides an environment that is unique and hardy, but sensitive to certain intensive land uses;
- Prevent the destruction of the natural habitat of many of the natural fauna and flora species in the region;
- Plan for natural corridors and open space systems to allow movement of animals within developed areas;
- The area has many cultural heritage resources that need conservation – these resources should be widely advertised and promoted in order to educate the local communities and to attract tourists to the area to generate more economic opportunities;
- Protect river banks and riverine areas.



SPATIAL ISSUES

1. A few significant heritage resources occur in the area which can be used as tourist attractions.
2. Care should be taken with development in high sensitive areas in order to preserve the cultural and natural heritage for future generations.
3. A land area dedicated for conservation must be carefully managed to ensure that the land remains a viable resource.

Value is assigned based on the ability of a resource to absorb change or impact

0 = low value
High ability to accept change or impact

1 = high value
Low ability to accept change or impact

Sensitivity

0
1
2
3
4
5
6

Source: ENPAT (Environmental Potential Atlas)

3.7 Agriculture

Agriculture forms the key economic activity within the Pixley Ka Seme District Municipality. The district is ideal for mainly livestock production as well as irrigation along the three major rivers which are the Orange, Vaal and Riet rivers. According to the *Pixley Ka Seme District Growth and Development Strategy* the Municipalities of Ubuntu, Siyathemba and Siyacuma contribute the most to this sector, with a total of 28,49% contributed to the provincial Gross Geographic Product. There are over 11 200 farms in the Pixley district comprising livestock, irrigation, ostrich and game farms. Municipal commonages represent 65 000ha benefiting 350 farmers that have access to this land. There are two (2) major agricultural hubs (or agri-hubs in short) and they are as follows:

- A) Hub along the major rivers towards Boegoeberg where major cash crops are being produced under irrigation;
- B) Hub on the southern, east and western part of the Orange River which is mainly for extensive sheep, ostrich and game farming. Because of the well known ostrich producing areas being infested with diseases, the industry has suffered a decline. The chance that arises to increase ostrich farming in as much a disease free environment as possible, gives rise to ample opportunities. In linking ostrich farming to district growth/ development strategy, more jobs can be created. The other hub is the strong source of feed supply for the ostrich enterprise.

The Pixley district is dry and hot with summer rainfall (200 – 350mm/ annum) and cold winters. Shallow soils cover the larger part of the district making a small percentage of land available for irrigation. There are two agricultural research stations and one is for crops in the Riet River and the other one for animal production in Carnavon. The two institutions are providing technological development and training for farmers.

The entire area is covered by near natural Karoo scrubland which forms the basis of the extensive stock farming in the area. Although the largest area in the district is identified as a low sensitivity environment, there are areas with high sensitivity that need to be farmed in a sustainable manner. These areas are located along the Orange River, in the northern section of the municipality and around mountain ranges to the south east of Noupoot and to the south of Richmond around the Winterhoek and Meirings Mountain ranges.

Many of the towns within the district municipal area function mainly as agricultural service centres, with the level of services provided at the centres too a large extent reliable on the intensity of the farming practices in the surrounding area. The eastern side of the municipality is predominantly utilised for wool growing, while the more arid areas to the west are utilised for small stock farming which mainly include mutton sheep and goat production with Angora goats farmed on a very limited scale. The region also has a history of game farming. Hunting and game farming provide for an important diversification in the farming uses as well as supporting the local tourism industry with many “biltong” hunters visiting over the hunting season. There are also two game reserves located within the district at Rolfontein, south of the Vanderkloof Dam and at Doornkloof.

According to the Pixley Ka Seme District IDP (2011) the agricultural sector provides around 39% of the employment opportunities in the district, which represent a significant and important economic sector, especially in this area that has limited job opportunities. The mechanisation by farmers has however resulted in declining job opportunities in this sector.

Crop production in the area includes wheat, maize and lucerne, with the potential for the production of more high value crops. The largest area in the district is primarily used for stock farming, consisting mainly of small stock including sheep and goats. The area has a long history of wool and mutton production with several abattoirs located in the region. According to the Pixley Ka Seme District IDP of 2011 the largest abattoir is located in Emthanjeni Municipality with a capacity to slaughter 2000 sheep per day. In the Umsobomvu Municipal area a total of 1000 sheep are slaughtered daily.

Irrigated agriculture is among the major contributing factors to the provincial GDP, with a total area of 140 000ha that is under irrigation. This sector uses approximately 80% of the total water used in the province to produce nearly 50% of the gross agricultural product, indicating its value to the region. Most of the irrigation farming in Pixley Ka Seme District occurs in the areas located along the Orange River, Vaal River and the canal systems that are fed from these rivers. According to the District SDF of 2007 the irrigation schemes in the area include:

- **Orange Riet Canal System**

This scheme is located along the Orange Riet Canal System that is located between the Vanderkloof Dam and the Riet River settlement of Modderivier. Although the scheme falls almost entirely within the Free State Provincial area most of the produce is delivered within the

Northern Cape. This scheme provides water to an area of approximately 3670ha which represents 44 farms with an average size of 85ha.

- **Upper Orange River**

The irrigation area is confined to a strip along the Orange River, in the districts of Colesberg, Phillipstown and Hopetown as well as Fauresmith and Phillipolis. This scheme serves an area of 8585ha.

- **Middle Orange River and Lower Vaal River**

The area is located between Hopetown and the Boegoeberg Dam on the Orange River and the Vaal River from Schmidtsdrift to the junction with the Orange River. This is the largest of the three areas with a total of 21 381ha under irrigation. Although the sizes of the properties in this scheme vary, most properties have an average size of 65.7ha.

Production in these irrigation areas include: maize, peanuts, lucerne, grapes, dry beans, soya beans, potatoes, olives, popcorn, pecan nuts, pistachio nuts and cotton. The products that are produced under the climate conditions within the region are considered to be some of the healthiest available in South Africa.

Currently many of these “raw” products (wool, sheep, game and various products farmed using irrigation methods) produced in the region are processed outside the region. The predominant potential of the agricultural sector in the Pixley region is to add value to the agricultural products within the region through processing. This will not only allow value adding to the product, but create the opportunities for a unique marketing brand of the region’s products and will also create more job opportunities in the region.

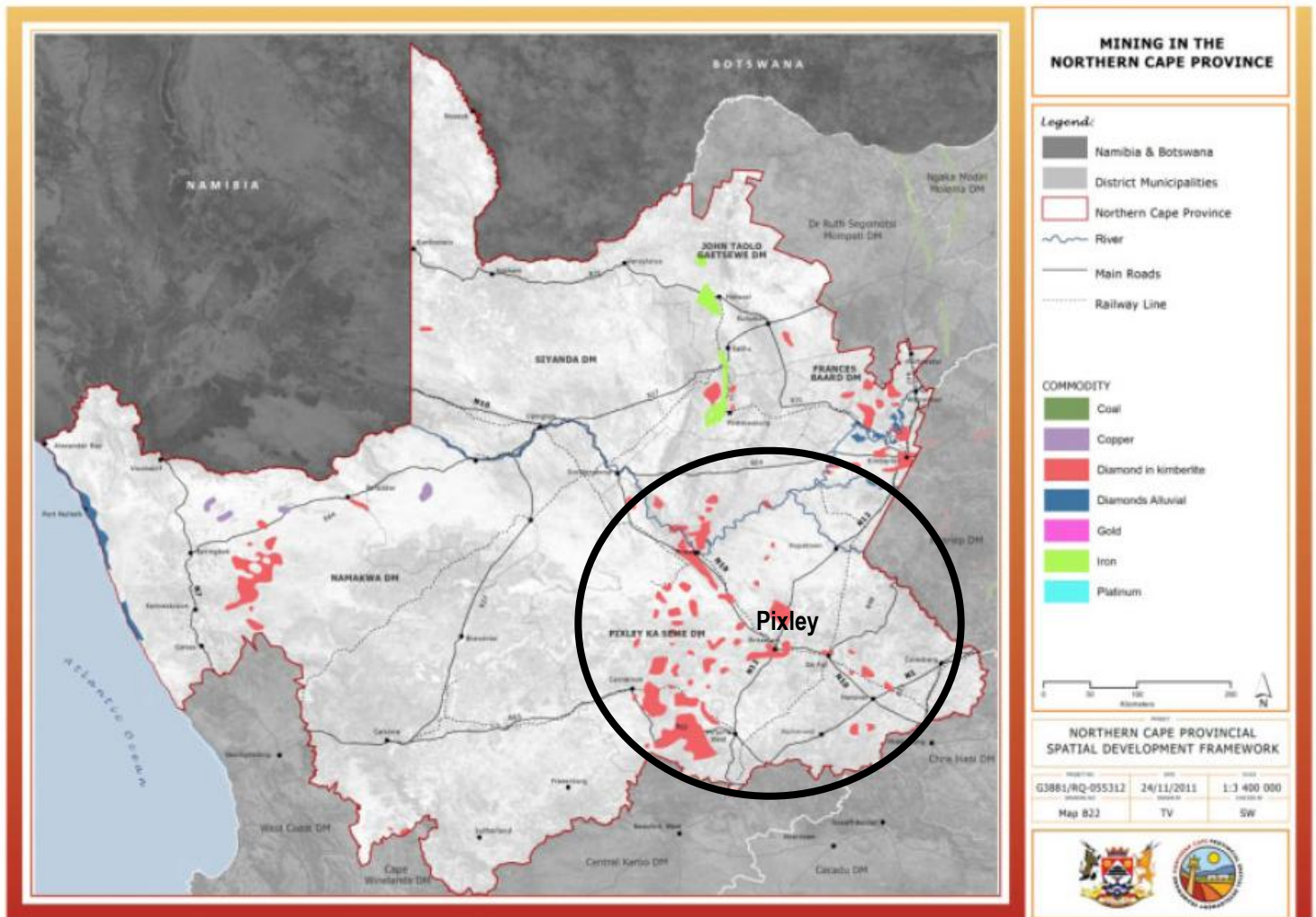
Issues:

- Agriculture forms one of the main employment sectors in the district;
- Limited value adding to the farming products within the district;
- Dependence on water, especially the irrigation areas;
- Arid areas are known to be drought prone;
- Overgrazing has an impact on the environmental sustainability of the areas;
- The Karoo areas known for clean air and “free range” small stock farming can be further capitalised on.
- Diversification in the farming sector through expansion of the tourism industry and processing;
- Opportunity of aquaculture production along the Orange River.

3.8 Mining

The Northern Cape province is well known for the production of diamonds, as well as other minerals (uranium, semi-precious stones e.g. Tigers Eye) causing the mining industry to be of great importance. Thirty eight percent (38%) of South Africa’s diamond output is delivered by the Northern Cape (Pixley Ka Seme District IDP 2011-2016) and the majority of these diamond mines are situated within the Pixley Ka Seme District Municipality (see map below). De Beers (95% of local production) and Transhex are the two major producers. The diamond cutting industry provides approximately 2 100 jobs in South Africa while African mining benefits other countries more e.g. India with 900 000 people employed in this trade.

Map III: Diamond mines within Pixley Ka Seme District Municipality



Source: NCPSPDF-2012

Tiger Eye deposits are unique to the Northern Cape and are mined in open cast mines. The export of rough Tiger's Eye is prohibited by law in South Africa and processing must take place in the country.

Uranium is an environmentally friendly and sustainable energy source found in nuclear power plants as the one near Koeberg in the Cape. Uranium deposits are found in the southern part of the Pixley Ka Seme District and this belt runs through Hanover and Colesberg ending in the Free State. Salt mines also occur in the Northern Cape with one mine in the Pixley Ka Seme area near Hopetown and there is potential to establish more. There are however still unrehabilitated asbestos mines within the region.

The different types of mines include the following:

- Open cast mine;
- Open cast mine with drag line;
- Underground mine;
- Sand works;
- Clay quarry associated with brickworks;
- Other clay quarries;
- Gravel quarry for road fill;
- Rock quarry for construction aggregate;
- Rock quarry for blocks or slabs of rock;
- Salt works.

Impacts of mines are of importance and the following has to be kept in mind:

- Exposure of bare rock and soil causing erosion and microclimatic changes that adversely affects re-colonisation;
- Scenic impact;
- May lead to pollution caused by emission of by-products;
- Pollution of air. Indicate air quality hotspots;
- Overall very high impact on vegetation that usually result in the complete or partial destruction of both the vegetation and the top layers of soil often further exacerbated by inadequate rehabilitation.

The issue of fracking in parts of the Northern Cape is currently a hot point to debate and has to be addressed in a sensitive and responsible manner keeping in mind the affects it can have especially on groundwater, but also the attractive economic advantages it holds for a region such as Pixley Ka Seme where economic opportunities are always welcome.

Issues:

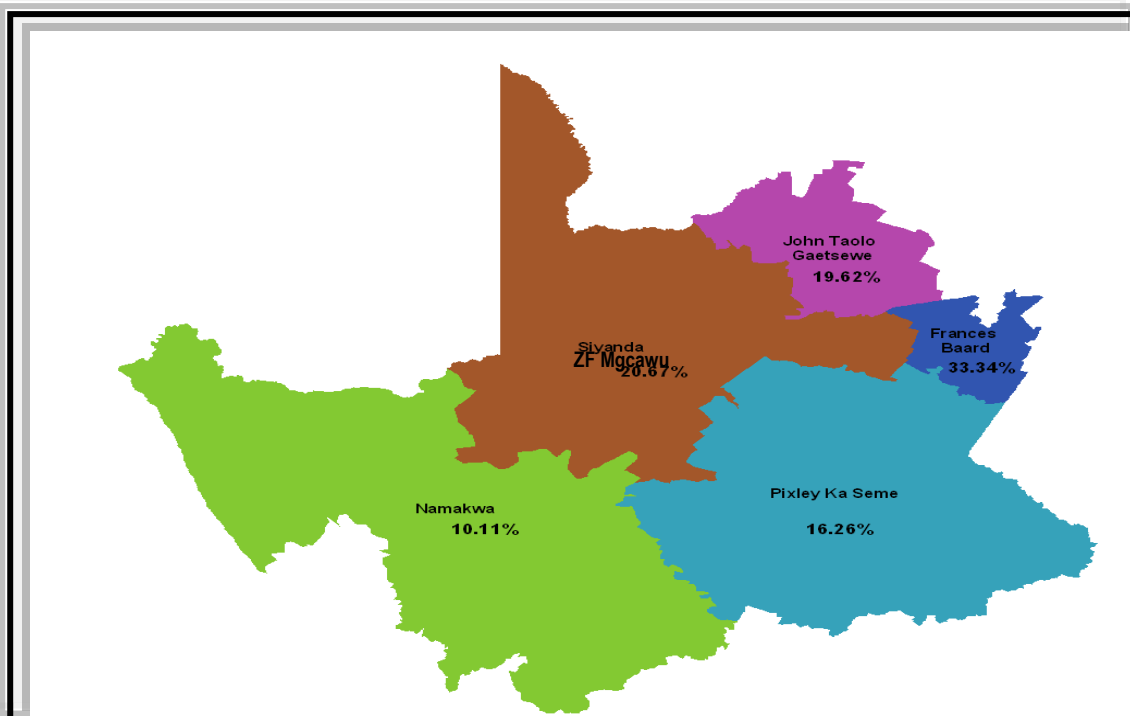
- Loss of value-adding opportunities;
- Cost of suitable transport;
- Availability of suitable transport;
- Upgrade of iron-ore and manganese export railway lines;
- Regional development plans not catering for transport demand infrastructure;
- Rehabilitate asbestos mines;
- Impact and future of fracking.

4.1 Demographic Profile

The understanding of the Pixley Ka Seme District's demographic profile and characteristics is essential for the effective planning of the region. The aim of this section is to analyse the demographic profile of this region to allow it to inform the strategic spatial planning and development directions of the region.

Pixley Ka Seme DM accounts for 16,26% of the Northern Cape Provincial population and is second last of the four regions with Francis Baard having the highest population.

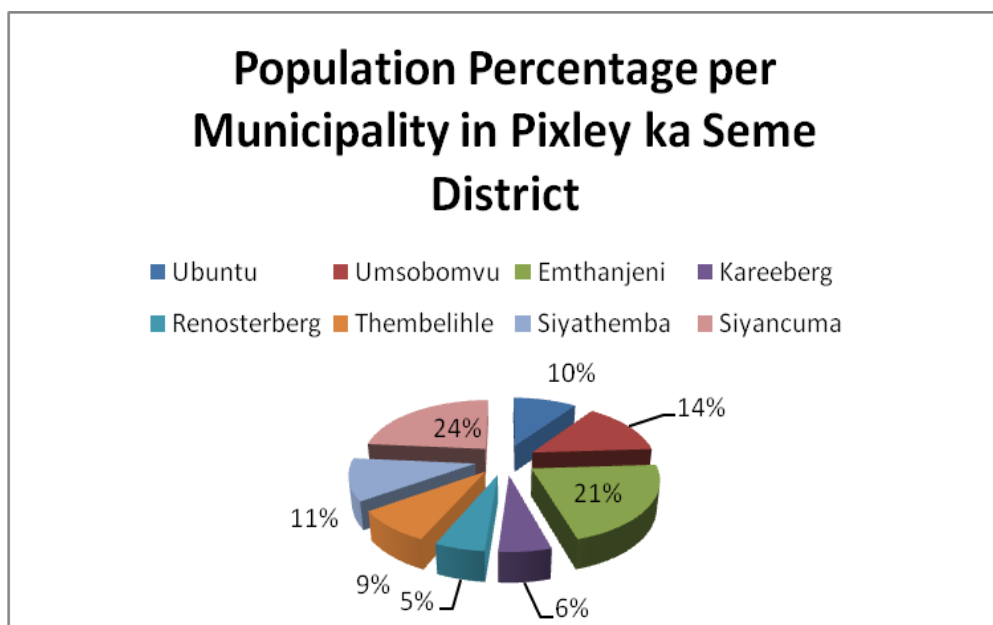
Figure 3: Northern Cape population percentages per district.



Source: Updated STATS, Pixley Ka Seme DM

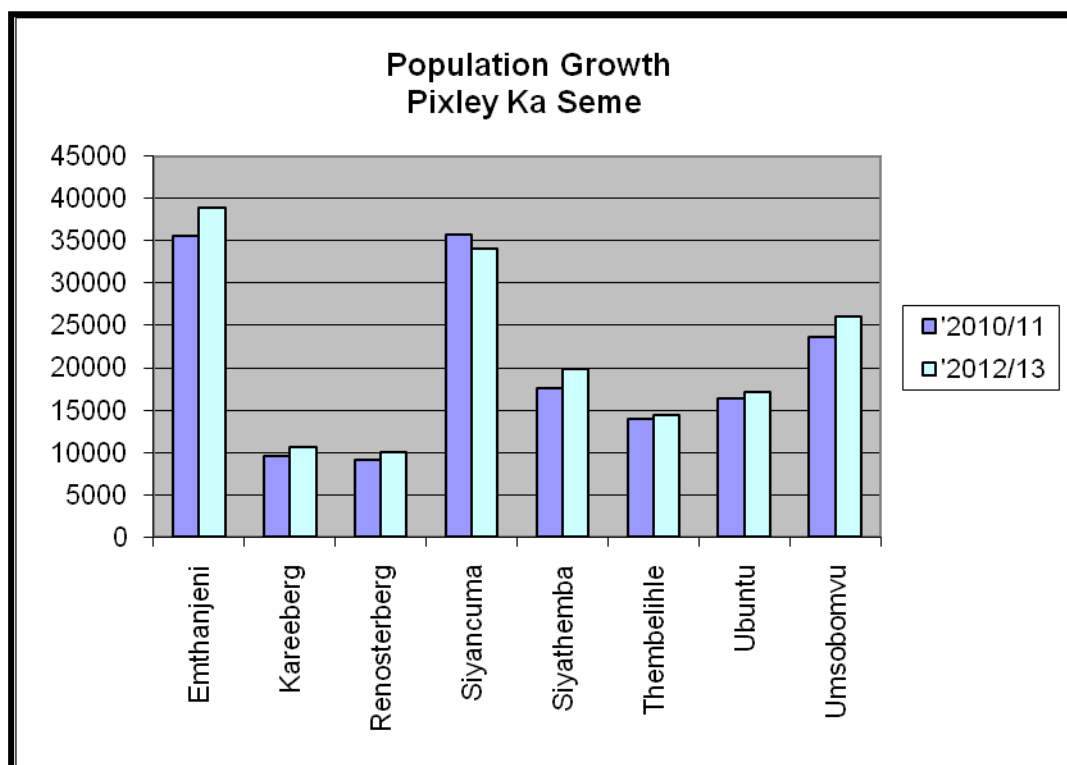
Within the Pixley Ka Seme district Emthanjeni Local Municipality has the highest population proportion while Renosterberg Local Municipality has the lowest population proportion.

Figure 4: Population Percentage



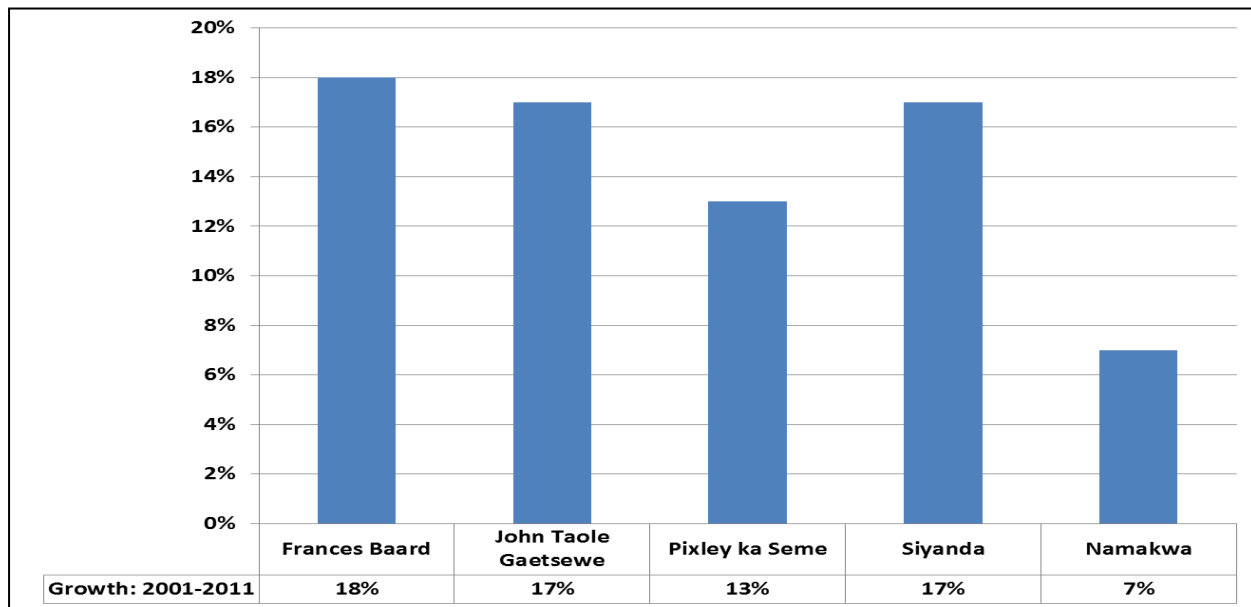
Source: Statistics South Africa 2011

Figure 5: Pixley Ka Seme District Population Growth per Municipal area



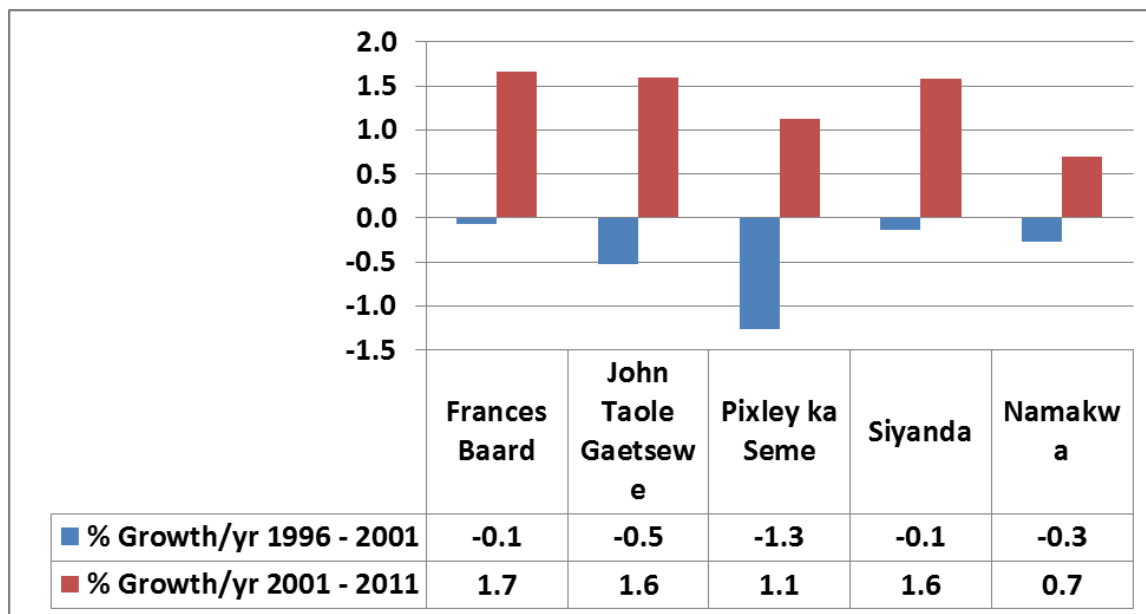
Source: Pixley IDP 2011- 2016 and SA Census 2011

Figure 6: Growth by district 2001-2011



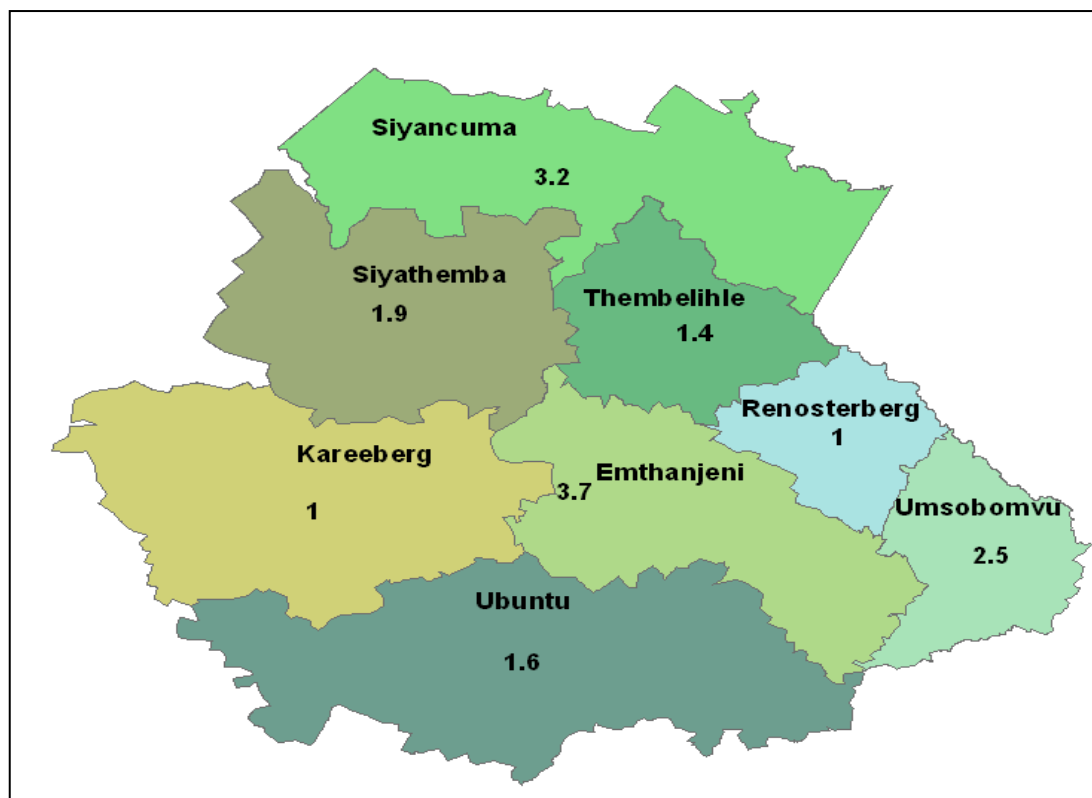
Source: Statistics South Africa 2011

Figure 7: Growth by district 2001-2011



Source: Statistics South Africa 2011

Figure 8: Annual growth in PKSDM 2001-2011



Source: Statistics South Africa 2011

In Pixley ka Seme the population grew by 13% between 2001 and 2011.

The Growth rate of PKSD increased from -1.3% in (1996-2001) to 1.1% (2001-2011)

As stated the largest Municipality in the Pixley district is the Emthanjeni Municipality with a total of almost 43 000 people. This municipality does not represent the largest area of all the municipalities within the district, but is popular under the migrating population, because of its locality in terms of the existing major transport routes and railway lines. It is evident that this connectivity allow for more economic opportunities that attract more people to the area.

The table below indicates medium to low growth rate in the population of the Pixley Ka Seme District Municipal areas from 2001 to 2011 as well as the predicted growth to 2018.

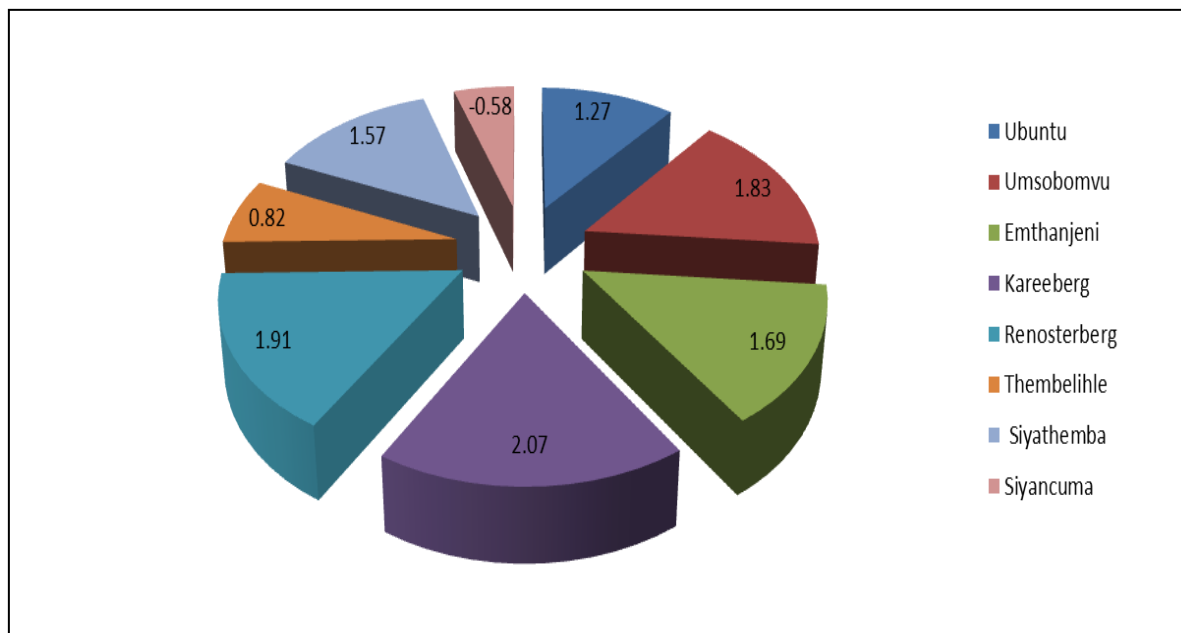
Table 7: Land Cover and population projections of the Municipalities within Pixley DM.

Municipality	Area(km²)	Population 2001**	Population 2011*	% growth	Predicted Population 2018	Population Density (people/km²)
Emthanjeni	13 472	35 785	42 356	1,69%	47 628	3,14
Kareeberg	17 702	9 488	11 673	2,07%	13 473	0,66
Thembelihle	8 023	14 467	15 701	0,82%	16 624	1,95
Siyathemba	14 725	18 445	21 591	1,57%	24 078	1,46
Renosterberg	5 527	9 070	10 978	1,91%	12 532	1,98
Ubuntu	20 389	16 375	18 601	1,27%	20 318	0,91
Siyancuma	16 753	39 275	37 076	0,58%	38 607	2,21
Umsobomvu	6 819	23 641	28 376	1,83%	32 216	4,16
District (Total)	103410km²	166 547	186 351	1,41%	205 480	1,80

*** Pixley Ka Seme District IDP 2011-2016 and *Stats SA2011*

The population of the district indicated an increase in the district by approximately 19 804 people between 2001 and 2011 and a further 19 129 until 2018.

Figure 9: Percentage population growth 2001-2011



In Pixley ka Seme the population grew by 13% between 2001 and 2011. Emthanjeni Local Municipality has the highest population proportion in the District, while Renosterberg Local Municipality has the lowest population proportion in the District. The population growth of PKSD between 2001-2011 was 1,4% from 166 547 to 186 351.

Source: Statistics South Africa 2011 Census

Notwithstanding the growth rate of the population, the occurrence of HIV is a major factor in shaping the future population of South Africa. The HIV prevalence rate of the Pixley Ka Seme District in 2001 was only marginally lower at 14.4% compared to the average in the Northern Cape which was 15.8%. The average household size in the area is 4.5 persons per household with 87% of the total population residing in the urban areas of the municipality. This places a major demand for service delivery on the urban areas. The high levels of poverty and unemployment in the urban areas result in minimal payment of services and taxes which place an increasing burden on the Municipality and the remainder of the community.

The rural areas within the region have continued to experience a negative population growth, with the rural to urban migration perceived as being the dominant migration type in the region. This trend is expected to continue which will result in further increases in the demand for housing, social and health services and infrastructure. The different municipalities will therefore have to plan accordingly and start to address the existing backlog in houses and services to limit a snowball effect. A decision needs to be taken with regards to towns where future subsidised housing development will take place. Areas that will allow for sustainable development will need to be targeted and the communities need to be informed of the development direction for housing provision. The Pixley Ka Seme District IDP of 2011 predicted a further rapid decline in the net migration into the Northern Cape, which will result in a stagnant or small growth rate in Pixley.

Table 8: Population Distribution between the rural and urban areas in the Municipalities within the Pixley Ka Seme District

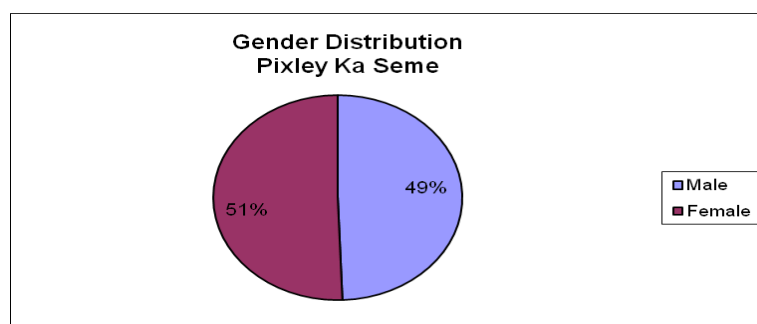
Municipality	Population		
	Urban	Rural	Total
Emthanjeni	39 890	2 466	42 356
Kareeberg	9 759	1 914	11 673
Thembelihle	14 252	1 449	15 701
Siyathemba	18 948	2 643	21 591
Renosterberg	9 868	1 110	10 978
Ubuntu	15 079	3 522	18 601
Siyancuma	30 506	6 570	37 076
Umsobomvu	26 063	2 313	28 376
Total	164 365	21 987	186 351

Source: Stats SA 2011

Urban Rural Distribution

The majority of the population (88.2%) live in urban areas. This is true for all the racial groups. The proportion is very high compared to the national average of 63-37 urban-rural split. Agricultural households often reside in rural areas and are far removed from more lucrative employment opportunities in urban areas (Elsenburg, 2005, p 4).

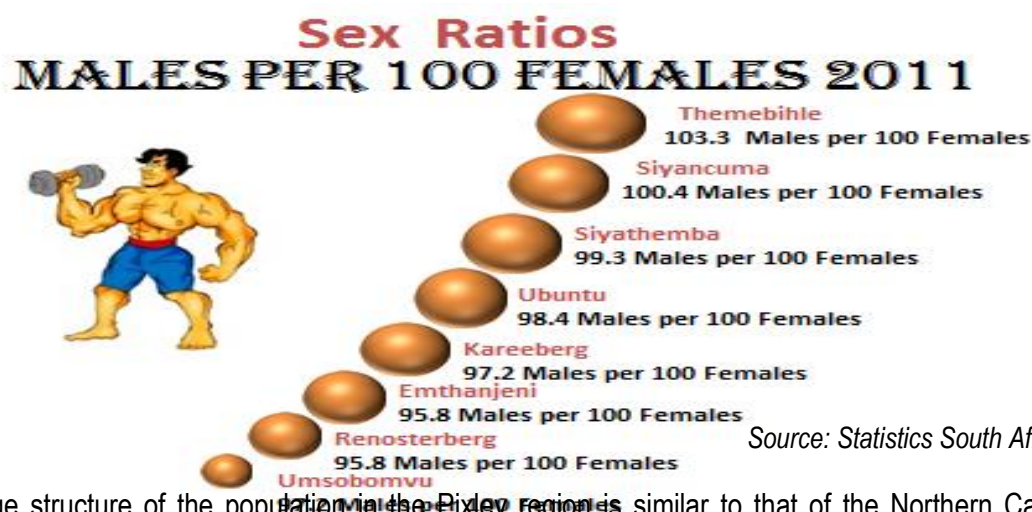
Figure 10: Gender distribution in Pixley Ka Seme District



Source: Stats SA 2011

Gender distribution within Pixley Ka Seme District is levelled with regard to sex ratio, with 51% of the population being female and 49% male. Males per 100 females is about 97.60%.

Figure 11: Sex Ratio



Source: Statistics South Africa 2011

The age structure of the population in the Pixley region is similar to that of the Northern Cape. An average of 16% of the Pixley population is below 6 years of age with an average of 8% above the age of 60. A further 31% of the population is of school going age, while the economically active population between the ages of 20 and 59 years account for 46%, almost half, of the population. This indicates a high demand for the provision of social and physical infrastructure in the district.

Table 9: Age Structure of the Pixley Ka Seme District

		Population		Age Structure					
				Less than 15		15- 64		65 plus	
		2001	2011	2001	2011	2001	2011	2001	2011
DC 07	Pixley ka Seme DM	166547	186351	32.6	31.6	61.5	62.4	5.9	6.1
NC 071	Ubuntu	16375	18601	33.2	33.3	61.1	61.1	5.7	5.6
NC 072	Umsobomvu	23641	28376	33.7	31.4	61	62.8	5.3	5.8
NC 073	Emthanjeni	35785	42356	31.6	31.7	62.4	62.5	6	5.8
NC 074	Kareeberg	9488	11673	32.6	29.4	59	62.5	8.4	8.1
NC 075	Renosterberg	9070	10978	32.9	32.8	60.6	61	6.5	6.2
NC 076	Themebihle	14467	15701	32.1	30.9	61.9	62.8	5.9	6.4
NC 077	Siyathemba	18445	21591	33.7	30.8	60.4	63.2	5.9	6
NC 078	Siyancuma	39275	37076	32.3	32.2	62.1	62.2	5.6	6

Population under 15 is about 31.60%, Population 15 to 64 is 62.40% and Population over 65 is 6.10%

Table 10: Population distribution by race and gender

Municipality	Black African		Coloured		Indian or Asian		White		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Ubuntu	2073	1890	6288	6690	51	45	702	708	114	42
Umsobomvu	8532	9222	4161	4512	96	57	780	825	120	66
Emthanjeni	6879	7179	11865	12573	153	81	1653	1734	171	66
Kareeberg	348	210	4830	5106	27	27	510	555	39	18
Renosterberg	1758	1857	3072	3225	36	21	462	480	42	21
Thembelihle	1245	1143	5508	5601	69	12	1101	954	54	15
Siyathemba	2076	1974	7659	7863	66	45	891	936	69	9
Siyancuma	6147	6075	10581	10719	144	105	1395	1383	303	222

Source: Statistics South Africa 2011

4.2 Economic Profile

The socio-economic indicators of Pixley Ka Seme and the Northern Cape are tabulated below:

Table 11: Economic Growth and Sectoral GDP contribution

Socio Economic Indicator	Pixley Ka Seme, NC	Northern Cape
Population Number	186 351	1 103 918
HIV prevalence	12.6% (2010) ²	18.5% (2007)
Unemployment rate	20.4% (2011) ³	27.6%
Most important employment sector	Agriculture (38.9%)	General Government (22.3%)
No schooling	11% (2011)	12.4% (2008)
Semi literacy & Literacy rate	89% (2011)	87.6% (2008)
Literacy rate (7+ years education)	39% (2011)	
Matric pass rate	71.23% (2012)	74.6%(2012)
% of households with informal dwellings	11% (2011)	
% of households with no toilets or with bucket system	7% (2011)	0.5 (2007) pr 4.1 (incl other)

² Department of Health, 2011

³ Unemployed and Discouraged work seekers, Census 2011

% of households with access to piped water in dwelling or on-site (2011)	89%(2011)	99.1%(2007)
% of households that use electricity for lighting 2001)	85.1% (2011)	94.2%(2007)
%of households with weekly refuse removal (2011)	73% (2011)	
Human Development Index (HDI) from 0 (worst) to 1 (best) (2011)	0.71 ⁴ (0.49)	0.69 (0.52)
Poverty rate (2011)		44.6% (2001)
Gini coefficient ⁵		0.73 (IES/LFS 2000)
Most important economic sector (2011)		Mining & Agriculture
GDP growth rate historic (2001 -2005)	3.6%	2.7%
Home ownership	52%	

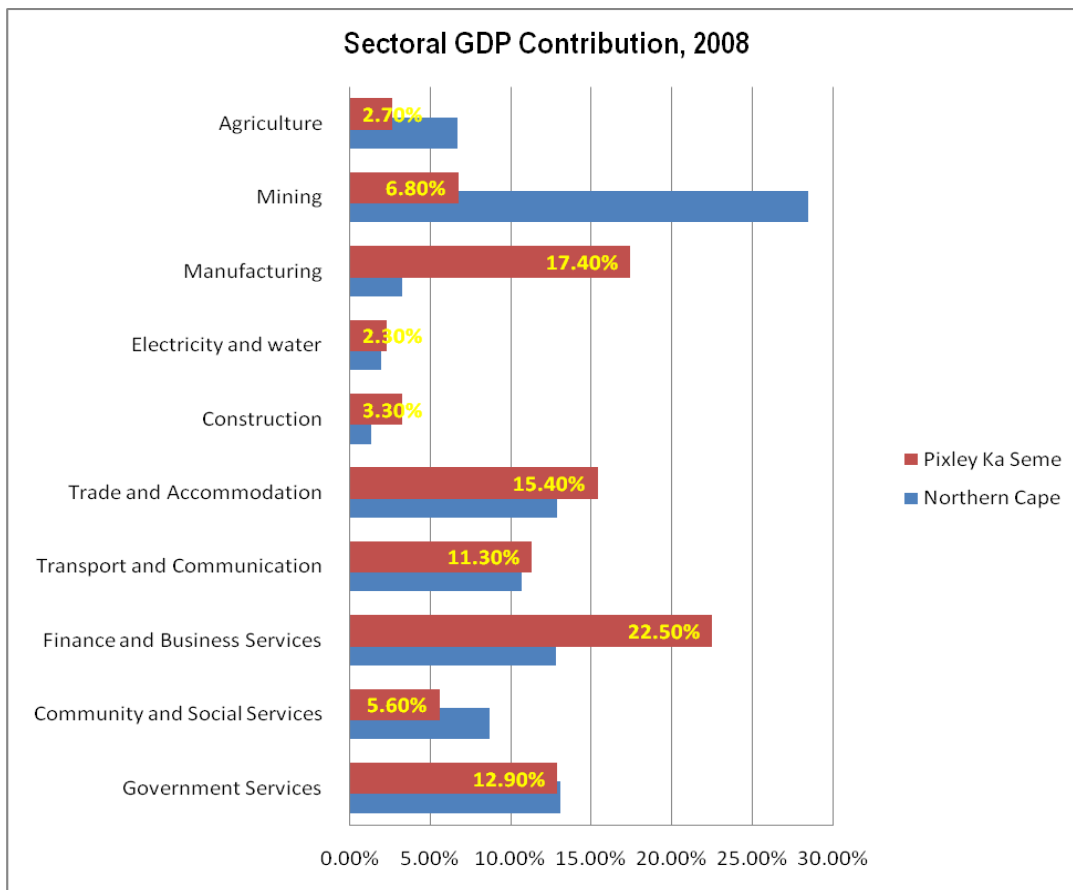
The economic growth rate of 3.6% for 1996 - 2011 and forecast of 4.5% for 2011 – 2016 for Pixley Ka Seme District is linked to:

- 29.7% of the total landmass of South Africa is covered by the Northern Cape whilst only 3.9% of the population lives in the Northern Cape. As it is the lowest population density in the region, there is an inadequate local market/ critical mass for internal consumption of produce. (Dept of Tourism, Environment, Conservation and Economic Affairs, 2007).
- Pixley Ka Seme contributes 12.09% and 0.27% to the Northern Cape and National GDP respectively. Northern Cape contributes 2.08%.
- The annual population growth rate is 1.12% which is lower than the economic growth rate of 3.2% which indicates that unemployment should decrease over time.
- Leading economic sectors are finance & business services (22.5%), manufacturing (17.4%) and trade & accommodation (15.4%). Not only is government a significant employer, but its community services activities constitute the leading economic sector in Pixley Ka Seme.

Figure 12: Sectoral GDP contribution in Pixley compared to Northern Cape

⁴ Kruger, C.

⁵ Mathematically the Gini coefficient varies between zero and one and measures income equality. A low value (range 0.20 and 0.30) implies a low degree of inequality and higher values (0.50 and 0.70) imply highly unequal income distributions.



- The total GDP of Pixley Ka Seme DM for 2008 was R2.8 billion. The sectors representing the tertiary and secondary economy such as financial and business services (22.5%) and government service sector (12.9%) and their contribution to the district GDP confirms that the economy of the District is not dependent on primary economic activities such as agriculture and mining.
- Ninety seven percent (97%) of the provincial budget is received from national as equitable share and only 3% is raised as own revenue. The province receives 2% of the national equitable share (Dept. of Tourism, Environment, Conservation and Economic Affairs, 2007).
- Most of the provincial budget is spent on Education (37%), Social Services (5%) and Health (28%), which leaves about 30% for all the other departments (a situation which makes economic development by the provincial government extremely challenging) (Dept. of Tourism, Environment, Conservation and Economic Affairs, 2007).

4.2.1 Labour force

The economically active population of Pixley Ka Seme constitutes 62% of the total population. One third of the population is younger than 15 years of age and 50% of the population is younger than 25 years of age.

- The unemployment rate is 24%. Forty five percent (45%) of the younger than 30-year old labour force is unemployed (Dept. of Tourism, Environment, Conservation and Economic Affairs, 2007).

Unemployment levels in agriculture are the highest amongst Coloured/ African workers, whilst it is lower than the unemployment rate for Asian/ Coloured/ African non-agricultural workers. Most of the unemployment in the Northern Cape appears to be driven by unemployment among African/ Coloured/ Asian non-agricultural workers (Elsenburg, 2005, p16-17).

- The lack in formal job opportunities in the region is the instigator for the creation of jobs within the informal sector (See Figure 4).

Figure 13: Labour Force per Formal & Informal sector, Pixley Ka Seme

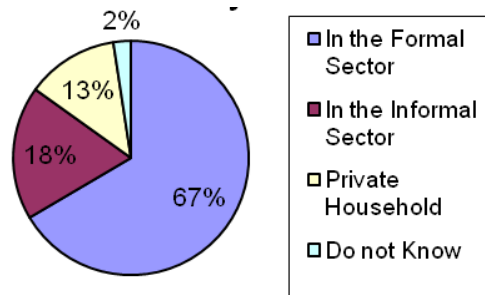
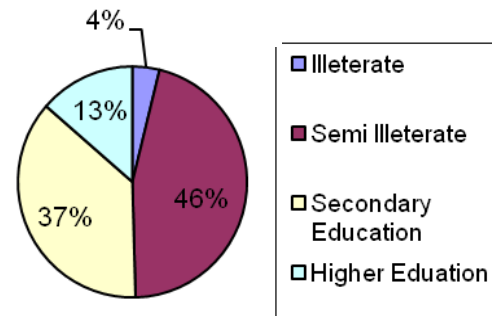


Figure 14: Level of Education, Pixley Ka Seme



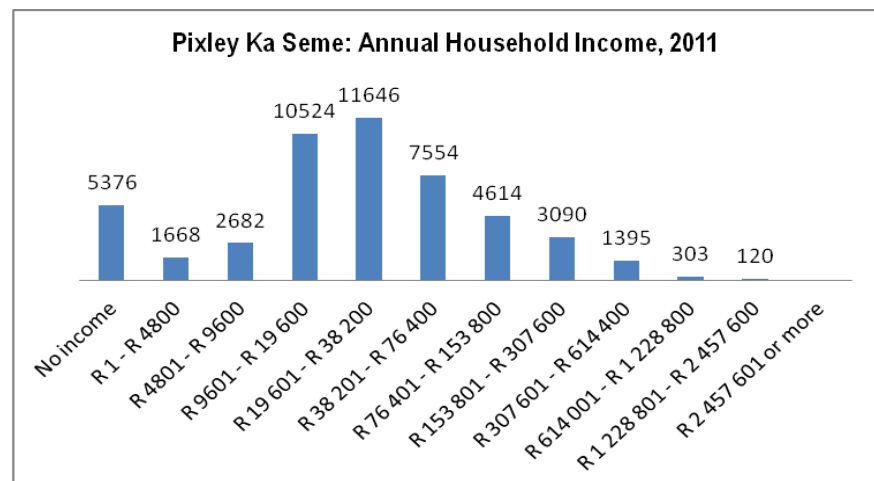
Source: Stats SA 2011

- The skills levels (Figure 5) of the labour force corresponds with the skills level requirement of the leading employment sectors i.e. Agriculture (38.9%), Community Services Sector (23%) and Trade (13%) whilst Manufacturing is as low as 2.8% (IDP 2011). Hence government is a significant employer within the Northern Cape economy.
- Dependency ratio of economic active people vs. dependants is 1:1.5. However with an unemployment rate of 24% the dependency rate changes to 1:2.

4.2.2 Income

Figure 15: Annual Household Income 2011

The Pixley Ka Seme GDP per capita was 85% (R18 204.70) of the national norm (R21 367.80) in 2007 whilst the Northern Cape GDP per capita was 101%.



Source: Stats2011

- 48% of the households in Pixley Ka Seme live below the poverty breadline.

- 65% of the economically active population earns R38 200 and less per annum (R3200/m), 25% earns more than R38 200, but less than R153 800 (R12 800/m) whilst 10% earns more than R153 800.
- Coloured and African agricultural households are generally worse off than their non-agricultural counterparts in terms of income levels, yet unemployment is lower. One possible explanation for this is inaccurate accounting by agricultural households of the value of goods and services (such as food, clothing and housing) received in kind from employers, which leads to an overestimation of poverty rates (Elsenburg, 2005, p19).
- The Northern Cape's Gini coefficient (equality of income distribution) is 0.73 (IES/LFS 2000), which is higher than the national Gini coefficient of 0.69 (IES/LFS 2000) (Elsenburg, 2005, p12).

4.2.3 Education & Skills Levels

Literacy is one of the human development indicators. Literate individuals are expected to complete a minimum of 7 years of formal education. Since most pupils embark on their school careers at 7-years-old, the literacy rate is calculated as the proportion of those 14 years and older who have successfully completed a minimum of 7 years of formal education. The literacy rate of the Pixley Ka Seme District is 39% which reveals that more than half of the population lack basic reading and writing skills (Census 2011): 11% of the population had no schooling (NC:15.6%) and 49.5% is semi literate (less than 7 years of formal education).

- The school attendance rate was 29.7% in 2011.
- Tertiary education facilities within the district are limited with the only facility located in De Aar. Six percent (6.1%) of the district population has a higher education qualification, whilst a fifth (20.5%) has matric (Census 2011).

4.2.4 Unemployment & labour

i) Unemployment

There has been a decrease in the number of people employed and a concomitant increase in the number of unemployed in the district between the 2001 and 2011 censuses. This is directly related to the number of businesses that has closed in the region during the period reflected and indicates the need for a retention or wholesale and retail strategy regarding these businesses. Unemployment reaches approximately 28.3% in 2011 and Youth unemployment reaching 35.4% in 2011 as per Stats SA 2011 Census.

Table 12: Employment Status per Local Municipality

	Employee d	Total %	Unemploye d	Total %	Discourage d work- seeker	Total %	Other not economically active

Ubuntu	5028	27	2064	11	507	3	3774
Umsobomvu	6117	22	3018	11	1188	4	7491
Emthanjeni	9864	23	3831	9	1203	3	11559
Kareeberg	2856	24	951	8	456	4	3030
Renosterberg	2616	24	957	9	324	3	2796
Thembelihle	3861	25	1533	10	687	4	3777
Siyathemba	5370	25	1728	8	765	4	5787
Siyancuma	7947	21	3120	8	1422	4	10575
Total	43659	192	17202	75	6552	30	48789

Source: Statistics South Africa 2011 Census

Figure 16: Unemployment rates per municipality, 2001 - 2011

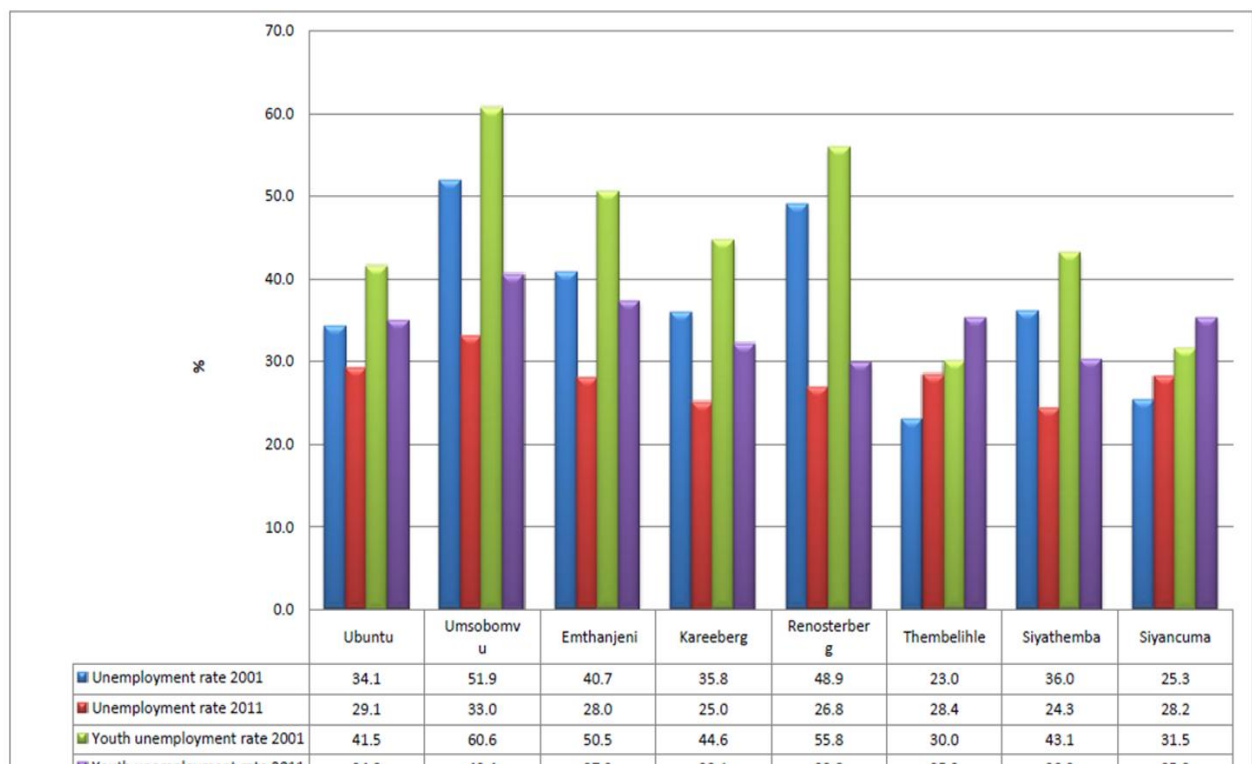
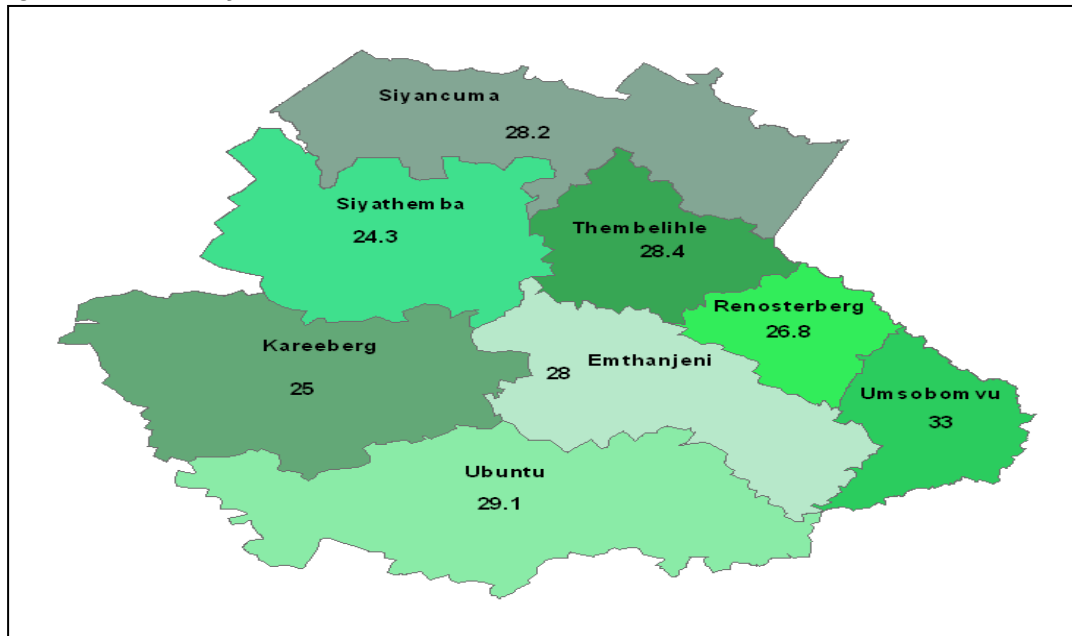


Figure 17: Unemployment rate 2011



Source: Statistics South Africa 2011 Census

The municipalities that have the largest percentage of unemployed people are Umsobomvu and Renosterberg with unemployment rates of 30,2% and 31,5% respectively. When the actual numbers of unemployed in the districts are considered, the municipalities that have the most unemployed people are Emthanjeni, Siyancuma, Umsobomvu and Siyathemba. These account for 20 153 (70,8%) of the unemployed in the district. Interventions in these municipalities would render the unemployment rate in the district to 7,2% provided the unemployed 20 153 are employed in these areas.

ii) Labour

❖ Labour participation rate

The labour participation rate in the district is 50,43%. This indicates the labour force as a percentage of the population in the age group 15-64 years of age.

❖ Labour dependency ratio

The total number of persons supported by every person in the labour force, excluding him or herself is indicated by the labour dependency ratio. In the case of the Pixley ka Seme district this ratio is 1,81 with working individuals in the Siyathemba, Siyancuma and Thembelihle municipalities having to support approximately 2 persons.

❖ **Labour youth dependency ratio**

This ratio indicates the total number of youths, aged 0-14, supported by every person in the labour force, excluding him or herself. The ratio in the Pixley ka Seme district is 0,09. This indicates that working individuals support approximately one youth in the age group 0-14.

❖ **Labour aged dependency ratio**

The labour aged dependency ratio indicates the total number of aged persons, older than 65, supported by every person in the labour force, excluding him or herself. The ratio for the district is 0,85.

❖ **Labour absorption capacity**

The labour absorption capacity is the ability of the formal sector of the economy to absorb the supply of labour in the region. Approximately 25% of the economically active population of the district is unemployed. The municipalities that have the largest percentage of unemployed in the district is Umsobomvu and Renosterberg with unemployment rates of 30% and 31% respectively. The table 13 below indicates the above ratios in each municipality in the district:

Table 13: Labour Ratio

Local Municipality	Labour Participation Rate	Labour dependency ratio	Labour youth dependency ratio	Labour aged dependency ratio
Emthanjeni	49,70	1,81	12,05	84,53
Kareeberg	54,80	1,65	13,91	79,13
Renosterberg	56,94	1,52	18,66	84,97
Siyancuma	45,81	2,09	-1,83	83,53

Siyathemba	48,19	1,99	0,36	83,92
Thembelihle	46,93	1,95	3,10	83,68
Ubuntu	54,39	1,64	13,09	86,03
Umsobomvu	51,94	1,73	8,19	86,81
	5043	1,81	8,80	84,65

Source: Pixley Updated STATS 2011

Table 14: Population by municipality living below the minimum living levels in the district.

Local Municipality	Population	Population below MLL	% below MLL
Emthanjeni	35 438	18,418	51.97
Kareeberg	9 356	5,433	58.07
Renosterberg	9 091	5,616	61.77
Siyancuma	35 894	22,559	62.85
Siyathemba	17 497	9,374	53.58
Thembelihle	13,716	3,843	28.02

Ubuntu	16,480	10,787	65.46
Umsobomvu	23,747	20,400	85.91
Total	164,412	98,064	59.65

Source: Pixley Updated STATS 2011

An average of 60% of the population in the district lives below the minimum living level (MLL). The highest percentage is found in the Umsobomvu municipal area, at 85 %, and the lowest at 28% in the Thembelihle municipal area. This represents 17,3% of the provincial population living below the MLL. The average monthly (individual) income for the district is approximately R740 which is less than the grant received from social services departments.

4.2.5 Economic characteristics of district

i) Regional Gross Domestic Product (GDP)

The district contribution to the provincial GDP has consistently been the lowest over recent years with its contribution declining from 10,6% to 9,6% between 2003 and 2004. The economy is predominantly primary sector focused with manufacturing and tourism also contributing to the district economy. The economic sectors that contribute the most to the GDP of Pixley ka Seme are Agriculture, Mining, Tourism and Manufacturing. Table 15 below represents the percentage contribution per economic sector by the district to the gross domestic product of the province for 2003 and 2004.

Table 15: % GDP of district municipalities per economic sector for 2003 and 2004

% OF GDP										
	Primary		Secondary		Tertiary		Taxes - Subsidies		Total GDP	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Namakwa	4,3	3,8	0,5	0,4	7,3	7,0	0,7	0,8	12,8	12,1
PKSDM	3,1	2,7	1,0	0,9	5,8	5,2	0,8	0,8	10,6	9,6
Siyanda	3,8	3,3	1,3	1,3	8,0	7,7	1,1	1,2	14,2	13,5
Frances Baard	6,8	6,2	3,2	3,1	26,1	28,6	2,5	2,0	38,6	40,7

Kgalagadi	16,7	16,5	1,4	1,3	4,9	5,5	0,7	0,8	23,8	24,1
NC GDPR	34,7	32,6	7,3	7,1	52,1	54,0	5,8	5,6	100,0	100,0

Source: Pixley Updated STATS 2011

Pixley ka Seme's total percentage contribution in 2003 was 10,6% and declined to 9,64% in 2004. The district contribution to the GDP has consistently been the lowest over recent years with its contribution declining. It is evident that the tertiary sector contributes the greatest percentage to the GDP of the Northern Cape, followed by the primary sector and then the secondary sector.

The Pixley ka Seme district displays a similar characteristic as the province with respect to its sectoral contributions to GDPR, the economic sectors that contribute the most to the GDPR of Pixley ka Seme are Agriculture, Mining, Tourism and Manufacturing, with its secondary sector contribution being the least. The manufacturing sector is part of the secondary sector which indicates that it has declined over the period of 2003 (0,97%) and in 2004 (0,92%). To transform and diversify the status of the districts economy will require a concerted effort to improve and create development opportunities within this sector.

4.2.6 Location quotient

A comparative advantage indicates a relatively more competitive production function for a product or service in specific economy than the aggregate economy. This economy therefore renders this service more efficiently. The location quotient is an indication of the comparative advantage of an economy in terms of its production and employment. A location quotient greater than 1 indicates a comparative advantage regarding the sector in one location with respect to another.

The analysis below indicates the location quotient of the Pixley ka Seme District with respect to the Northern Cape Province. The table and graph below indicates the location quotients of sectors in the district municipality with respect to the Northern Cape.

Sectors in the economy of Pixley ka Seme that have a location quotient larger than 1 are agriculture (2,35); community, social and personal services (1,19); transport, storage and communication (1,16); electricity, gas and water supply (2,19). These indicate sectors that show potential for additional development in this does not imply that sectors, that do not feature here, should not be pursued since there may be latent potential in these sectors that could be exploited.

Table 16 below indicates the location quotients of the economic sectors in the municipalities

Table 16: Location Quotients of Economic Sectors

	Kareeberg	Emthanjeni	DMA	Renosterberg	Siyancuma	Siyathemba	Thembelihle	Ubuntu	Umsobomvu
Agriculture	1,18	0,31	1,62	0,54	1,11	1,46	1,47	1,59	0,82
Mining	0,08	0,05	0,45	0,00	4,28	0,09	0,02	0,21	0,00
Manufacturing	0,41	0,71	1,28	0,13	1,92	0,76	1,99	0,91	0,18
Electricity, gas and water supply	0,17	0,60	0,36	11,42	0,08	1,14	0,23	0,00	0,97
Construction	0,52	1,25	0,85	0,58	0,99	1,69	0,48	0,55	1,00
Wholesale and retail trade	1,12	1,05	1,20	0,56	1,02	0,94	1,17	0,79	1,13
Transport, storage and communication	0,52	1,76	0,53	0,33	0,84	0,83	1,33	0,75	0,51
Finance, insurance, real estate	1,06	1,79	0,94	0,46	0,78	0,71	0,61	0,72	0,67
Community, social and personal services	1,18	1,37	0,58	0,54	0,82	0,72	0,56	0,85	1,55

Source: Pixley Updated STATS 2011

Other sectors in the district that have a distinct comparative advantage with respect to the Northern Cape and South Africa are:

- Electricity, Gas and Water supply
- Community, social and personal services
- Transport, storage and communication

The municipalities in the district that have comparative advantages with respect to the sector Electricity, Gas and Water supply are Renosterberg and Siyathemba with location quotients of 11,42 and 1,14 respectively. This resounding comparative advantage in the sector for the Renosterberg municipality is due to the presence of the van der Kloof dam in the municipality. It is the only sector in which Renosterberg has a comparative advantage with respect to other municipalities in the district.

Kareeberg, Emthanjeni and Umsobomvu have location quotients, with respect to other municipalities in the district, of 1,18, 1,37 and 1,55 respectively in the Community, social and personal services sector. In the Transport, storage and communication sector, Emthanjeni and Thembelihle have location quotients of 1,76 and 1,33 respectively, indicating a comparative advantage in this sector with respect to other municipalities in the district. The sectors that contribute significantly to the Northern Cape GDP is

highlighted in the table above with agriculture having the highest LQ, Electricity, gas and water supply second highest LQ etc.

The agricultural sector has the potential for growth with a number of comparative and competitive advantages for the Northern Cape and Pixley ka Seme in particular.

4.2.7 Tress indicators

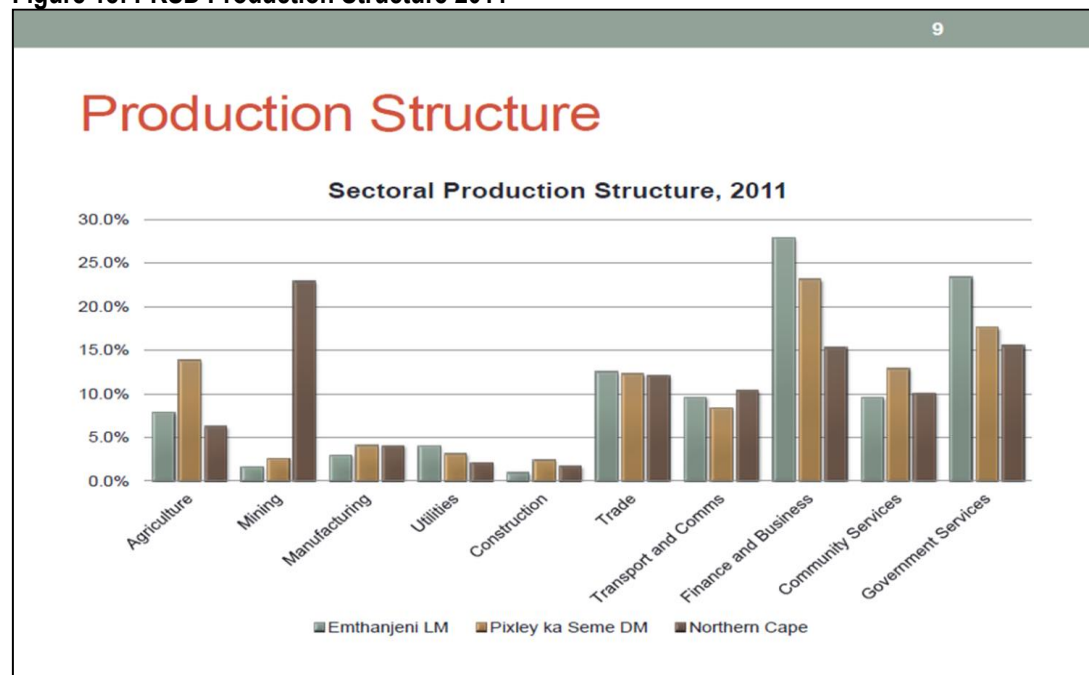
The level of diversification or concentration of a region's economy is measured by a tress index. A tress index of zero represents a totally diversified economy whilst the higher the index, the more concentrated or vulnerable the region's economy is to exogenous variables e.g. adverse climatic conditions and commodity price fluctuations.

The economy of the Pixley ka Seme district has a tress index of 56,18 indicating a reliance of the Pixley ka Seme economy on the agriculture, transport and services sector. This tress index indicates that the economy is not diversified, but is largely dependant on the agriculture and is vulnerable to exogenous variables such as adverse climatic conditions, commodity price fluctuations. Ways of diversifying the economy e.g. renewable energy projects must therefore be investigated.

4.2.8 Sector profile

The economy of the district is diversified with the largest GDP contributors being the financial and business services sector (22.5%) as well as the government services sector (12.9%). The district has a larger GDP contribution than the province in terms of the manufacturing, trade, financial and business services, transport and communication, construction as well as electricity and water sectors. Agriculture has a very small GDP contribution of only 2.7%.

Figure 18: PKSD Production Structure 2011



Source:Quantec

Table 17: PKSD Economic Sectors 2011

Sector	Northern Cape Province	Pixley ka Seme DM
Government Services	13.1%	12.9%
Community and Social Services	8.7%	5.6%
Finance and Business Services	12.8%	22.5%
Transport and Communication	10.7%	11.3%
Trade and Accommodation	12.9%	15.4%
Construction	1.4%	3.3%
Electricity and water	2.0%	2.3%
Manufacturing	3.3%	17.4%
Mining	28.4%	6.8%
Agriculture	6.7%	2.7%

Source: Quantec

The sector profile analysis identifies a number of challenges that include:

- Creation of a growing and sustainable economy.
- Creating access to quality work and poverty alleviation
- Building competitive clusters
- Skills development
- Creating an enabling environment for Enterprise development (focussing on manufacturing)
- Commitment of stakeholders
- Research and Development Institute.
- Attracting FDI

The opportunities identified are

- Maximising the beneficiation and value addition of the natural resource in mining and agriculture.
- Vast and under utilized areas of land.
- Existing infrastructure – De Aar railway: Transport network.
- Establishment of SMME's and BBBEE's.

a) Comparative and Competitive Advantages

Pixley Ka Seme should build its economy on its comparative advantages in niche areas with real potential. These need be developed into a competitive advantage through a skills mix that would ensure innovation. An example applicable to the Pixley Ka Seme district is the abundance of the semi-precious stone tiger's eye in the district. The presence of the mineral provides a unique comparative advantage to the district and is available for the value-adding process, but this has not occurred. To develop the competitive advantage globally with respect to tiger's eye requires interventions that would enable maximizing the resident potential regarding the building blocks for competitive advantage. An important

intervention would be the establishment of a manufacturing cluster to facilitate and take forward the manufacturing opportunities identified in this strategy.

b) Conclusion

There are a number of initiatives happening independently and new initiatives that need to be planned. There is a need to bring all initiatives together. A regional development plan is required to have an integrated planning approach for all sectors. There is a need for the Northern Cape Government to support various initiatives in order to create an enabling environment for MeerKAT and the SKA. Opportunity for private sector involvement through corporate social investment programmes to assist with social upliftment programmes in the area.

4.2.9 Local Economic Development (LED) SDF input

A) Purpose

- To guide LED related spatial planning and land development in the Pixley Ka Seme district area;
- To guide LED related spatial planning and land development in the local municipalities of the district; and
- To guide spatial planning, land development and land use management in the Pixley Ka Seme district management area within the framework of National and Provincial spatial plans.

B) Municipal LED Vision and Mission

Vision

Working towards a fast-growing local economy that is sustainable and to the benefit of all local communities.

Mission

This economy will be built upon agriculture, mining, manufacturing and tourism, while striving towards vibrant local communities with full access to housing and municipal services.

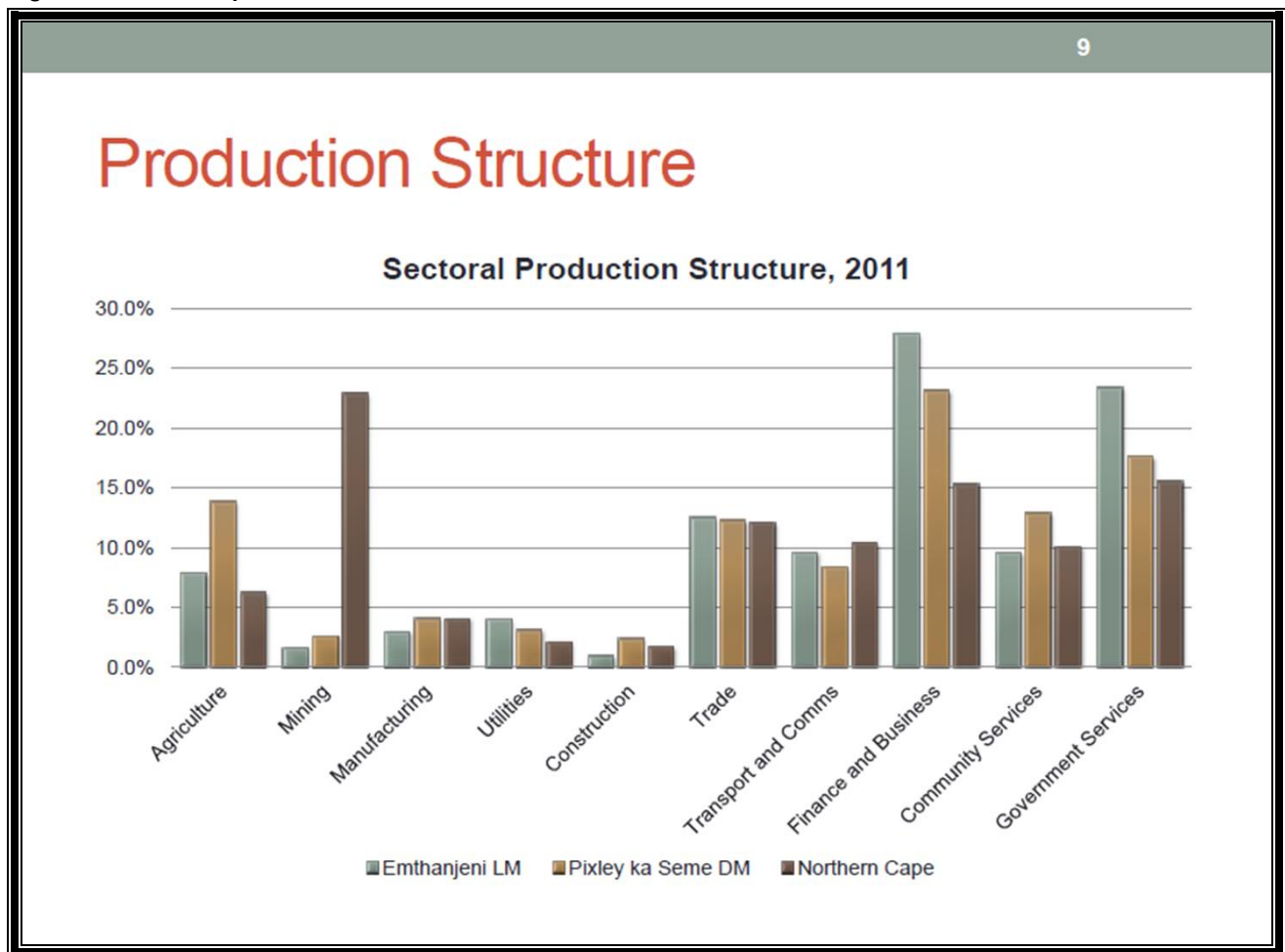
C) Municipal Economic Sector Profile

Pixley Ka Seme is one of the 5 districts of the Northern Cape province of South Africa. The seat of Pixley Ka Seme is De Aar. The majority of its 164,608 people speak Afrikaans.

- Population 186 351 which is 16.26% of the province;
- Unemployment rate: 36.1%;
- Population growth rate: 0.3% annual change;
- Accounts for 12.09% of the provincial gross domestic product (GDP);
- The largest GDP contributors being the financial and business services sector (22.5%);
- The government services sector (12.9%);
- Agriculture has a very small GDP contribution only 2.7%;

- Unemployment reaching approximately 28.3% SSA 2011;
- Poverty (43.5%);
- Youth unemployment 35.4% in 2011.

Figure 19: Sectoral production structure 2011



Source: Pixley Ka Seme LED SDF input

D) Economic SWOT and Thrusts for Municipal Area

There are two key opportunities for PixleyKa Seme:

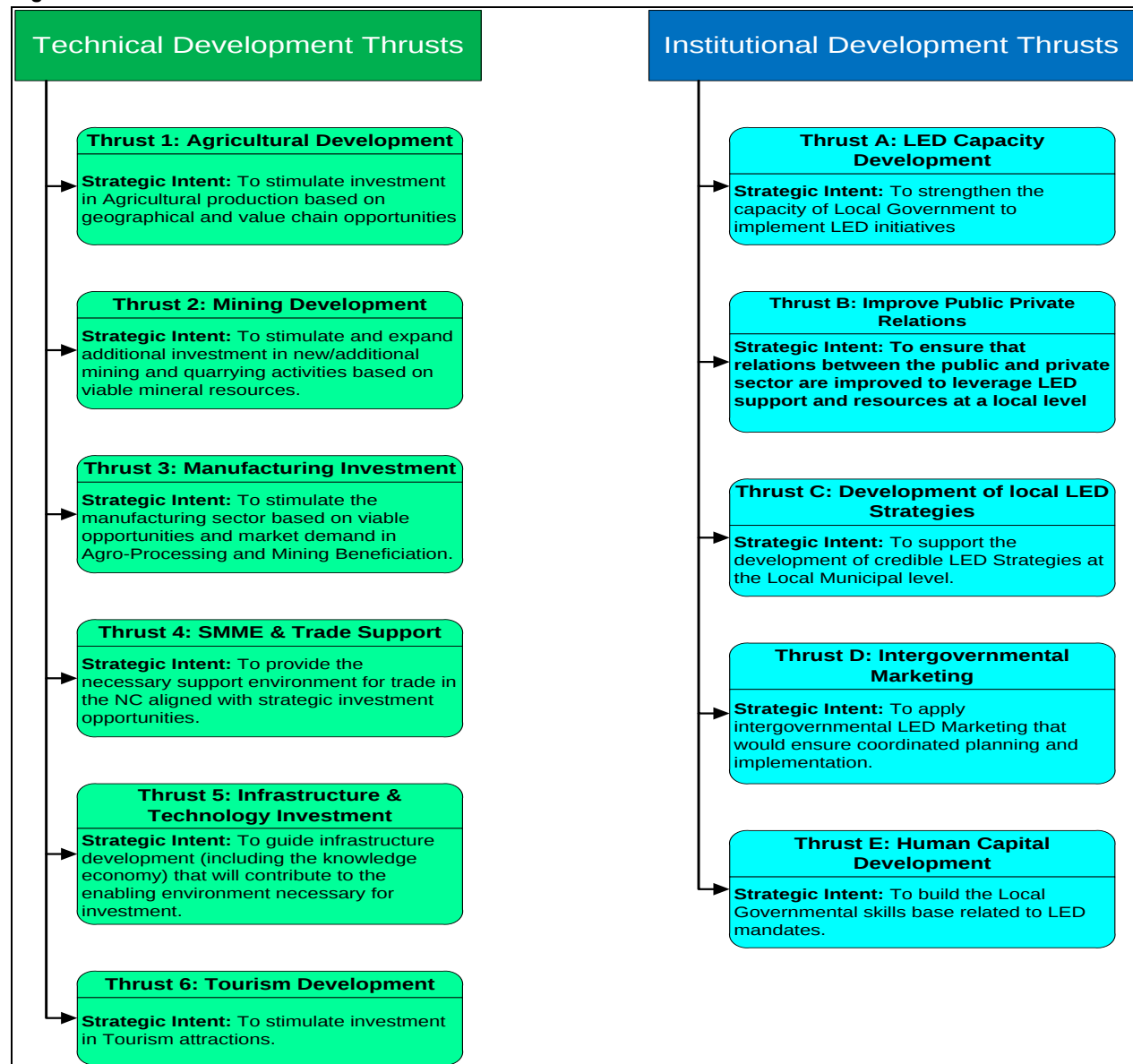
- Increase and add value to existing produce;
- Localise new industries and input requirements i.e. renewable energy and SKA.

Pixley is key producers of agriculture goods and base minerals, but these are mainly exported. The approach to the economy is twofold:

- Increase volume exported though volume increase coinciding with capacity increase;
- Add value to produce prior to export i.e. meat, wool, tiger's eye etc.

Localise inputs for SKA and Renewable energy which will require construction and manufacturing inputs from Pixley.

Figure 20: Technical & Institutional Thrusts



Source: Pixley Ka Seme LED SDF input

E) Opportunities and Projects

Sector	Opportunity
--------	-------------

Agriculture and Agro-processing	▪ Invasive alien plant species eradication ▪ Game farming ▪ Irrigation value adding like; Soya , Lucern ▪ Commercialisation of the Goats project around export ▪ Merino sheep under irrigation ▪ Tannery ▪ Wool washing ▪ Agave
Mining	▪ Tigers Eye development ▪ Stone Crafting ▪ Uranium ▪ Artisan-level mining ▪ Fracking
Manufacturing	▪ Microwave popcorn (Hopetown) ▪ Brick making ▪ Wool ▪ Water bottling plants (Hanover, Campbell, Vosburg and Niekershoop) ▪ Stone crushing in Campbell
Services	▪ Accommodation, catering and services, ▪ Government Departments and Officials: Security, cleaning, transport, office space, stationary ▪ Retail and wholesale(mall)
Construction and Infrastructure	▪ Rail revitalisation ▪ Industrialising the De Aar station (Inland Port) ▪ Belmont line for Goods ▪ Water (bulk) pipelines ▪ Embrace roads (N1 + N10 + N12) ▪ Renewable Energy
Tourism	▪ Noupoot linkage with Eastern Cape as Tourism attraction ▪ Colesburg hospitality industry ▪ Conferencing facilities ▪ Tri-District hero trails ▪ Concentration camps – Novalspond to Bethulie area ▪ Douglas confluence ▪ Environmental-related projects, greening and beatifying all towns ▪ SKA

F) PROJECTS

i) Infrastructure Development

- Rail revitalisation
- Industrialising the De Aar station (Inland Port)
- Belmont line for Goods
- Nakop line
- Water (bulk) pipelines
- Embrace roads (N1 + N10 + N12)
- Municipal Infrastructure challenges (backlogs) in region
- SKA

ii) Economic Development

- Agri/ Agro
- Invasive alien plant species eradication
- Game farming
- Irrigation value adding like; Soya , Lucern
- Commercialisation of the Goats project around export
- Creation of cooperatives
- Fish farming and aquaculture
- Merino sheep under irrigation
- Cannery
- Wool washing
- Wholesale and Retail

iii) Tourism

- Exploit tourism projects where feasibility programs have been completed
- Noupoot linkage with Eastern Cape as Tourism attraction
- Lake Gariep
- Colesburg hospitality industry
- Conferencing facilities
- Tri-District hero trails
- Concentration camps – Novalspond to Bethulie area
- Douglas confluence
- Environmental-related projects, greening and beatifying all towns
- Fauna and Flora

iv) **Mining**

- Tigers Eye development (Siyathemba & Siyacuma)
- Stone Crafting
- Uranium
- Artisan-level mining

v) **Manufacturing**

- Trailer and tanker
- Engineering services
- Equipment supplies
- Potato Chips
- Microwave popcorn (Hopetown)
- Wool
- Furniture factory
- Water bottling plants (Hanover, Campbell, Vosburg and Niekershoop)
- Stone crushing in Campbell
- Facilitate manufacturing development and create hubs

vi) **List of Pixley ka Seme Renewable Energy Hub & DGDS Projects 2011 /12 (Updated Jan 2012)**

TOWN	PROVIDER	PROJECT TYPE	GENERATION CAPACITY	
Emthanjeni LM	Sivest Environmental authorisation granted for ref.no 12/12/20/2025/2	Concentrated Solar power (CSP) Component Plant, Portion 29 of the Farm Paarde Valley 145 in De Aar refers only to CPS Component Plant.		
Emthanjeni LM	Mulilo RE: (Aurecon) Solar Final Scoping reports compiled	1. EIA Process: Photovoltaic Barenhorst Dam Near Deaar (DEA Ref. 12/12/20/2499); NEAS REF No:DEAT/EIA/0000607/2011).		
		2. EIA Process: Photovoltaic (Solar) Energy plant on Paarde Valley Farm Near Deaar (DEA Ref. No.12/12/20/2500), NEAS Ref. No. DEAT/EIA/0000607/2011)		
	INCA De Aar Solar (Pty) Ltd Draft EIA Report	3. EIA Process: Photovoltaic (Solar) Energy plant on Paarde Valley Farm Near Deaar (DEA Ref. No.12/12/20/2177)		

Emthanjeni LM	Mulilo Renewable Energy (Pty) Ltd : (Aurecon) Wind Draft Final Scoping Report (FSR) for comments	1. EIA Process: Wind Energy facility (North) on the Eastern Plateau Near DeAar, (DEA ref. No. 12/12/29/2463/2) and	Proposes to construct about 150-200MW wind energy facilities on the Eastern Plateau of De Aar	
		2. EIA process: (South) on Eastern Plateau Near De Aar, DEA Ref. No. E12/12/29/2463/1)		
Emthanjeni LM	ILANGA LETHEMBA	PV Solar Energy Facility De Aar: DEA Ref. 12/12/20/2048	MW 500	
Emthanjeni LM	INyanga Energy Project 3	PV Solar Energy Facility De Aar: DEA Ref. (12/12/20/2497)		
Emthanjeni LM	MAINSTREAM ENERGY Environmental Authorisation	Concentrated Solar Plant (CSP) and Photovoltaic (PV)/ Concentrated Photovoltaic Solar Field 12/12/20/2025/2 Portion 29 of the farm Paarde Valley 145 in DeAar		
Emthanjeni LM	SEF Ref No.504232 Final Scoping Report: Comments invited	Proposed Solar Plant- Inyanga Energy Project 3: On the Farm Riet Fountain ,DEA Ref.No.12/12/20/2497		
Kareeberg	Seda in partnership with municipalities (Environmental authorisation) UFS & Seda (to fund studies) Prickly Pear	Carnavon: Portion of Erf 353, Biomass: Agave Plantations Final Report released LED Unit facilitating contact with Kareeberg. Municipality at this stage	Environmental Authorisation application lodged. Targeting Cooperatives and processing companies	
Siyathemba LM	Kweza Power Pty Ltd Enviromental Authorisation sought	Photovoltaic Electricity Generation facility near Prieska	More than 10MW and less than 20MW	
Siyathemba LM	Consultants: Sivest	EIA Wind farm and photovoltaic plant near Prieska. DEA Ref. No. 12/12/20/2320/1 and 2 & NEAS ref. DEA/EIA/0000380/2011		
Siyathemba LM	Mulilo Renewable Energy(Aurecon) DSR process on	PV Plant on Struisbult Farm, portion 1 of farm 104 near Copperton,(DEA Ref. No.12/12/20/2502)DEAT/EIA/0000606/2 011) and	Proposes to construct three 100 -300mw PV Plants with footprints between 300 and 900 ha near Copperton	

	Draft Scoping Reports available for comments	PV Plant on Farm Hoekplaas Near Copperton (DEA Ref. No.12/12/20/2503) & NEAS Ref No. DEAT/EIA/0000605/2011) and		
		PV Plant on Farm Klipgats Pan Near Copperton (DEA Ref. No.12/12/20/2501) & NEAS Ref No. DEAT/EIA/0000611/2011)		
Siyathemba LM	Sizenzele Gemstone & jewellery manufacturing Cooperative	Gemstone cutting and polishing: Refurbishing building to commence with operations.		
Siyathemba LM	Matrix (pending)	Photovoltaic		
Siyancuma LM	Schmidtsdrift	Support for community access to royalties. Support Solar plant application process on communal land Support Comprehensive Rural Development efforts in partnership with Dept of Rural development and Agriculture		
	Sunspot SA Pty Ltd Updated 18 Jan 2012 (Applied for EA to undertake activities: 1,15 (GNR.544, 18 June 2010) and 11,13,22 (i) 24,47 (ii) (GNR. 545, of the same date). Permission granted by Dept.to follow Basic Assessment process	Schmidtsdrift Renewable PV Project on the Farm Schmidtsdrift 248/000⊗DEA Ref.No. 12/12/20/2622)	30 mw Concentrated PV (CPV) power plant and ancillary infrastructure in 3 phases. Site 50km NE of Douglas, 50km SW of Barkly West and 80km West of Kimberley	
Siyancuma LM	Main Stream Renewable Power SA (Pty) Ltd (EIA Application)	EIA Proposed Douglas : CPS or PV located 10km South West of Douglas	100mw PV or CPS on 340 ha within 350 deemed suitable on the Roode Kop Farm (Portion 1 of farm 5)	
	Solar Capital	EIA Ramphela PV Solar : Near Ritchie , South of Kimberley. DEA Ref.No. 12/12/20/2051 and 12/12/20/2051)		
	New Diamond Corporation: Mining Rights Application accepted in terms of Mineral and	Mining of Diamonds (General), River (Alluvial) Sand, Stone Aggregated and Gravel by means of strip mining	Supported by all stakeholders. Schmidtsdrift 248, situated in Herbert District , NC. Pixley registered as interest	

	Petroleum Resources Development Act, 2002 (no. 28 of 2002)		party	
Siyancuma LM	Eskom :COPPERTON	Eskom Cuprum to Kronos double circuit 132kV line and associated infrastructure in Copperton area near Prieska	-Double Circuit 132kV line -Equip 4x400kV and 4x132 transformer bays, bus sections and couplers, feeder bays (6x132kV Kronos & 2x132 kV at Cuprum substation.	
VICTORIA WEST	South African Renewable Green Energy (Pty) Ltd	150 WIND TURBINES. Reference No. DEA12/12/20/1993	300MW, on site generator transformer and small substation to connect to Eskom grid	
		Brakpoort Karoo Photovoltaic , DEA Ref 12/12/20/2462: Portion no. 6 of the Farm Kraanvolgelvlei No.174, Victoria West. PHOTOVOLTAIC (PV) PANELS. Details: Access roads and workshop area for maintenance and storage. Project name is Karoo Renewable Energy Facility Location 34 km South of Victoria West. Site approximately 200m ² , bordering Ubuntu & Beaufort West Local Municipalities. Farms: Noblesfontein 227, Annex Noblesfontein 234, Ezelsfontein 235, Rietkloofplaaten 239, Modderfontein 228 and Phaisant Kraal 1	50 MW, underground & overhead cabling (132 kV) of -6km connecting at existing network at Skiet/Biesiespoort Substation	
			Portion 6 of the farm Kraanvolgelvlei no.174, Victoria West	
All LM areas	To Care Foundation	Silk worm Hydroponics Algae & other initiatives in partnership with the private sector		
Renosterberg		Support Brick making project		
Cross boundary initiatives	Government, Academia and industry	Support a Technology Innovation Agency/Foundation for the NC Province that will be based in Pixley		
All LM's		Support efforts to form cooperatives in collaboration with stakeholders		
DeAar		Support N10 Corridor development Support Rail cargo hub development Support implementation of Pottery project		

Karreberg, Ubuntu, Umsobomvu	Shale Gas Exploration	Support for gas exploration		
Ubuntu	Bio-industries	Facilitate attention for the sector: biofuels, algae etc		
Douglas	AE-AMD Renewable Energy (PTY)Ltd Photovoltaic power station	Environmental authorisation 12/12/20/1943 Ovaal Substation near Douglas Siyancuma Pending: Greefspan Substation, between Douglas and Prieska . DEA ref. 12/12/20/1942	10 mw	
Siyathemba LM	Vodacom Mast (public comments awaited)	Douglas Breipal: Proposed construction of Vodacom mast on Erf 435/0 Breipal, Douglas	30m lattice Vodacom Mast	
Umsobomvu LM	Mainstream Renewable Power SA represented by Sivest Environmental Division Partnering with Seda	Noupoort: EIA Proposed Development of a Wind Farm Facility Near Noupoort. (Neas Ref No.DEA/EIA/0000382/2011) (DEA Ref No: 12/12/20/2319) Site size 7632 ha in size Support revival efforts for chemical factory and other defunct projects	Farm No 168, Colesberg, NC. Portion 1 of the Farm non181, Colesberg, NC Portion 21 of the 132 Colesberg Road, NC	
Emthanjeni LM	Scatec Solar SA (Pty) Ltd Environmental Authorization granted.	Photo voltaic Solar farms: 1. Hanover: Portion 2 of the farm Van Der Lindeskraal no. 79, 2. Phillipstown:Remainder of the farm Nuwe Kalbult no.181 3. Hanover: Remainder of the farm Taaiboschfontein No. 41 4. Hanover:Remainder of portion 1 of the farm Van der Lindes Kraal	Commencing within 3yrs of issue:	
Richmond: Mining Prospecting	Globan investments (Pty) Ltd	NC30/5/1/1/2/10050PR) Prospecting Right Application on remainder and portions 3 and 4 of farm no.40, Jan De Langes Fontein - Support growth of Richmond Book Festival - Support Mayors special project: Funeral Parlour	Uranium and molybdenum for four years	
Colesberg:	B&E International (Pty) Ltd	Application Mining permit. Ref. NC30/50/1/3/2/10007/8MP)		
Siyancuma LM	Campbell, Schmidtsdrift and	Support Siyancuma LM in conceptualizing the proposed Corridor		

	Griekwastad Corridor	around agriculture, mining		
Douglas		Support GWK initiatives aimed at agro-processing and other value adding initiatives		
All LMs		Support efforts for solar geyser installation for households Support development of artisans to support employment of locals in the SKA and renewable energy projects Support private Initiatives aimed at economic transformation		

Source: Pixley Ka Seme LED SDF input

N/B: The successful implementation of these projects is subject to adequate budgets and support. However, more can be achieved if Local Municipal budgets can be streamlined to respond to District imperatives.

Opportunity	Programme
1. The expansion of the game farming industry as well as utilising other opportunities linked with this activity.	• Meat processing • Processing of skins and hides • Develop tourism potential • Infrastructure investment • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities
2. The expansion of maize cultivation and production.	• New technology farming practices and methods • Agro-processing – Value adding • Infrastructure investment • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities
3. The expansion of wheat cultivation and production.	• New technology farming practices and methods • Agro-processing – Value adding • Infrastructure investment • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities

4. The expansion of lucerne cultivation and production.	• New technology farming practices and methods • Agro-processing – Value adding • Infrastructure investment • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities
5. Expansion and development of pistachio nuts	• New technology farming practices and methods • Agro-processing – Value adding • Develop Agricultural Infrastructure • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities
6. Expansion and development of the potato industry	• New technology farming practices and methods • Agro-processing – Value adding • Develop Agricultural Infrastructure • Training and Skills development • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities
7. GWK Projects	• New technology farming practices and methods • Agro-processing – Value adding • Infrastructure investment • Training and Skills development • Develop information and support services • Commercial farming activities and production • SMME & Emerging farmer support • Knowledge economy opportunities

Source: Pixley Ka Seme LED SDF input

G) Regional Integration

The Pixley Ka Seme District Municipality (DM) is one of five District Municipalities located in the Northern Cape Province. Located in the western interior of the country and in the south-eastern portion of the Province, the Pixley Ka Seme DM borders the District Municipalities of Namakwa, Siyanda and Frances Baard to the west and the north. The eastern and southern borders also serve as the Provincial

borders with the neighbouring Provinces of the Free State, the Eastern Cape and the Western Cape, while the Orange River forms part of the Provincial border on the eastern side.

Pixley Ka Seme district lies in the south-east of the Northern Cape Province and shares its borders with three other provinces, namely, the Free State province to the east, the Eastern Cape to the south-east and the Western Cape to the south-west.

Key potential for regional integration will be the linkages with the Gamagara Mining corridor to the North and Frances Baard complementary production hub to the North East in terms of fresh produce and fresh produce processing. Based on the rapid expansion in the Gamagara Mining Corridor and creating critical mass with the Frances Baard fresh produce production hubs.

Potential tourism spill over and linkages of routes for weekend break away and theme specific tourist must also be explored regionally with Frances Baard and the mining corridor.

H) Critical infrastructure

The District municipal area is ideally located some key major routes such as the N1 from the Northern Province, Pretoria and Johannesburg to Cape Town. The N9 route from Colesberg joining the N10 to Port Elizabeth and the rest of the Eastern Cape, the N12 route from Johannesburg via Kimberley to Cape Town, the N10 from Namibia via Upington linking Namibia to the Eastern Cape go through the region.

I) Recommendations

The emphasis must be placed on localization and value addition and that from a regional perspective for Pixley Ka Seme.

Fracking will realise and therefore Pixley should position itself to be the service hub for this industry.

Issues:

- Development need and potential is locked up in the secondary and tertiary economic sectors. Advanced activities related to, but not limited to the leading economic sectors i.e. finance & business services, manufacturing and trade & accommodation. Alternative energy generation can contribute significantly to the secondary sector as well as benefit primary products in agriculture, mining and minerals;
- Poor levels of education limit economic growth and the uptake of available job opportunities;
- Income distribution disparity is high;
- Population concentration in the urban areas has not been addressed and backlogs for housing, services and infrastructure are high;
- How the cycle of alcohol abuse can be broken.

4.3 Health Services

The analysis of the present health facilities of the district revealed that National Government has adopted a primary health care strategy that includes making such service available within walking distance of the communities. The strategy also includes improvement in sanitation and drinking water supply, to improve the health of the communities through the creation of a cleaner living environment. The health care system that currently exists in the district consists of:

- A. Provincial hospitals;
- B. Provincial clinics;
- C. Municipal health centres or clinics.

The current statistical information on health care facilities shows that there are 33 health establishments in the district, of which 9 are fully fledged hospitals. They offer curative and preventative services and also antenatal and post-natal services. The information from various local IDP's indicated that the centres are very busy and that the quality of services is determined by the subsidy received annually from the province as well as the availability of medication. The number of hospitals is insufficient to deal effectively with the primary health needs of the district. Two (2) or three (3) more hospitals are considered necessary to eradicate the backlog. With regard to clinics, the hospital authorities have indicated that the existing facilities are adequate and there are plans to provide more clinics should they be required.

Apart from the established health centres listed there are a few surgeries that also provide health care services in the district. Most of them are situated in De Aar.

The main health problems in the district are Tuberculosis and HIV/ AIDS. This places a huge burden on all the resources in the district. Implementing a comprehensive HIV/ AIDS plan involves many challenges such as:

- Preventative strategies (health education, the MTCT programme);
- Voluntary counselling and testing;
- Treatment of opportunistic infections;
- Community home based care;
- Antiretroviral treatment.

Table 18: Health Care facilities in Pixley Ka Seme District Municipal area

Municipality	Location	Health facility
Emthanjeni	Britstown	Britstown Clinic
		Britstown Mobile
	De Aar	De Aar CHC
		De Aar Clinic
		De Aar Hospital
		Montana Clinic
		Nonzwakazi Clinic
		Hanover Clinic
Kareeberg	Camraron	Camraron Clinic
	Swartkop	Swartkop Clinic
	Van Wyksvlei	Van Wyksvlei Clinic
		Van Wyksvlei Mobile
	Vosburg	Vosburg CHC
		Camraron Hospital
Renosterberg	Gariep	Keurtjekloof Satellite clinic
	Petrusville	Petrusville Clinic
	Phillipstown	Phillipstown Clinic
Siyancuma	Bongani	Bongani Clinic
	Breipaal	Breipaal Clinic
	Campbell	Campbell Clinic
	Douglas	Douglas Clinic
		Douglas Hospital
		Douglas Mobile 1
		Douglas Mobile 2
	Griekwastad	Griekwastad CHC
		Griekwastad Mobile
	Kimberley	Salt Lake Satellite clinic
Siyathemba	Plooyburg	Plooyburg Satellite clinic
	Schmidtsdrift	Schmidtsdrift Satellite clinic
	Marydale	Marydale Clinic
	Niekerkshoop	Niekerkshoop Clinic
	Prieska	Prieska Clinic
		Prieska Hospital
		Prieska Mobile
	Hopetown	Hopetown Clinic
		Hopetown Hospital
		Hopetown Mobile
Thembelihle	Orania	Orania Clinic
		Orania Hospital
	Strydenburg	Strydenburg Clinic
	Looton	Looton Satellite clinic
		Richmond Clinic
	Richmond	Richmond Hospital
Ubuntu	Victoria West	Victoria West Clinic
		Victoria West Hospital
	Colesberg	Colesberg Clinic
		Colesberg Hospital
	Kuyasa	Kuyasa Clinic
	Lowryville	Lowryville Clinic
Umsobomvu	Norvalspont	Norvalspont Clinic
	Noupoort	Noupoort Clinic
		Noupoort Hospital

Source: Pixley Ka Seme District IDP 2011-2016

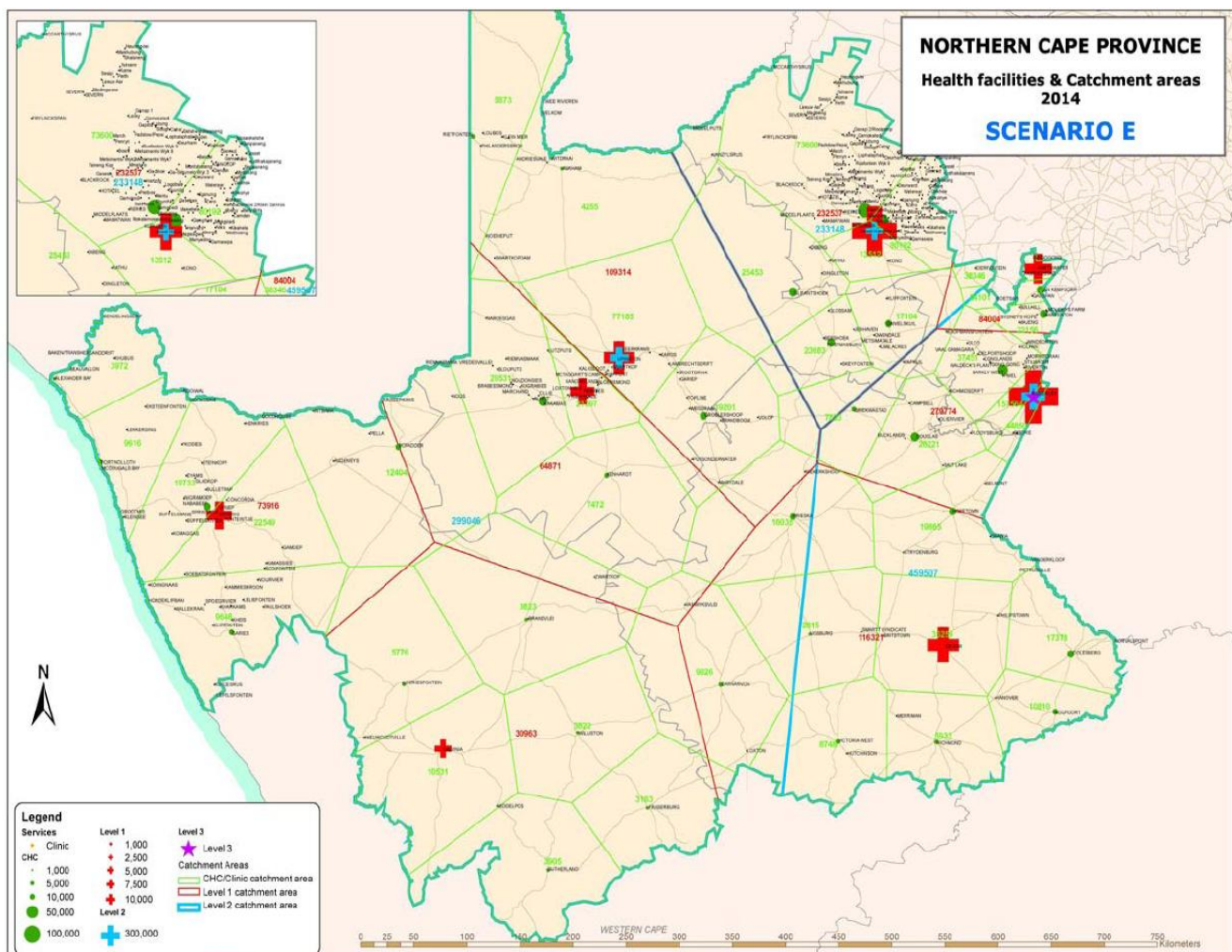
Due to the extremely low population density in the region, the Northern Cape cannot achieve the national norm in respect of average catchment population norms for health services. One of the key goals of the service Transformation Plan is to reconfigure services to ensure that a larger proportion of

the population have access to district, regional and tertiary hospitals thus reducing inequities. A key benefit of the service improvement lies in bringing tertiary and regional hospital services closer to the population and improving access and equity.

A regional facility strives to serve a population within 2 hours drive time and a tertiary facility 3 hours drive time. Due to its large geographic area and low population numbers the Northern Cape is the worst off in terms of access to facilities. By plotting two-hour catchments over the Northern Cape with Kimberley, Upington, De Aar and Kuruman as centres for regional facilities most of the province's population has access to effective health services.

HIV prevalence rate (antenatal survey) in 2007 was 18.5%.

Map IV: Northern Cape Health facilities catchment areas 2014



Source: NCPSTF-2012

Recommendations of the Service Transformation Plan include the following:

- Less and less larger district hospitals are supported by an increased number of community hospitals, community health centres and clinics;
- EMS and Air Mercy Services plays a large role in providing access to facilities, because of vast distances;
- De Aar is the main facility in Pixley Ka Seme District and referrals go to Kimberley;
- Expanded regional services at De Aar will cut on travel time and distances and provide a greater number of people access to them.

Issues:

- Many of the mobile clinics that operate in the rural areas have been terminated, which impacts negatively on the remote rural farming communities, which experience a general lack in access to services;
- Insufficient health facilities were identified in the Pixley IDP 2011;
- Provision of transport services for patients to improve there access to the basic health services;
- Availability of medical staff remains a problem in the area;
- Rendering of 24 hour health services and emergency services to patients;
- Hospice for terminally ill and street children;
- Functional District Aids Council;
- Many health challenges in the communities that are related to poverty and substance abuse.

4.4 Education

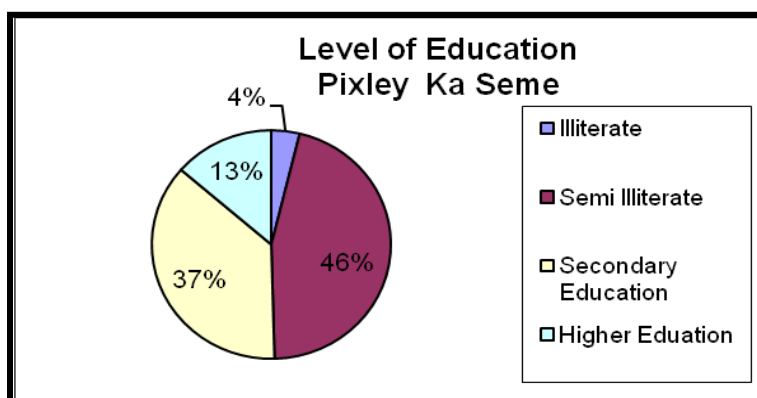
Obtaining some form of income generating employment has become increasingly difficult in recent years. This is accentuated by the lack of education with the poorly educated being the ones that experience the highest incidence of poverty.

There are a total of one hundred and eleven (111) schools in the Pixley Ka Seme District with a total enrolment of 44,822 learners. This gives an average of 404 learners per school. The greatest number of learners is enrolled in schools within the Emthanjeni Municipality, which include the towns of Britstown, De Aar and Hanover. Fifty two (52) of these schools have boarding facilities whilst nutrition programmes are offered at ninety five schools in the district.

Almost a quarter of the population of the district has no qualification while 52.3% had only primary and secondary education. Five percent (5%) of the population have a Grade 12 qualification while 2.6% obtained a degree. The education levels of the population within the Pixley Ka Seme region is therefore generally low, which limits their job opportunities further. This situation can be linked to previously disadvantaged population groups not having access to education in the past.

According to local IDP's many of the schools in the region are characterised by lack of essential services such as water, electricity and sanitation. De Aar Campus as a former satellite of the Northern Cape College in Kimberley is the only tertiary institution in the district. Courses in Marketing management, Hospitality Services, Public Relations, ICDL and other subjects are being offered here. There are 375 students in de Aar and 50 in the satellite campus in Colesberg. The current situation regarding tertiary education facilities is not sufficient for the long term education needs of the district.

Figure 21: Level of Education in Pixley Ka Seme District



Source: Stats SA 2011

More skill related education facilities should be made available in the area. Through an agreement with tertiary institutions larger businesses in the areas could employ young people through an apprenticeship programme, where in-job training is supported. This will not only educate the local youth but allow people to stay and work in the area.

Many of the existing commercial uses in the area would also be enhanced through skills transfer through in job training. The agricultural, tourism and hospitality industries in the region provide various services through which local people could be skilled to support not only the expansion of these industries, but also allowing for the education and development of the local communities. The attraction of industries to settle in the area will also assist and support these types of programmes.

Table 19: Schools per Municipal area within the Pixley Ka Seme District Municipal area

Municipality	Primary	Middle	Secondary	Combined	Grand Total
Emthanjeni	16		7	1	24
Kareeberg	4		1	1	6
Renosterberg	6		2		8
Siyancuma	16	2	1	4	23
Siyathemba	7		1	3	11
Thembelihle	5		1	4	10
Ubuntu	10		1	2	13
Umsobomvu	10		3	3	16
Pixley ka Seme Total	74	2	17	18	111

Source: Pixley Ka Seme District SDF

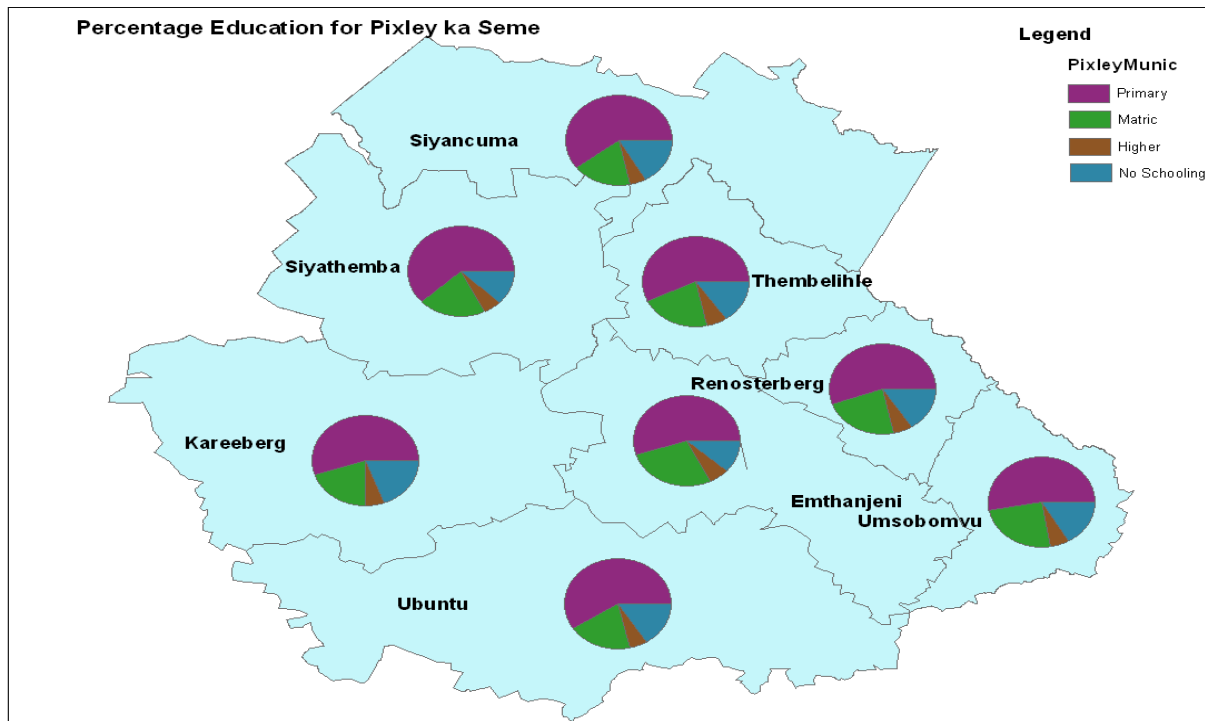
Table 20: Learner distribution per Municipal area within the Pixley Ka Seme District Municipality

Municipality	Primary	Middle	Secondary	Combined	Grand Total
Emthanjeni	7,113		4,394	323	11,830
Kareeberg	1,694		534	344	2,572
Renosterberg	1,487		726		2,213
Siyancuma	4,647	1,372	647	2,759	9,425
Siyathemba	2,755		908	1,146	4,809
Thembelihle	1,543		725	1,239	3,507
Ubuntu	2,222		509	995	3,726
Umsobomvu	3,517		1,604	1,619	6,740
Pixley ka Seme Total	24,978	1,372	10,047	8,425	44,822

Source: Pixley Ka Seme District SDF

Persons having no schooling did never enjoy formal education, not even some primary education. Implying illiteracy in most cases, these persons are limited to perform manual labor and cannot adequately participate in society.

Figure 22: Education levels per local municipality



Source: Stats SA 2001 and 2011

Over the last 15 years the rates of no-schooling have been halved across the country. The percentage of persons 20 years and older who have no schooling decreased from 19,1% in 1996 to 8,7% in 2011. This almost halved since 2001 when 19% aged 20+ had no schooling Northern Cape, went from around 22% to around 11%. Whereas in PKS Education (aged 20 +) No Schooling is 14.60%, Higher Education is 6.10% and Matric 20.50% The literacy efforts for adults and the increasing influx of 20 years olds with proper levels of education are expected to drive these proportions further down in the years to come.

Crèches

The district accommodates approximately 20 crèches mainly in the towns of De Aar, Victoria-West and Hopetown. These crèches fall under the Department of Education and the high number of crèches shows the Department of Education's commitment to cater for the educational needs of young children in the Pixley district.

Issues:

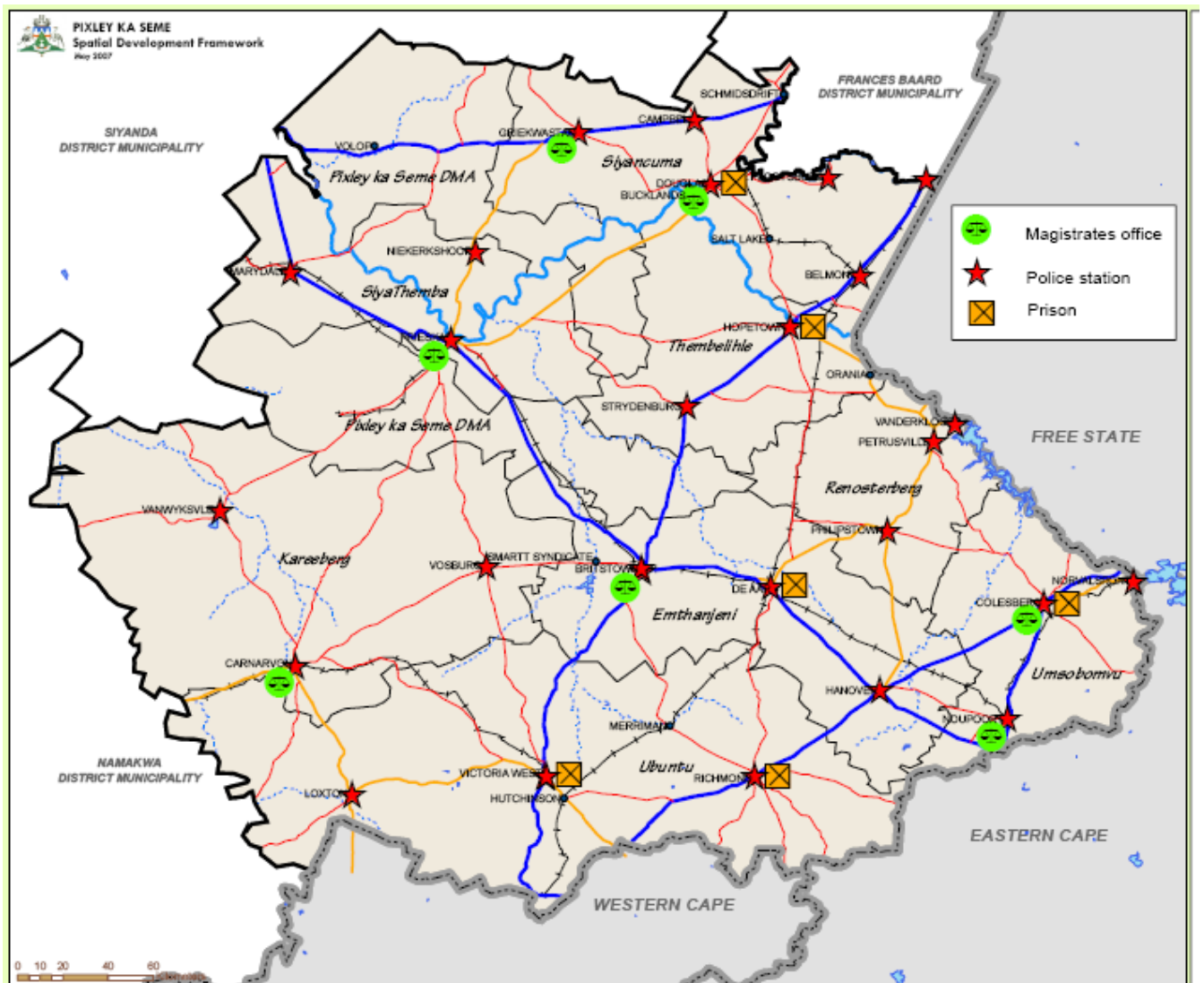
- Shortage of schools in remote areas of the District;
- Acute shortage of institutions for tertiary learning with the De Aar campus the only form of tertiary education in the region;
- Lack of transport for farm school learners;
- Illiteracy, especially in the rural areas;
- Support adult education programs;
- Good pass rate in secondary education level;
- Regional brain drain;
- Remote district areas have a shortage of schools where one school has to serve a wide region;
- Children have to walk long distances to schools in rural areas;
- Provide opportunities for apprenticeship training in local businesses and industries.

4.5 Safety & security

Although the crime rate within the district is classified as low when compared to the rest of South Africa, many municipalities did raise concerns with regards to the safety and security in their municipal areas. With the rising unemployment rates, poverty, crime, alcohol and drug abuse as well as domestic violence seems to play an increasing role in the local communities.

The following map represents the distribution of police stations, prisons and magistrates offices in the Pixley Ka Seme District Municipal area.

Map v: Distribution of Police Stations, Prisons and Magistrate offices in Pixley Ka Seme District



Source: Pixley Ka Seme District SDF 2007

The following concerns were raised in the IDP regarding the local safety and security in the district municipal area.

- *Generally low crime rate, but high levels of drug and alcohol abuse with related family abuse that occur;*
- *Police are not visible;*
- *Police stations are not accessible to many people;*
- *Shortage of police resources and police stations;*
- *Shortage of human resources in courts;*
- *High levels of domestic violence and rape;*
- *High level of unemployment;*
- *Youth delinquency due to lack of recreation activities;*
- *Substance and alcohol abuse;*
- *Theft and illegal activities.*

Table 21: Distribution of Safety and Security services in the Urban Centre towns in Pixley Ka Seme District Municipality

SECTOR	PUBLIC AMENITY	URBAN CENTRES							
		De Aar	Colesberg	Victoria West	Hopetown	Carnarvon	Prieska	Douglas	Petrusville
Government	Police Station	2	1	1	1	1	1	1	1
	Magistrate Court	1	1	1	1	1	1	1	
	Defence	1			1		1		
	Prison	1	1	1	1			1	

Table 22: Distribution of Safety and Security services in the Urban Satellite towns in Pixley Ka Seme District Municipality

SECTOR	PUBLIC AMENITY	URBAN SATELLITE TOWNS					
		Britstown	Hanover	Phillipstown	Vanderkloof	Strydenburg	Richmond
Government	Police Station	1	1	1	1	1	1
	Magistrate Court	1	1	1			1
	Defence						
	Prison						1

The Rural Service centres complement satellite towns in the remote areas by providing distribution of services to remote areas. The rural service centres include Noupoort, Vanwyksvlei, Vosburg, Loxton, Marydale, Novalspont, Griekwastad, Shmidsdrift, Campbell, Hutchinson and Niekerkshoop. All these centres have Police stations except Novalspont and Schmidsdrift.

Crime

- The NC with exception of WC features most prominently in national crime statistics, but specifically i.t.o violent crime – the main reason for this is alcohol abuse.

Issues:

- Provide a visible police force to limit crime in these areas;
- Invest in programs for youth development to stimulate them and reduce boredom;
- Continued education and support for domestic violence victims;
- Programs to alleviate poverty and unemployment.

4.6 Community services

Community facilities provide the social infrastructure that serves the urban and rural communities. Through the analysis of the area, a need for the provision of more community services, especially in the segregated communities was identified. This includes recreation, sport facilities and higher education facilities to provide more opportunities to the youth in the region. The high level of unemployment, especially among the young population, and lack of recreational facilities lead to increased crime, vandalism, alcohol and drug abuse and violence. The provision of adequate community services and infrastructure therefore plays a very important role in the creation of strong and healthy communities, especially in the remote rural and urban areas. It is also important that these services are incorporated into the future planning of areas to allow for a more equal distribution of these facilities between the different communities and towns.

Libraries

Libraries play an important part in the provision of information and recreation to the communities and are sometimes the only form of information that can be accessed by the poor communities. The above table indicates that there are a sizable number of libraries in the district which are owned and operated by the eight different local municipalities in the area. The only toy library in the district is located in Nonzwakazi De Aar, and operated by the Department of Education. It is however evident that there are limited resources available in some libraries that are located in the poorer communities.

Community Halls

All the main towns and some previously disadvantaged towns have community halls. The existing community halls are multi functional centres within the communities and area being used for various activities such as musical shows, meetings, conferences, churches, funerals, etc.

Recreational Facilities

The main towns within the district have a high level of infrastructure services available. These facilities are operated by the local municipalities and include rugby pitches, swimming pools, tennis courts and squash courts. The parks that are located in the main towns are fairly well distributed throughout the towns and areas as well as being regularly maintained. In the townships recreational facilities such as soccer pitches, swimming pools, etc. are also provided, but are not well developed. In some areas there

are no sporting facilities, forcing people in these communities to go elsewhere. Parks in the townships are mostly overgrown and unkept. This situation makes the existing parks attractive dumping sites and lead to unsafe and polluted areas within the townships. Future development of these areas as open space systems within the neighbourhood context is very important. Where possible, more recreational facilities should be developed in the towns where the human needs level is very high in order to stimulate alternative forms of recreation.

Religion Facilities

There are many churches of different denominations located within the eight municipal areas. Some of these churches are well developed buildings for gathering while others are very old, and in need of an upgrade.

Cemeteries

The available records show that all towns are well served with cemeteries, with some facilities almost utilised to full capacity. Various smaller cemeteries also exist within the rural areas. It is only in Umsobomvu municipal area where the need for a new cemetery was identified in their IDP. Areas should be allocated in towns where the expansion of cemeteries can take place. The sites identified will be subject to soil conditions in these areas.

Table 23: Community Facilities in the towns of Pixley Ka Seme District Municipal Area

Municipality	Towns	Crèches	Primary Schools	Secondary Schools	Combined School	Tertiary Institutions	Libraries	Community Halls	Recreation
Emthanjeni									
	De Aar	3	8	4		1	3	3	Yes
	Hanover	2							
	Britstown	2							
Kareeberg									
	Camaron		1	1	1		2		Yes
	Van Wyksvlei		1				1	1	Yes

Municipality	Towns	Crèches	Primary Schools	Secondary Schools	Combined School	Tertiary Institutions	Libraries	Community Halls	Recreation
	Vosburg	1	1				1	1	Yes
Renosterberg									
	Petrusville	1	2	1			1	2	
	Phillipstown	1	2	1			1	2	
	Vanderkloof	1	1				1	1	
Siyancuma									
	Douglas						1		
	Campbell						1		
	Griekwastad								
Siyathemba									
	Prieska		4	2			2	3	Yes
	Marydale	1	1				1	1	Yes
	Niekerkshoop		1				1	1	Yes
Thembelihle									
	Hopetown	1	2		1		1	2	
	Strydenburg	1	1	1			2	2	
	Orania	1	2	2				1	Yes
Ubuntu									
	Victoria Wes	3	10	2			2	3	Yes
	Richmond	2	2	1			1	3	Yes
	Hutchinson		1					3	

Municipality	Towns	Crèches	Primary Schools	Secondary Schools	Combined School	Tertiary Institutions	Libraries	Community Halls	Recreation
	Merriman		1						
	Loxton	1	1				1	3	Yes
Umsobomvu									
	Colesberg	1	5	2				3	Yes
	Noupoort	1	3	1		1		2	Yes
	Norvalspont	0	1						Yes
District Total		22	49	16	2	2	32	31	

Source: Pixley SDF 2007/ CKR

Issues:

- Support the development of more multi functional community facilities in areas where these services lack;
- Plan for more equitable distribution of community services;
- Identify possible sites for community services in segregated and remote towns and apply for funding (national and international) to establish and support these services;
- Better equip the libraries in poor and previously disadvantaged communities to provide them with much needed access to information systems;
- Support the development of more recreational facilities to provide more opportunities to especially the youth in the region. Through positive interaction and participation in sport and community activities the youth could be positively occupied and influenced;
- Identify land for expansion of cemeteries;
- Support more tertiary facilities in the region to serve the youth of the region within their own environment and to support improved education facilities and education rates in the district.

4.7 Tourism

The Northern Cape is well known especially for its wildlife conservation destinations, but also game farms, hunting, star gazing, adventure tourism, historic and cultural sites, festivals, ecotourism and agri-tourism. The contribution of tourism to the provincial GGP is estimated at 6%. According to the LED-strategy tourism in the Northern Cape grew annually with 17% in national and 25% in international visitors over a period of 10 years (2001-2011). This is a very important economic sector that should be further enhanced in all the respective municipal areas. The development of more farm-based accommodation catering to the whole family should also be encouraged. The Karoo farms with their wide open spaces, natural vegetation, unique fauna and flora, interesting landscapes with outcrop of small koppies, clear night skies with limited light pollution and farming activities provide various attractions to support farm stays.

A variety of attractions are available when visiting the region and they include the following:

- *Game & Hunting Lodges (game viewing and hunting);*
- *Game Farms (farming and breeding of game species);*
- *Leisure and Tourism (hotels, guest houses, guest farms, camping sites, holiday resorts, water sports, fishing, walking trails, outdoor wilderness school);*
- *Cultural attractions: Museums, Anglo Boer War battlefields, gravesites and concentration camp cemeteries, San Rock Art, unique corbelled houses on farms, unique historical elements (wagon bridge, convict stone, site where the first diamond was discovered in 1866 next to the Orange River, Groot Trek route);*
- *Natural Attractions (Karoo landscape, fauna and flora species, Kogelbeen Bat Cave).*

Tourism in the district is strengthened by several government owned projects which include:

- Rolfontein Outdoor Wilderness School;
- The re-development and Expansion of the Wildebeest Kuil Rock Art Centre;
- The re-development and Expansion of the Boesmansgat Resort;
- The re-development and Expansion of the Douglas Holiday Resort;

- The re-development and Expansion of the Die Bos Resort in Prieska.

Issues:

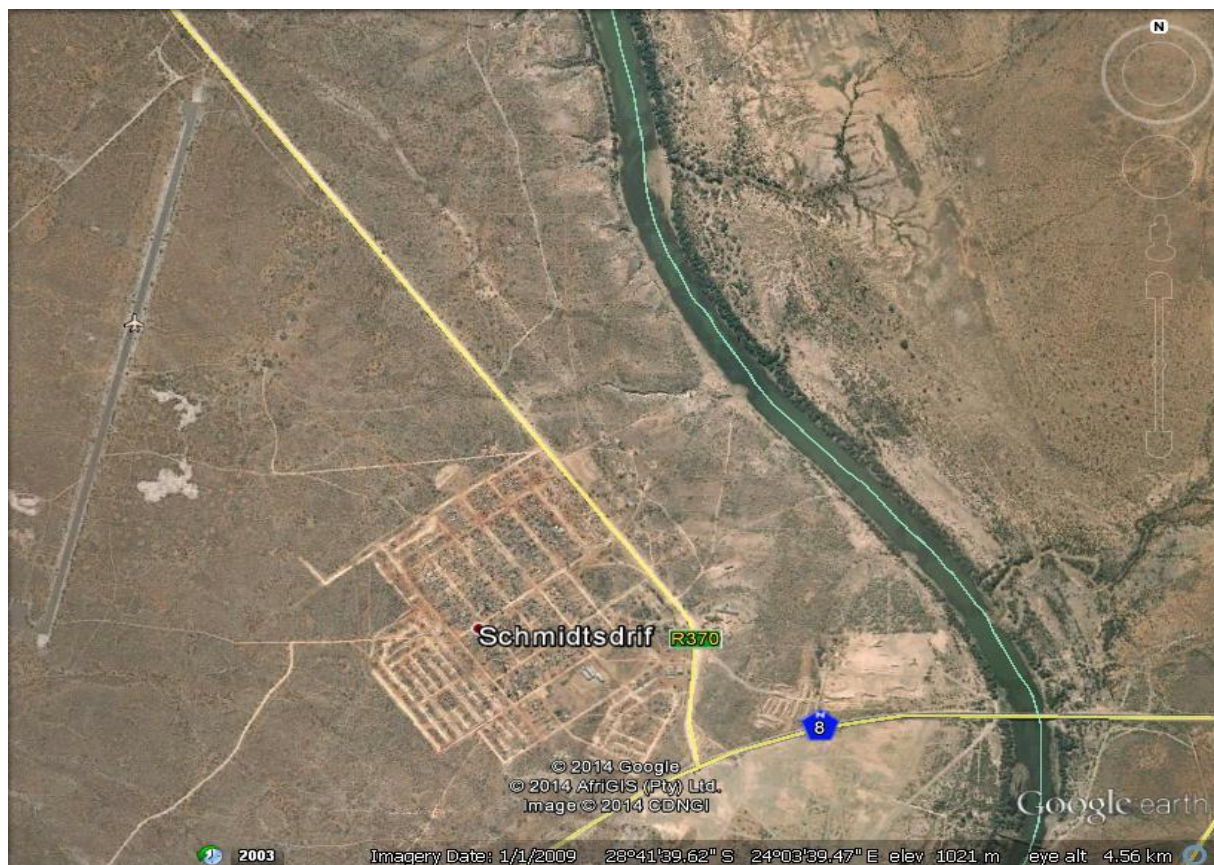
- Tourism provides one of the district's biggest potentials for expansion;
- Game farming also provides opportunities for processing of the meat within the region and export to the rest of South Africa;
- Support eco sustainable game farming;
- Limit the potential impact of 4x4 routes on the sensitive natural environment;
- Be aware of developments with a potentially negative aesthetic impact on the Karoo landscapes;
- The existing cultural and heritage attractions within the district should be named, located and packaged within an integrated tourism plan for the Pixley region in order to benefit all the municipalities within the district;
- Towns should build an identity around attributes that already exist in and around them. These different identities will enhance the uniqueness of each town within the Pixley district and could be included in a district tourism plan as part of the district tourist route to experience Pixley;
- Care should be taken to include all the communities within the region into the tourism sector – allow for adult education in this industry;
- Development of the tourism sector should focus on attracting the volumes of people that passes through the region via the various major transport routes.

Their journey should become part of their destinations.

4.8 Land Reform

Most of the farmland in the area is still owned by white farmers, with the potential for land reform in areas that provide sustainable farming opportunities. The need for land for upcoming farmers was identified throughout the Pixley Ka Seme District Municipality. 22 787,54ha was bought for 424 farmers (LRAD/ SLAG) with approximately 358 beneficiaries. 36 657ha was returned to rightful owners (1 180 households) through land restitution programmes. Municipal commonages account for 65 000ha with approximately 350 farmers benefiting or having access to it. These commonages are gradually made available to poor farmers for farming. Farmers can build up their breeding stock, secure household food and contribute to local economic development. Farming projects range from producing chics/ pigs/ sheep/ goats/ cattle/ ostriches and small stock in Noupoort/ De Aar/ Groblers-hoop as well as lucerne in Douglas to women that produce vegetables in Carnarvon.

Restitution cases: Schmidtsdrif & Bucklands.



Location of Schmidtsdrif with airstrip.

Source: Google earth



Bucklands settlement near Douglas.

Source: Google earth

It is however very important to invest in farms that are sustainable and to provide the necessary education and support as part of the land reform programs. The experimental farm located at Carnarvon might be able to assist in the education and support of upcoming farmers.

The Northern Cape Department of Agriculture's *Land Reform and Performance Plan of 2006-2009*, have the following development focus areas for land reform in the province:

- Changing and unlocking the provincial economy;
- Transfer of technology and information through scientific research of community development and land uses;
- Initiate integrated development projects with other role players, and
- Establish public/private partnerships in research and development projects.

The following programmes will be implemented over the medium term by the Department:

- Orange River Farmer Settlement Programme;
- Livestock Improvement Programme;
- Development of strategies which will focus on the contribution of agriculture to the Gross Geographic Product, and
- The development of agricultural development plans for each of the districts in the Northern Cape Province.

These focus areas for the land reform strategy for the Northern Cape has been organised into the following programmes:

- Orange River Emerging Farmer Settlement Programme:
 - Goodhouse;
 - Blocuso;
 - Thumelo Trust;
 - Karoo;
- Vaalharts irrigation rehabilitation;
- CASP & Landcare;
- Agri-tourism;
- Livestock Development Strategy:
 - Commercialisation of goats;
 - Nguni cattle;
 - Products of origin;
 - Livestock Improvement scheme;
- Cooperative governance;
- Research and development;
- Integrated Food Security and Nutrition Programme (IFSNP).

Reasonable growth is expected with the implementation of the Orange River Emerging Farmers settlement Programme, which is aimed at broadening access and participation by the emerging farming sector. Promotion of sustainable land use by supporting the upgrade of irrigation infrastructure to increase water use efficiency and to prevent water logging of scarce irrigation land is therefore one of the key priority areas.

The continuous drought conditions in the region pose a serious threat to the extensive farmlands. Special attention therefore needs to be given to the most vulnerable areas within the region. Establishment of district Landcare committees throughout the province will assist in terms of raising and/or increasing public awareness of sustainable resource management, especially for the upcoming farmers.

A large number of small-scale farmers utilise the town commonages through lease agreements with the municipalities, for agriculture uses which include gardening and livestock farming. Care should however be taken to prevent overgrazing and environmental degradation of these areas. The lease agreements of these areas should co-exist with mentoring and educating the small-scale farmers. Areas identified for small scale farming and grazing on the commonage should not have a negative impact on the urban areas and should also not hinder urban growth and development. The importance of food security in the urban areas should also be realised with potential community gardens. The lack of water resources within a large area of the region do however poses some restrictions towards this initiative.

Issues:

- Limited land available for small and upcoming farmers;
- Need for education and mentorship as part of the land reform programs;
- Make more land available for emerging farmers - Important to identify areas where sustainable farming can take place for upcoming farmers;
- Secure land tenure and ownership for emerging farmers;
- Overgrazing has an impact on the environmental sustainability of the areas;
- Reconsider the lease agreements with small farmers on commonages of towns to support sustainable farming practices in these areas to limit impact on the environment;
- Farming on commonages should not pose a health risk to the urban residents and should not hinder urban growth patterns;
- Provide support and mentorship for farmers on commonages;
- Support food security programs in urban areas.

4.9 LAND USE PLANNING STANDARDS

The land use planning standards used to determine the provision of the different facilities are as follows:

FACILITY	POPULATION STANDARD	LAND REQUIREMENT
Community		
Community centre	1/ 10 000	2ha
Place of Worship	1/ 2000	0,25ha
Cemetery	2 000 graves	1ha
Library	1/ 8000	0,8ha
Old Age Home	1/ 200 000	0,2ha
Place of Safety	1/ 200 000	2ha
Orphanage	1/ 200 000	2ha
Frail Care	1/ 20 000	2ha
Education		
Chrèches	1/ 500	0,3ha
Primary School	1/ 1000	4,8ha
Secondary School	1/ 3000	6,2ha
Health		
Clinic	1/ 15 000	0,25ha
Day Hospital	1/ 50 000	1,5ha
District Hospital	1/ 80 000	10ha
Government		
Post Office	1/ 20 000	0,025ha
Police Station	1/ 25 000	0,5ha

Fire Station	1/ 60 000	1,2ha
Local Government		
Offices	1/ 50 000	0,3ha
Information centre	1/ 22 000	0,01ha
Retail		
Community retail centre	40 – 150 000	30 – 60ha
Neighborhood centre	5 000 – 40 000	5 – 30ha
Local Retail centre	1 000 – 5 000	0,8 – 4ha

Source: CKR

5.1 Hierarchy of Settlements

The municipalities and settlements of the Northern Cape fall within one of the classes that are summarised below. The table and Map below respectively illustrate the development potential of the classed settlements and how these classes relate to towns within the Northern Cape.

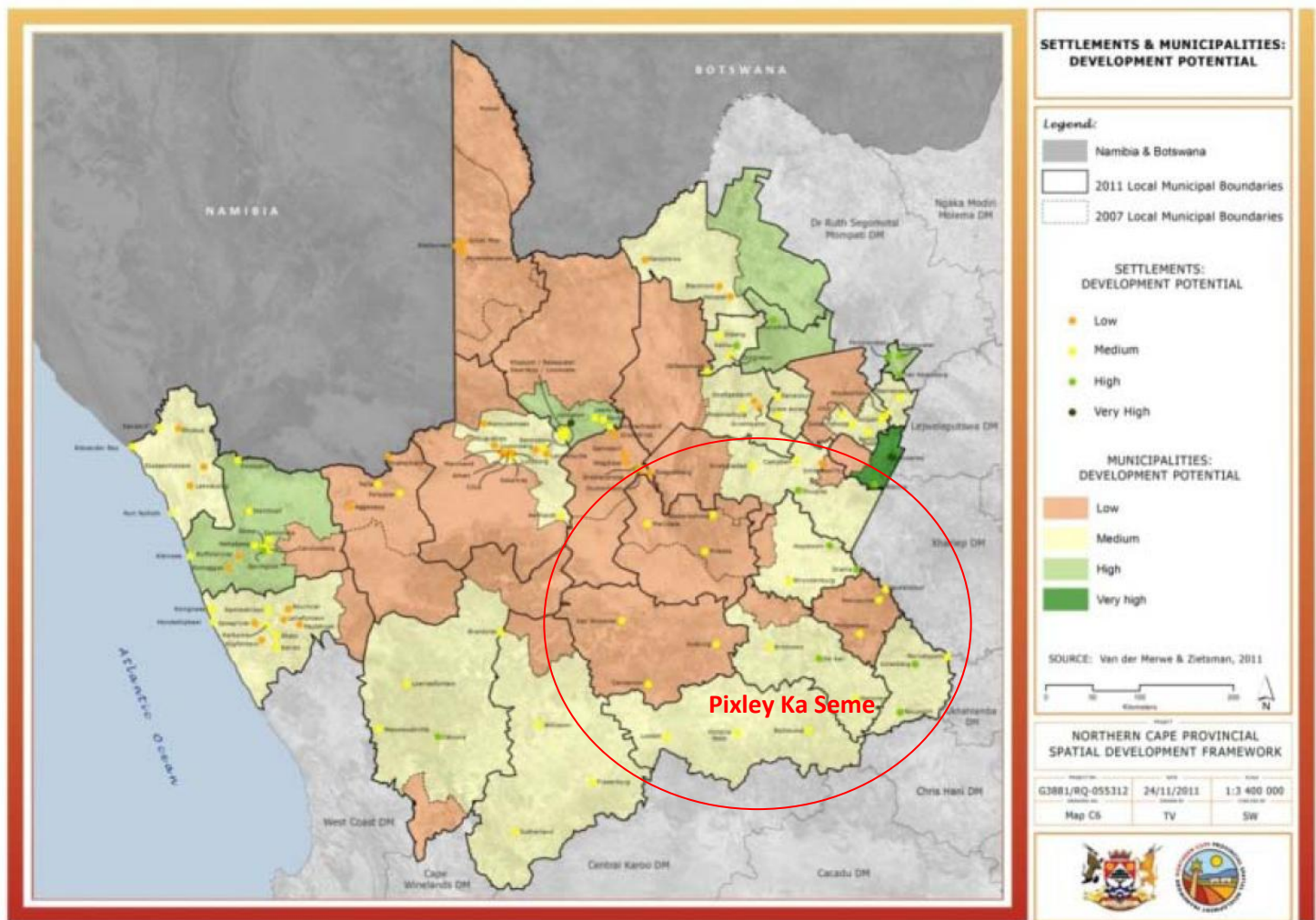
Table 24: Identification class of the development potential of the towns in the Northern Cape

CLASS	DEVELOPMENT POTENTIAL	DESCRIPTION
1 & 2	<u>'Very Low'</u> and <u>'Low'</u> growth potential	Settlements in this category possess limited economic and human resources, devoid of the potential to stimulate the urban economy in a significant way. The difference between 'Low' and 'Very Low' is only a degree variation.
3	<u>'Medium'</u> growth potential	The development indices of settlements in this category are roughly in line with the average value of the provinces' aggregate on the 115 settlements. Consistent and moderate growth prevails in these settlements and certain sectors of the economy show signs of growth, or have the potential for it.
4 & 5	<u>'High'</u> and <u>'Very High'</u> growth potential	Settlements in this category experience sustainable growth above the provincial average. They already have an established and proven track record as 'growth engines' at a certain level. They have the potential to grow at a sustainable and powerful rate in line with the capacity of their resources and to operate as service providers to a relatively extensive gravitational area. The difference between 'High' and 'Very High' status only lies in the diversity and intensity of the town dynamics.

From the map below it is evident that most towns within the Pixley Ka Seme District Municipal Area are classified as having a medium development potential with the exception of Hopetown, Douglas, De Aar, Noupoot and Colesberg, which are classified as having a high to very high development potential due to their locality in terms of the identified development corridors.

These development corridors include the **Orange River** (Douglas and Hopetown), the **N10** National route linking the Eastern Cape with Namibia (De Aar), the **N1** (Noupoot and Colesberg), which is the National road linking Gauteng with the Western Cape and the **N9** (De Aar) link from the N1 to the N10, linking the district with the Eastern Cape.

Map VI: Development potential index of settlements in Northern Cape



Source: NCPSDF-2012

The Pixley Ka Seme District SDF and IDP classified the towns within the district according to the following criteria:

- Geographical location of the towns;
- Level of services in the town and the infrastructure available to the town;
- Social and economic activities of the town including: administrative functions, retail centres, education and health care facilities, resources centre for the surrounding farming area and destination of people migrating from the rural to the urban areas.

The classification of the towns according to these criteria will also be continued to be used within this document.

There were three main settlements structures identified in the Pixley Ka Seme District which are:

- **Urban Centres;**
- **Urban Satellite Towns, and**
- **Urban Service Stations.**

Urban Centre

These towns are administrative centres within the respective eight municipalities in the district. These centres' administrative functions should be further enhanced and it is recommended that programs for urban rehabilitation of these centres should focus on the stimulation of economic growth in these areas.

The following Urban Centres were identified in Pixley Ka Seme District:

- De Aar (*Emthanjeni Municipality*);
- Colesberg (*Umsombomvu Municipality*);
- Victoria West (*Ubuntu Municipality*);
- Hopetown (*Thembelihle Municipality*);
- Carnavon (*Kareeberg Municipality*);
- Prieska (*Siyathemba Municipality*);
- Douglas (*Siyancuma Municipality*);
- Petrusville (*Renosterberg Municipality*).

Urban Satellite Towns

These are towns that already have some services and infrastructure and have the potential to grow.

Towns identified as Urban Satellite towns within the Pixley Ka Seme District are:

- Britstown;
- Hanover;
- Phillipstown;
- Strydenburg;
- Richmond;
- Vanderkloof.

It is proposed that growth in these areas should be properly managed through efficient spatial planning that leads to the stimulation of economic growth.

Rural Service Centres

These are centres that will complement the satellite towns in the remote areas for the purpose of the even distribution of services and to promote the creation of employment opportunities. The proposed local centres in Pixley Ka Seme District are:

- Noupoot;
- Vanwyksvlei;
- Vosburg;
- Loxton;
- Marydale;
- Norvalspont;
- Griekwastad;
- Schmidtsdrift;
- Campbell;
- Hutchinson;
- Niekerkshoop.

Due to the existing development stimulants such as services and infrastructure, the **main development nodes** within the Pixley Ka Seme District Municipality were identified as Colesberg and De Aar.

1. **Colesberg** – the location next to the N1 National road which links Gauteng with the Western Cape, providing various opportunities in terms of connectivity as well as its locality in terms of the N9 link between the N1 and the N10, providing a link to the Eastern Cape. A big aqua fishing project is being planned at the **Gariep dam** therefore Colesberg as closest town will benefit from this regarding provision of services, job opportunities, etc.
2. **De Aar** – locality next to the N10 providing links between the Eastern Cape and Namibia, the existing railway network in De Aar that is classified as one of the largest in De Aar, with an average of 30 trains that pass through the area every day. This station and railway network provides direct and indirect links to almost every corner of South Africa. The locality of one of

Eskom's largest sub-stations (Hydra) near De Aar, which supply high voltage power especially to the western Cape and surrounding rural areas is of significance.

Structure of settlements

The urban structure of the major towns does not resemble the centric form having a dense urban structure at the centre (normally the Central Business District) and less dense areas on the periphery. The sectored and multi-nuclei form rather characterizes the land-use model in the Pixley Ka Seme District towns. Many of the towns provide a segregated town form due to the past planning policies set up by apartheid and the existing natural and physical constraints. Due to the large commonage areas the towns were also not contained in a small compact form but resemble fragmented urban forms with open areas between urban areas.

Densification

Densification norms should be established to provide a more compact form in the towns, which will allow for more effective provision of services and infrastructure. The process of densification in these typical Karoo towns with the feeling of open spaces needs to be addressed in a sensitive manner in order to preserve the sense of place in towns and villages. Densification should be enhanced within nuclei and sectors and as links between sectors. Mixed uses should also promote densification. Although the demand for single-residential units with freehold titles are the dominant trends in these towns, various alternative forms of housing should be looked at such as group and town house developments, to allow more cost effective service delivery. These smaller units will also allow more people access to the housing market. The phenomenon within the housing market where single-residential units are preferred creates a limit on densification where the solution is to create an environment with smaller erven and more units. Smaller erf sizes for single residential units should also be encouraged and this will provide smaller garden areas and as such limit the demand on water.

Issues:

- Effective planning to provide for more compact urban forms and to alleviate the segregated urban patterns created in the past;
- Further enhance the existing development potential of the identified development nodes;
- Encourage growth in the areas with medium potential through the identification of various local attributes. Investment should be made to enhance these attributes to allow stimulants for further economic growth;
- Encourage alternative housing types in all towns;
- Encourage densification to support more cost effective utilisation of existing services and infrastructure;
- Look at more effective land use management and the identification of central business districts and light industrial areas in most effective locations.

5.2 Transport

The development regions and corridors as identified in the Northern Cape Province are supported by an infrastructural network as well as bulk services.

Transport is crucial to the Northern Cape province, because of the province's size and long distances between central areas. Transport plays a key role in:

- economic growth;
- employment opportunities;
- social integration.

Urban and rural communities are dependent on both public and private transport for access and mobility, therefore it is a primary spatial structuring element. According to the IDP for Pixley Ka Seme 2011- 2016 the main mode of transport for most residents of the district is still on foot while a small percentage have access to privately owned vehicles. The amount of people making use of taxi's/ minibuses is also lower than that of the province.

The main issues regarding transport as identified by role-players and stakeholders were compiled in the Strategic Plan of the Northern Cape Department of Transport, Roads and Public Works for 2002 and included the following:

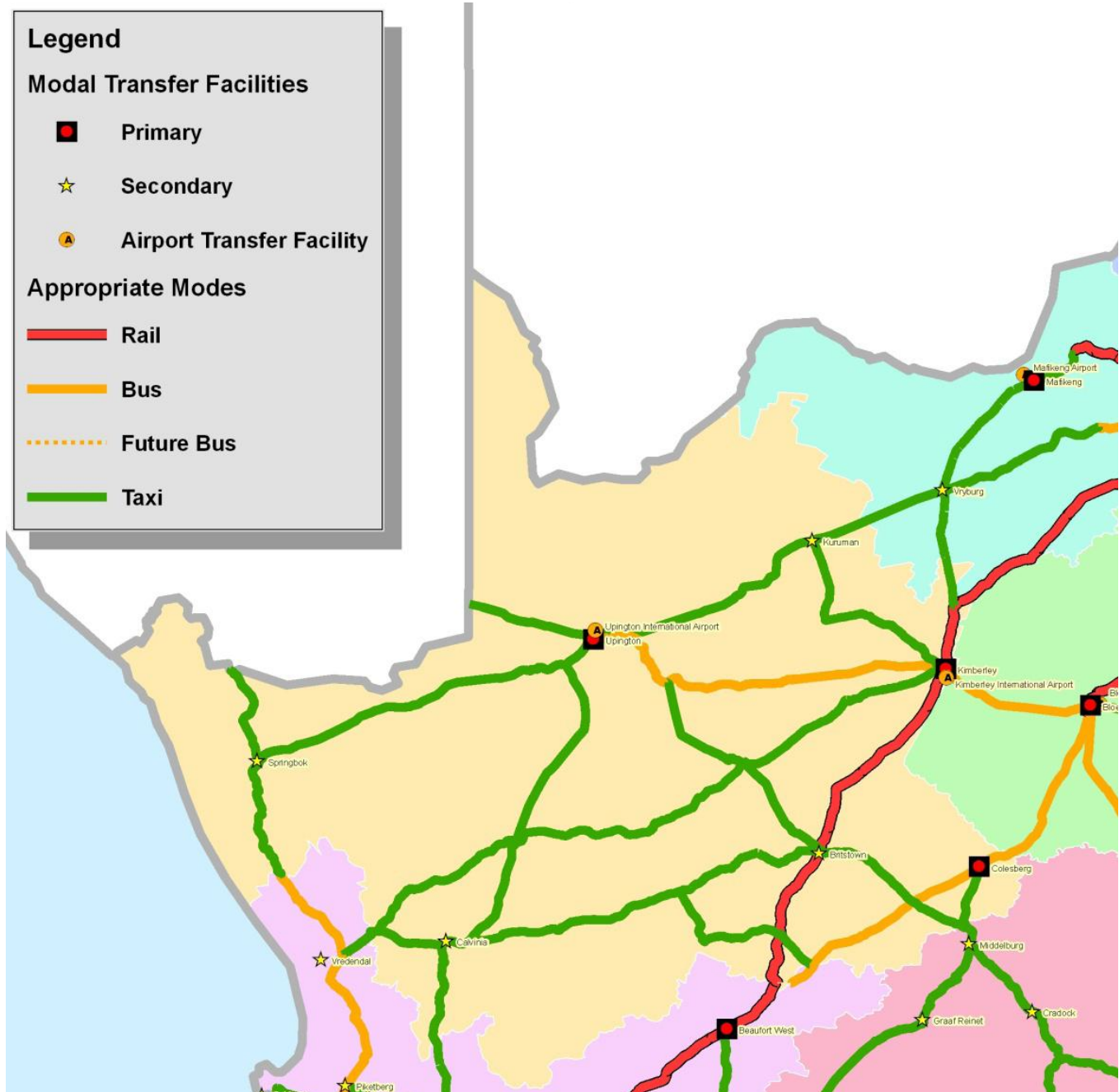
- Public transport services are insufficient and frequencies are low, especially in rural areas;
- Accessibility to public transport services and routes in the rural areas is a problem;
- Inadequate attention has been given to the needs of scholars attending rural schools;
- Inadequate attention has been given to the transport needs of pensioners;
- No provision is made to transport people with disabilities;
- More funding required;
- Taxi ranks are in existence, but not adequate, conditions are bad and no funds are available for maintenance thereof;
- Local authorities are not "taking responsibility" for the upgrading & maintenance of taxi ranks;
- Payment for the use of facilities needs to be introduced;
- Very few amenities are available and this is not conducive to the use and promotion of public transport;
- Local labour should be used for the provision of facilities;
- Passenger transport is seen mainly by use of private car and the standard and quality of public transport has lead to more private car use;
- Passenger transport: SPTN;
- Extend Integrated Rapid Public Transport Network of 12 cities linking all cities and towns of national significance by using optimal modal mix;
- Ensure access via high-quality modal transfer facilities (Map: Modal Transfer Facilities).

Regarding affordability the following issues were listed:

- Affordability of transport a major issue, especially in more ruralised areas;

- Transport fares are high leading to public transport not being affordable;
- Many communities are not able to travel;
- Profitability levels are low and the taxi industry needs further support from government;
- Taxi operators prefer to operate the longer more profitable routes between towns (i.e. Warrenton to Kimberley) rather than providing services between townships and towns.

Map VII: Transport modes & facilities for the Northern Cape area.



Source:

Outcomes & Outputs:

Outcomes:

- Promote and improve public transport.

Outputs:

- Restructure the taxi industry;
- Improve the permit system;
- Implement the National Land Transport Transition Act (NLTTA), 2000;
- Manage the bus subsidies and control bus operators;
- Planning transport services for the public;
- Enforce the requirements of the NLTTA.

Performance indicators:

- Reduction of the number of taxi related incidents;
- All taxis have approved operating licences;
- Reduction of illegal taxis;
- An approved public transport plan exists;
- Compliance with the service level agreements with the NDoT'.

ROADS

The Table below and included map shows the main roads in the Northern Cape Province as inter-linked to a network servicing the province. These major roads are inter-linked by a network of minor roads, most of which are gravel roads that need on-going maintenance.

Table 25: Major routes in Northern Cape Province

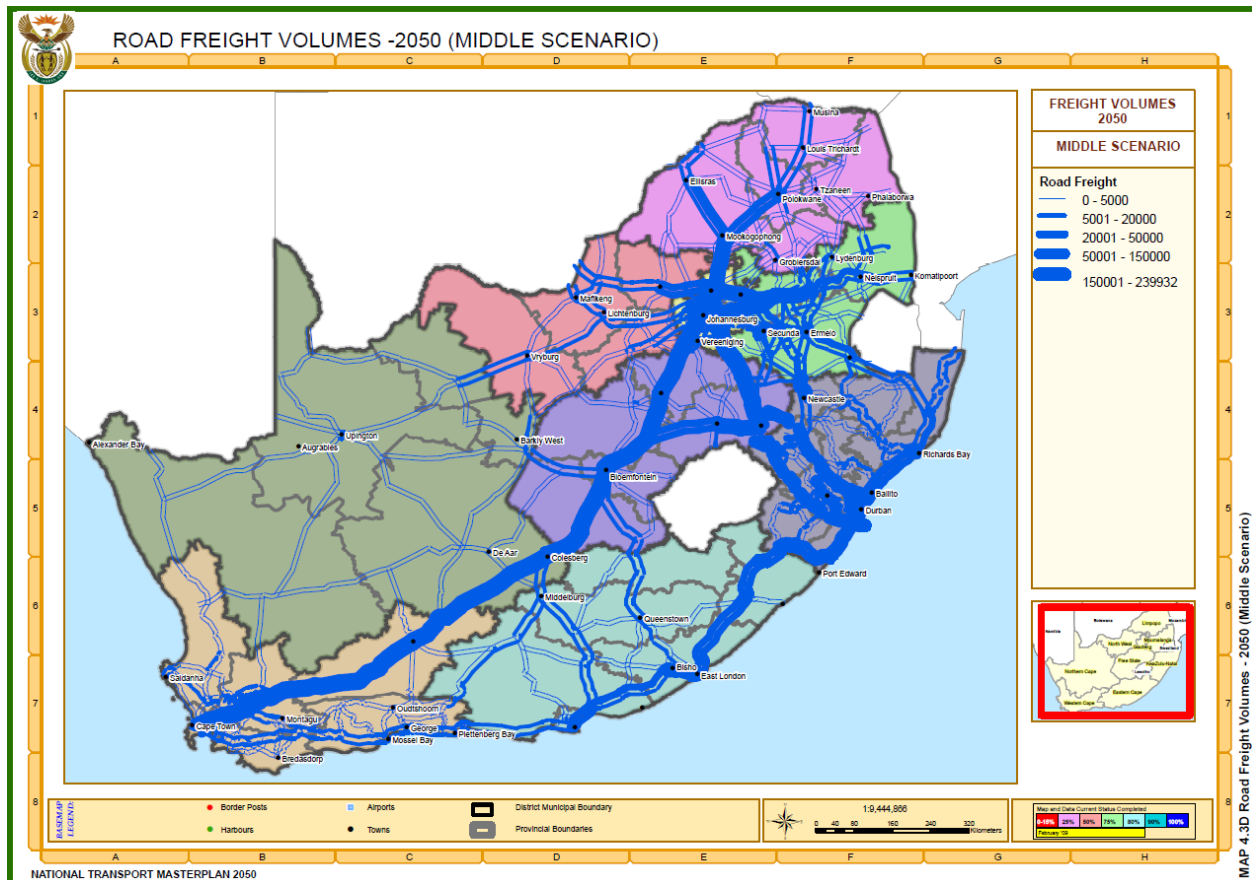
ROUTE	DESCRIPTION OF ROAD
N1	National: Between Gauteng and Western Cape via Bloemfontein.
N7	National: Between Western Cape and Namibia via Namaqualand.
N10	National: Between Eastern Cape and Namibia via De Aar, Priesa and Upington.
N12	National: Between Gauteng and the Western Cape via Kimberley.
N14	National: Between Springbok and Kuruman via northern part of province.
R 360	Regional: Route from Upington to Kgalagadi Transfrontier Park.
R 27	Regional: Route from Upington to N7 via Calvinia and Nieuwoudtville.
R 63	Regional: Route from Calvinia to Britstown via Carnarvon and Williston.

Source: NCPSDF-2012

Road infrastructure conditions (on national and main roads) are generally good. However, traffic usage increases and outstrips the extension of a paved network.

Road safety issues, exacerbated by poor road condition, absence of clear road markings and irresponsible use i.e. heavy vehicle overloading is also a challenge. There is a need for truck stops along the road network (See Map Road Freight Volumes – 2015 (Middle Scenario).

Map VIII: Road freight volumes.



Source:

AIRPORTS

The Northern Cape has two major airports, namely at Kimberley and at Upington.

Smaller airfields and good landing strips are also available and the landing strips within the Pixley Ka Seme District are shown in map 6 as below. Because of the huge distance in the province this mode of transport is predicted to play a bigger role in future.

ACSA airports are generally in good condition and service.

RAILWAYS

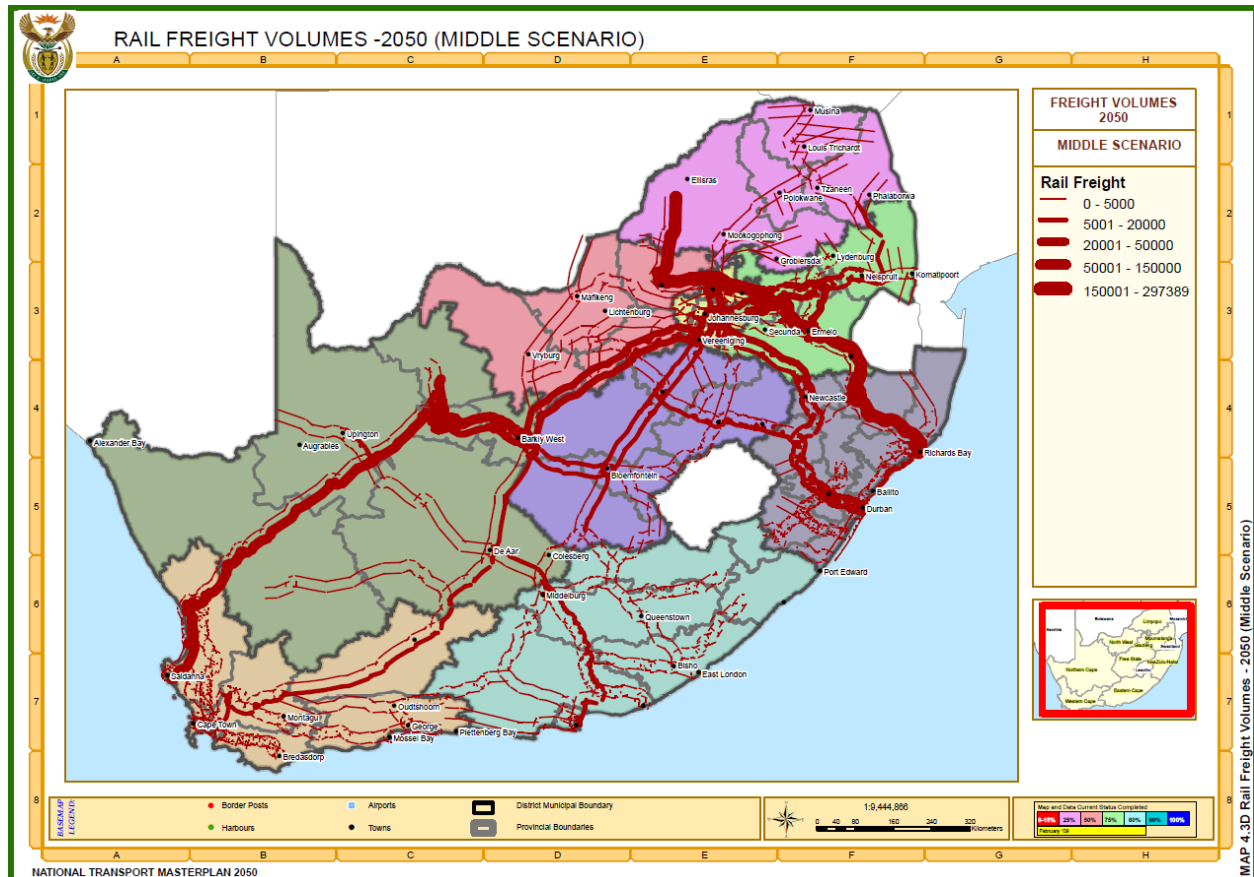
The rail network in the Northern Cape is one of the province's main assets and covers over 2 800 kilometers. Half of this distance is electricity-driven. The Sishen-Saldanha (Orex) line and the Hotazel-Sishen-Port Elizabeth manganese line serve these two major mines in the Northern Cape.

Because of the Northern Cape's locality minerals produced are far from export points and the same goes for agricultural produce which is far from markets. It is therefore crucial to develop a proper freight strategy (rail and road) that can ensure further economic development (see Map Rail Freight Volumes –

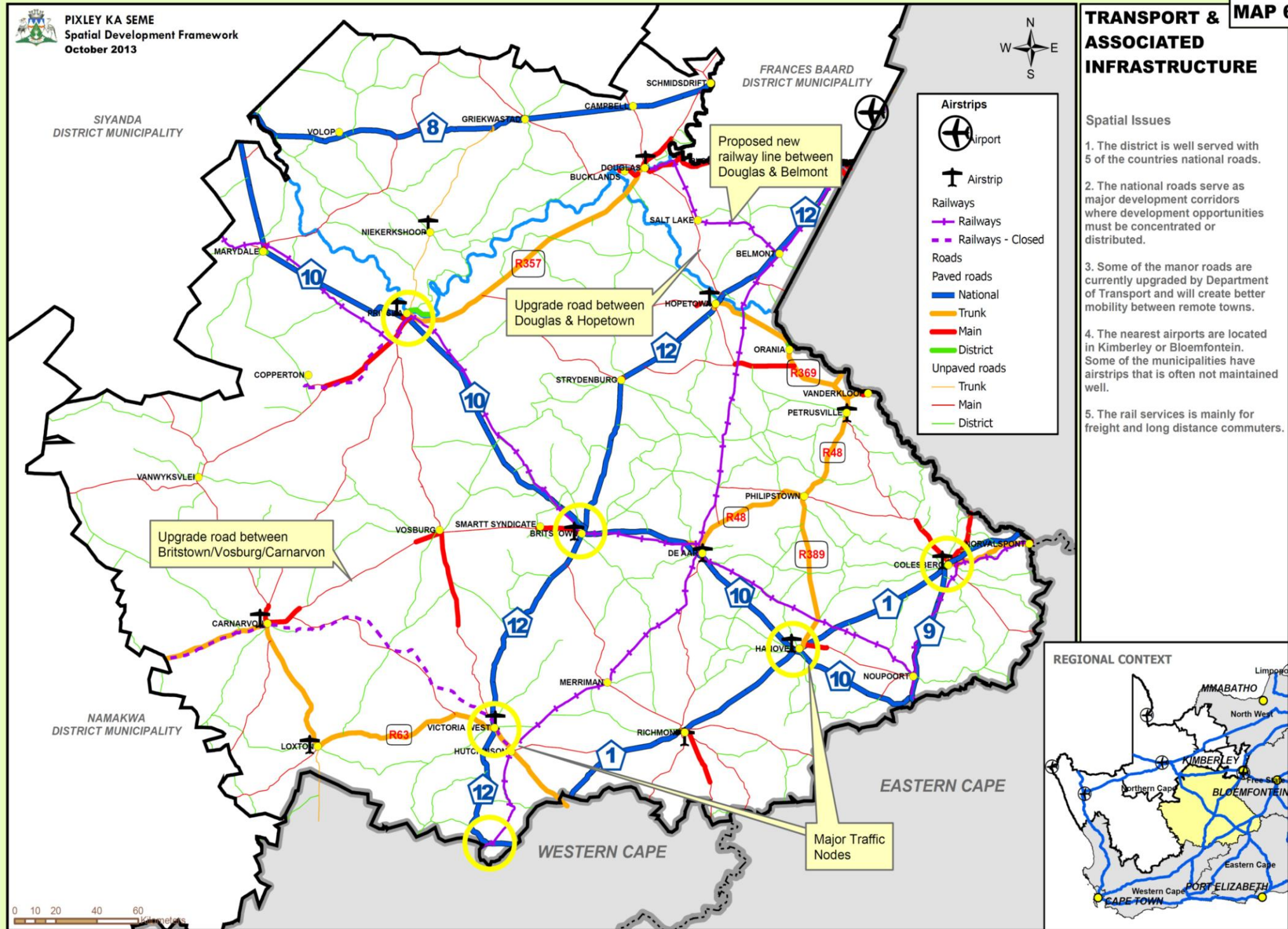
2050 (Middle Scenario). De Aar holds the potential to be targeted for a freight intermodal terminal to be developed there.

Heavy haul lines are well maintained and in good condition. The rest of the network is in fair condition whilst some lines however are not maintained. Rail network is generally underutilized and rolling stock is old. Rail transport is monopolized and the transport system is inefficient. Thus the unsatisfied demand for rail transport is taken up by road transport which is less efficient.

Map IX: Rail freight volumes



Source:



- Spatial Issues**
1. The district is well served with 5 of the countries national roads.
 2. The national roads serve as major development corridors where development opportunities must be concentrated or distributed.
 3. Some of the manor roads are currently upgraded by Department of Transport and will create better mobility between remote towns.
 4. The nearest airports are located in Kimberley or Bloemfontein. Some of the municipalities have airstrips that is often not maintained well.
 5. The rail services is mainly for freight and long distance commuters.

5.3 Water/ Infrastructure

Department of Water Affairs runs numerous programs to assist municipalities and they are as follows:

5.3.1 Regional Bulk Infrastructure Grant (RBIG)

The overall bulk program is intended as an oversight function to ensure the development, operation and maintenance of the regional water bulk infrastructure with the following objectives:

- Identify all regional bulk project requirements via the planning processes;
- Assist with implementation of infrastructure projects as well as funding of projects;
- Ensure proper operation and maintenance of existing regional bulk infrastructure;
- Facilitate capacity building as well as institutional arrangements to ensure the implementation and effective operations/ maintenance of regional bulk infrastructure.

The RBIG priority list includes the following 33 projects where the first 15 has already been funded:

Project Name	NCape priorities
Extension to Vaal Gamagara Scheme	1
Bulk water supply to Joe Morolong and extension of Heuningvlei Scheme	2
Bulk Water Supply to Umsobomvu: Colesberg Phase (MIG147, 157)	3
Colesberg Wastewater treatment works	3
Upgrading of bulk water abstraction point:Mazizakhe	3
Bulk Water Supply to Umsobomvu: Noupoot Phase (MIG147)	3
Refurbishment of Namakwa Pipeline	4
Kathu WWTW Phase 1A	5
Kuruman Bulk Water Storage	6
Bulk water supply to Strydenberg	7
Steynville Bulk Water Supply & Distribution	7
Bulk water supply to Port Nolloth	8
Bulk water supply to PKS : Borehole development programme in De Aar	9
Windsorton upgrade of WTW and Bulk pipeline to Holpan bulk water supply	10
Additional Water Sources for Brandvlei	11
Additional Groundwater for Van Wyksvlei	12
Bulk water supply to Niekerkshoop	13
Bulk water supply to Marydale	14
New WWTW for Van Der Kloof	15
Borehole development for Phillipstown to accommodate the 350 new houses planned in Phillipstown	16
94 Warrenton: EXT Water Purification Plant	17
951:Homevale Sewerage works (Upgrading and extension of works)	18
Kalahari East extension of water pipeline to McCarthys rust and Botswana villages	19
New of WWTW in Kakamas.	20
977:Beaconsfield Upgrading Wastewater treatment works to 18ML WWTW	21
Development of additional boreholes for Carnarvon	22

Magareng WWTW	23
Jan Kempdorp Water Treatment Plant	24
Kuruman Bulk Water Phase1 -3	25
Hotazel WWTW	26
Upgrading of WTW in Douglas	27
Bulk Water Supply to Victoria West	28
Uppington Main Sewer Pipeline (15 phases)	29
Upgrading of Kameelmond WWTW	30
Abraham September WTW	31
Loeriesfontein new borehole investigation (Phase 1)	32
Upgrading of Boichoko Bulk Water Supply	33

Source: DWA

5.3.2 Accelerated Community Infrastructure Program (ACIP)

This program is a Special Program within the Department of Water Affairs to assist Municipalities to accelerate service delivery. The program is also called a “Rapid Intervention Program” where three key areas are being addressed, namely:

- a) Community Infrastructure;
- b) Water Conservation and Demand Management;
- c) Wastewater Infrastructure Refurbishment Program.

5.3.3 War on Leaks Program

The program reduces unaccounted for water through leaking pipes and taps, creates awareness to the users about water use efficiency, provides job opportunities and equips the youth with skills to be used in the job market. Three municipalities within Pixley Ka Seme District were prioritised for the ‘War on Leaks’ program and they are Kareeberg, Thembelihle and Siyathemba.

Implementation of the ‘War on Leaks’ program entails the following:

- ✓ Encourages households to fix leaks;
- ✓ Households to report leaks to municipality;
- ✓ Municipalities to have call centres where leaks can be reported;
- ✓ Municipalities to install meters and collect revenue;
- ✓ Recruitment and training of plumbers;
- ✓ Communication and awareness raising;
- ✓ Municipalities to monitor consumption.

The following municipalities within the Pixley Ka Seme District received ACIP funds for the following projects:

War on Leaks	
Vandekloof/ Keurtjieskloof Refurbishment of pipe network Phase- 2	Renosterberg
Enthanjeni Replacement of old meters	Emthanjeni
Thembelihle WCWDM	Thembelihle
Blue Drop& Green Drop	
Upgrading/ Refurbishment of Douglas Wastewater Treatment Works	Siyancuma
Wastewater Treatment Works Refurbishment in Vergenoeg, Hopetown and Strydenburg	Thembelihle

Source: DWA

The main custodian of the water resources of the Northern Cape is the private sector and this has to be exercised on an ongoing basis via the relevant mechanisms, including Water User Associations (WUA's), Irrigation Boards (IB's), Agri-Northern Cape and Agricultural Associations. WUA's operate at a local level and is individual water use associations coming together to undertake water-related activities benefiting all. The Smartt Syndicate as well as the Van Wyksvlei IB falls within the Pixley Ka Seme District while there are also spin-offs for Renosterberg Municipality regarding job creation from the Orange-Riet WUA.

The Table below gives a comparative indication of the status of water provisioning in the district as captured during the 2001 census.

Table26: Source of Water per Local Municipality

	Regional/local water scheme (operated by municipality or other water services provider)	Borehole	Spring	Rain water tank	Dam/po ol/stagn ant water	River/s tream	Water vendor	Water tanker	Other	Grand Total
Ubuntu	3477	1215	36	24	210	6	3	117	30	5118
Umsobomvu	6546	831	12	12	147	39	33	153	57	7830

Emthanjeni	9183	1068	15	21	33	3	33	51	36	10443
Kareeberg	2298	774	3	18	24	-	9	81	12	3219
Renosterberg	2394	450	6	3	69	48	-	15	9	2994
Thembelihle	3117	831	3	6	21	114	3	42	3	4140
Siyathemba	4539	762	-	3	66	336	6	75	30	5817
Siyancuma	6348	1677	72	18	135	780	48	408	93	9579
Grand Total	37902	7608	147	105	705	1326	135	942	270	49140

Source: Statistics South Africa 2011

Significant progress has been made regarding the provision of water, but backlogs still exist. 95% of the households in the district are provided with free basic water (FBW) which is above the provincial average of 87, 7%. Only 3% of households had NO access to piped water 46% had piped water inside dwelling by 2011. Piped Water inside Dwelling is about 47.00%. The table below indicates the provisioning of FBW for all municipalities in the district:

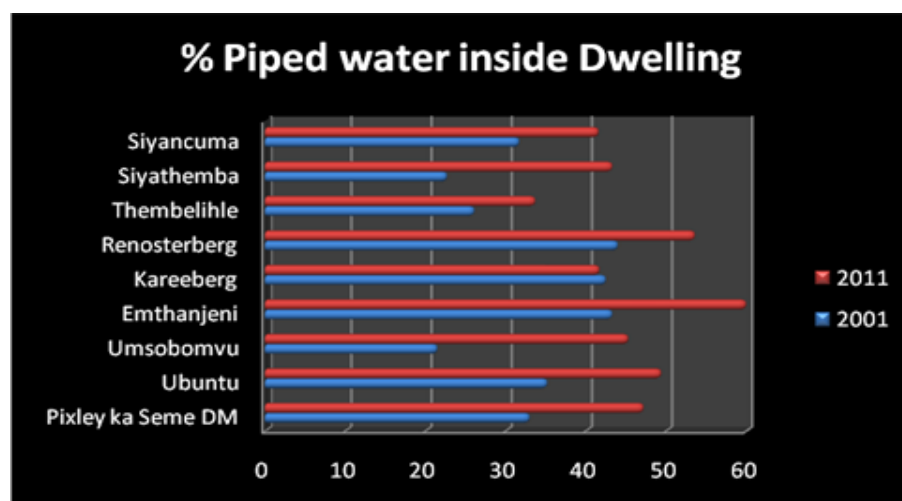
The percentage of families with access to piped water in South Africa are predicted to be around 82% while the table below shows that the Pixley Ka Seme District Municipality is better off with a total of 95,3% having access to piped water. The percentage for the Northern Cape province is given at 93,5% which is below that of Pixley Ka Seme District.

Table 27: Access to piped water.

WATER INFRASTRUCTURE - PIXLEY KA SEME	
% Households with access to running water	
	Community Survey 2007
Piped water inside dwelling	51,4%
Piped water inside yard	39,2%
Piped water from outside the yard	4,7%
TOTAL Piped water	95,3%

Source: NCPSDF-2012

Figure 23: Percentage % Piped Water Inside Dwelling



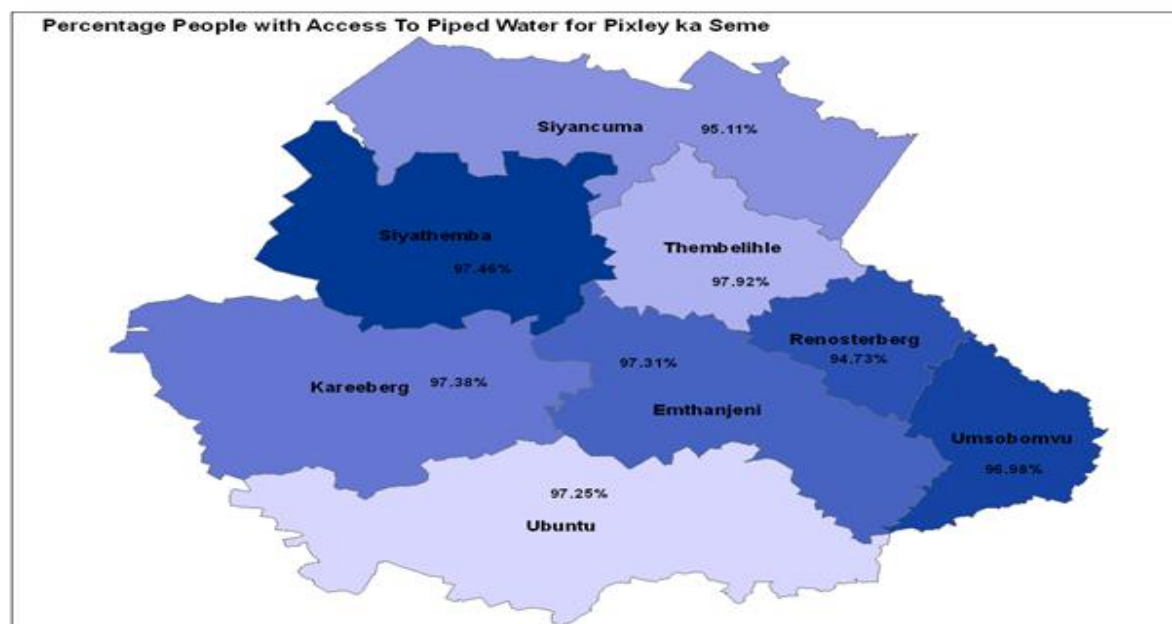
Source: Statistics South Africa 2011 Census

Table 28: Access to water by households

	Piped (tap) water inside dwelling/institution	Piped (tap) water inside yard	Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Piped (tap) water on community stand: distance between 200m and 500m from dwelling/institution	Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling/institution	Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	No access to piped (tap) water	Grand Total
Ubuntu	2526	2217	282	36	9	3	48	5121
Umsobomvu	3531	3702	381	108	6	6	93	7827
Emthanjeni	6249	3741	243	108	21	6	78	10446
Kareeberg	1338	1521	225	93	9	3	33	3222
Renosterberg	1599	1233	81	51	6	6	21	2997
Thembelihle	1389	1815	471	291	63	99	15	4143
Siyathemba	2508	2958	264	21	3	3	60	5817
Siyancuma	3957	3354	1227	483	213	18	327	9579
Grand Total	23097	20541	3174	1191	330	144	675	49152

Source: Statistics South Africa 2011

Figure 24: Percentage people with access to piped water



Source: Statistics South Africa 2011

Even though many urban residents in the region have access to water and improved sanitation system, some local municipalities are still having water and sanitation backlogs. Siyancuma local municipality has the highest backlog. The table below gives a reflection of the current situation in the region as at March 2011

Table 29: Backlogs March 2011

Municipality	Water	
	Formal	Informal
Emthanjeni	2	0
Ubuntu	0	0
Umsobomvu	2	0
Renosterberg	3	0
Kareeberg	0	0
Siyathemba	31	0
Siyancuma	66	667
Thembelihle	0	0
Total	104	667

Water supply issues:

- ❖ Water is becoming a more scarce entity;
- ❖ Water supply in bulk is expensive;
- ❖ Bulk water supply within Pixley is not sufficient;
- ❖ Additional sources to be identified. Cannot rely on boreholes;
- ❖ Upgrade of purification works on municipal level.

5.4 Waste Water Treatment (Sanitation)

According to the NCPSTF – 2012 for the district of Pixley Ka Seme 52.2% of the population has access to appropriate sanitation.

Sewerage and sanitation are basic needs of communities which can pose serious health and hygiene risks for communities and the environment at large if not properly managed and monitored. According to the White Paper on Basic Household Sanitation, 2001, basic sanitation is defined as: “The minimum acceptable basic level of sanitation is:

- Appropriate health and hygiene awareness and behaviour
- A system for disposing of human excreta, household waste water and refuse, which is acceptable and affordable to the users, safe, hygienic and easily accessible and which does not have an unacceptable impact on the environment and
- A toilet facility for each household”

The IDP for Pixley Ka Seme 2011-2016 states that Siyancuma and Siyathemba municipalities have the biggest backlogs regarding sanitation. According to the NCPSTF-2012 the households within Pixley Ka Seme District with access to flush toilets make out the biggest percentage while the bucket system is in second place and pits with ventilation third. Approximately 7% of all households in the Northern Cape have no sewerage removal facilities and Pixley Ka Seme has the highest number of households with the bucket system in the Northern Cape. In 2007/ 2008 the Department of Housing and Local Government allocated an amount of R1 million for bucket eradication in Pixley Ka Seme.

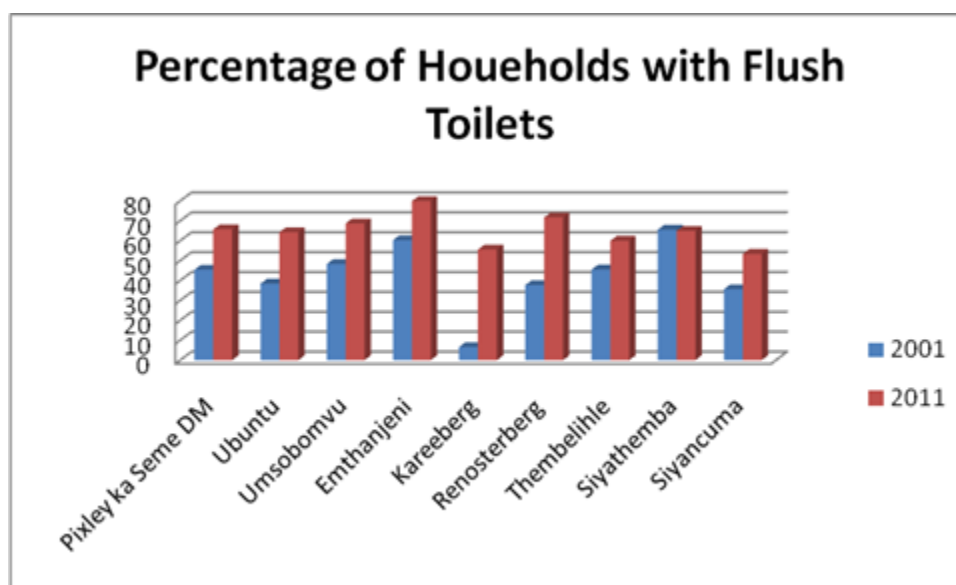
Table 30 below provides an indication of the types as well as those without sanitation in the district:

Table 30: Sanitation per Local Municipality

	Flush toilet (connected to sewerage system)	Flush toilet (with septic tank)	Chemical toilet	Pit toilet with ventilation (VIP)	Pit toilet without ventilation	Bucket toilet
Ubuntu	3300	513	33	180	111	402
Umsobomvu	5388	414	222	852	75	117
Emthanjeni	8319	576	24	336	141	627
Kareeberg	1794	414	6	453	141	96
Renosterberg	2145	342	3	189	51	57
Thembelihle	2484	225	18	456	483	9
Siyathemba	3786	369	6	681	297	213
Siyancuma	5115	651	24	777	618	1152
Total	32331	3504	336	3924	1917	2673

Source: Statistics South Africa 2011

Figure 25: Households with access to flush toilets



Source: Statistics South Africa 2011

The table and the Map above shows that, Pixley Ka Seme has Flush Toilet Connected to Sewerage at 65.70%households, Emthanjeni being the highest with 85.06% and Thembelihle being the east with 64.41%. However it must be mentioned that a project is currently in progress through funds from the Pixley Ka Seme District Municipality to replace buckets with the UDS system. The final 68 toilets have been finalised during this current financial year in Campbell. Full water borne sanitation is currently

being constructed in Schmidtsdrift and the sanitation system will be completed with the completion of the house structures.

Table 31: Sanitation Backlogs 2011

Municipality	Sanitation	
	Formal	Informal
Emthanjeni	67	0
Ubuntu	1	0
Umsobomvu	2	205
Renosterberg	32	330
Kareeberg	0	126
Siyathemba	341	129
Siyancuma	2	872
Thembelihle	0	0
Total	445	1662

Source: Statistics South Africa 2011

Sanitation issues:

- ❖ Purification works are too small;
- ❖ Sewage pumps to be upgraded;
- ❖ Oxidation ponds are too small and needed to be enlarged to cater for current loads.

5.5 Solid Waste Management

According to the NCPSDF - 2012 almost 68% of solid waste is removed within the Pixley Ka Seme District in relation to the province's percentage of 63%. According to the IDP for Pixley Ka Seme 2011-2016 solid waste is still dumped in own (unlicensed) dumping sites at Ubuntu, Kareeberg, Renosterberg (Philipstown) and Siyancuma municipalities. This poses risks to health as well as the physical environment. Licensed sites are being operated in Umsobomvu (Colesberg/ Noupoot/ Norvalspont), Renosterberg (Petrusville), Thembelihle (Hopetown).

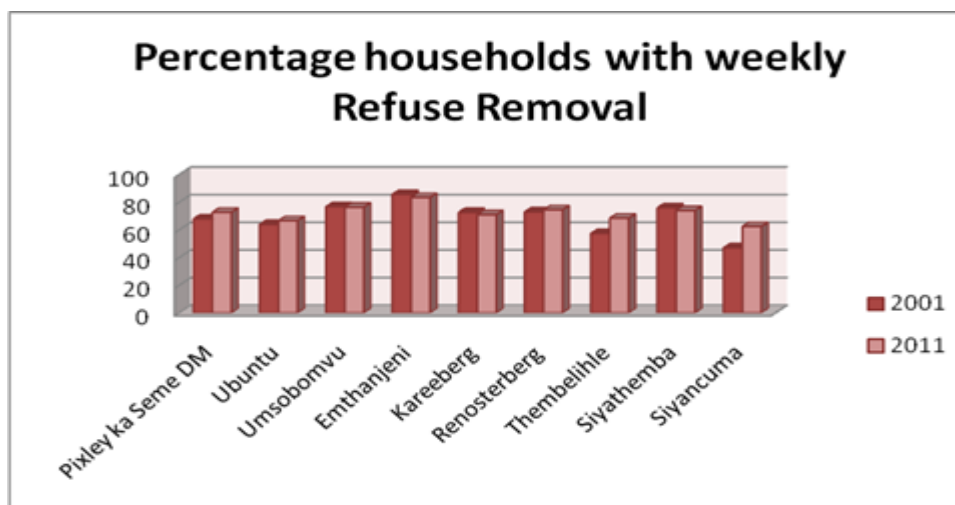
Weekly Refuse Removal in PKSD is about 72.60%. The number of households that are not provided with a refuse removal service in each municipality is indicated in the table below.

Table 32: Refuse removal according to Census 2011

	Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other	Grand Total
Ubuntu	3417	39	108	1191	309	60	5124
Umsobomvu	5982	273	174	1245	132	24	7830
Emthanjeni	8709	216	90	1038	141	249	10443
Kareeberg	2283	15	15	762	111	33	3219
Renosterberg	2226	48	48	582	81	9	2994
Thembelihle	2832	33	189	564	483	39	4140
Siyathemba	4305	60	144	1062	234	15	5820
Siyancuma	5964	111	111	2568	741	84	9579
Grand Total	35718	795	879	9012	2232	513	49149

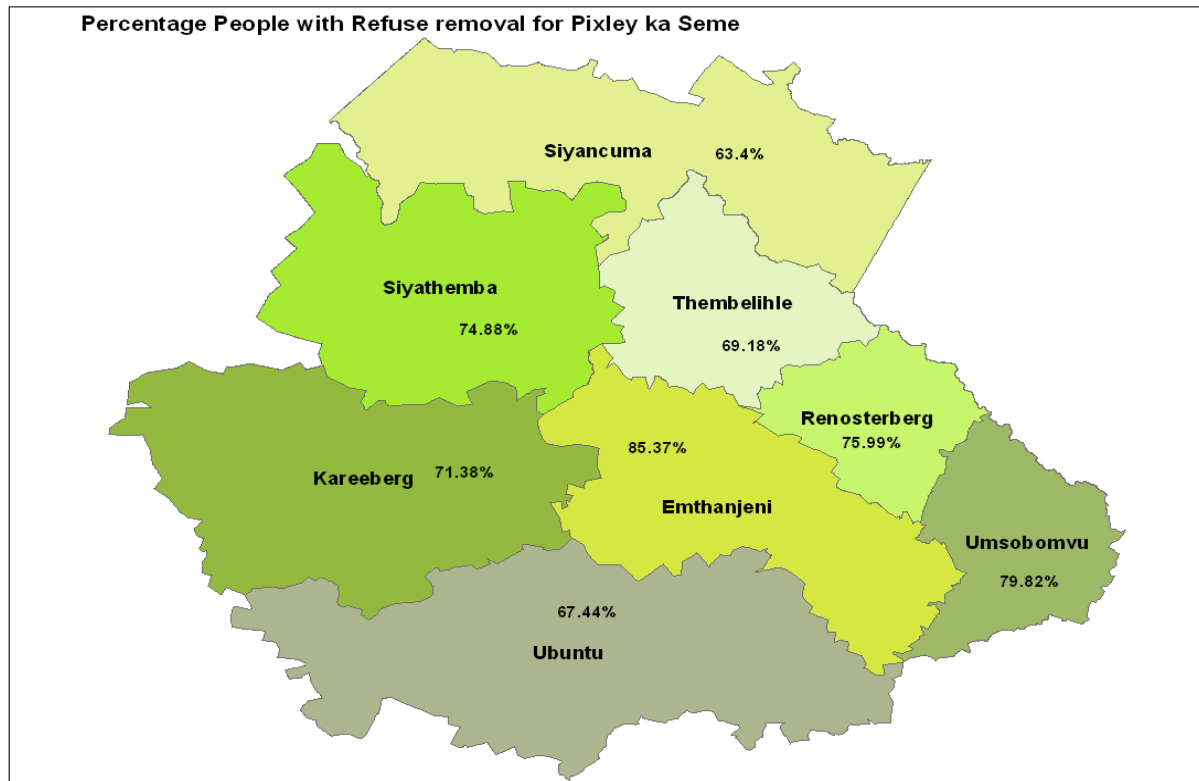
Source: Statistics South Africa 2011

Figure 26:
Percentage
Households with
weekly removal



On refuse removal, the District has a backlog of 11 279 households. The local municipalities with the most backlogs (households that rely on their own refuse dumps or do no rubbish disposals at all) are Renosterberg, Thembelihle and Kareeberg. In Siyancuma, 3 299 out of 9 506 have refuse removal backlogs (the highest backlogs in all the local municipalities). In Ubuntu, 1 416 out of 4 161 have backlogs and in Thembelihle 1 216 out of 3 592 households have refuse removal backlogs.

Figure 27: Percentage people with refuse removal



Source: Statistics South Africa 2011

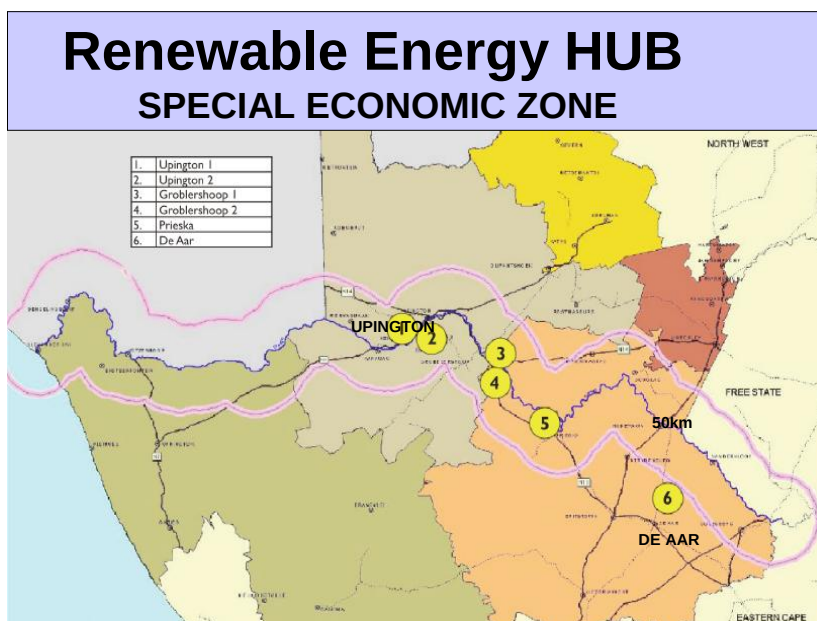
Solid waste issues:

- ❖ Waste removal is costly;
- ❖ Waste disposal sites are illegal;
- ❖ Equipment and vehicles costly and are in demand;
- ❖ Current waste disposal sites need upgrading.

5.6 Energy

5.6.1 Renewable Energy Hub

A Renewable Energy Hub is being proposed for the Northern Cape as per the map below stretching from the west coast right up to the De Aar region. This Hub can accommodate special economic development within the zone as earmarked and entails a 100km wide zone as indicated below.



Source: DME/ CKR

The Pixley ka Seme District Municipality proactively took bold steps towards diversification of the District economy from one that relies on mining and agriculture. The Pixley ka Seme District 2010 Investment and Renewable Energy Conference was an important milestone aimed at 92 'Setting the District on a Growth Path' through innovative local economic development initiatives. The gains made in this emerging sector are a product of committed political and administrative leadership from District and local municipalities. Taking a bird's eye view of the District together Pixley managed to declare themselves as a Renewable Energy Hub seeking to attract foreign direct investments into solar, wind, hydro and Biomass projects. The NCPSDF will have to be amended to accommodate this Renewable Energy Hub.

During December 2011, the Department of Energy (DoE) and the National Treasury named the first 28 preferred bidders, along with solar and wind projects collectively representing 1 416 MW of potential capacity. These developers had until June 2012, to take 19 of their projects to financial close. The Pixley ka Seme District Renewable Energy Hub got a boost in the second window again made it in the nine solar PV bidders identified, with the 75 MW Solar Capital De Aar 3 and the 36.8 MW Linde project

(Hanover) making the list, this adds 111,8 MW The second bidding window for the Renewable Energy Independent Power Producer Programme (REIPPP) allocation increased our solar portfolio to 367.1 MW.

i) Pixley PV Solar preferred bids: 1st Window

- The PV projects named,
- Mulilo Renewable Energy Solar PV De Aar (9.65 MW)
- Greefspan PV power plant (10 MW)
- Herbert PV power plant (19.9 MW),
- Mulilo Renewable Energy solar PV Prieska (19.93 MW),
- De Aar Solar PV (48.25 MW),
- Kalkbult project (72.5 MW),
- Solar Capital De Aar (75 MW).

ii) Pixley PV Solar preferred bids: 2nd Window

- The PV projects named,
- Solar Capital De Aar 3, 75.0 mw
- Linde 36.8 mw
- Bird's eye view of the District At the same time the Department of Energy (DoE) released the updated Request for Proposals (RFP), which re-issues the tender conditions for the third bidding round scheduled for 19 August 2013 The De Aar farm will have over 1,000,000 solar panels. This is only the initial phase of one of the worlds largest solar farms that will total 4,000,000 panels upon completion. This 75MW farm alone will generate enough electricity to power approximately 14,000 South African homes every year.

Figure 28: Solar bid projects

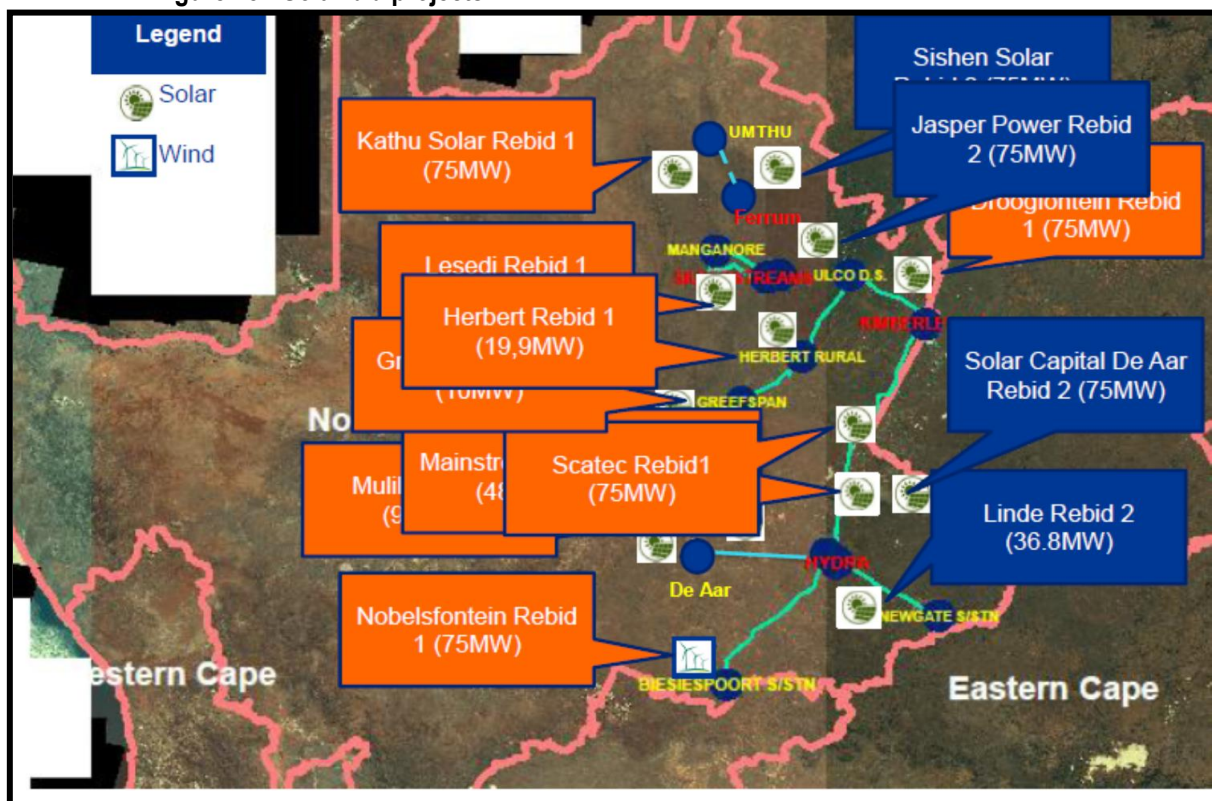
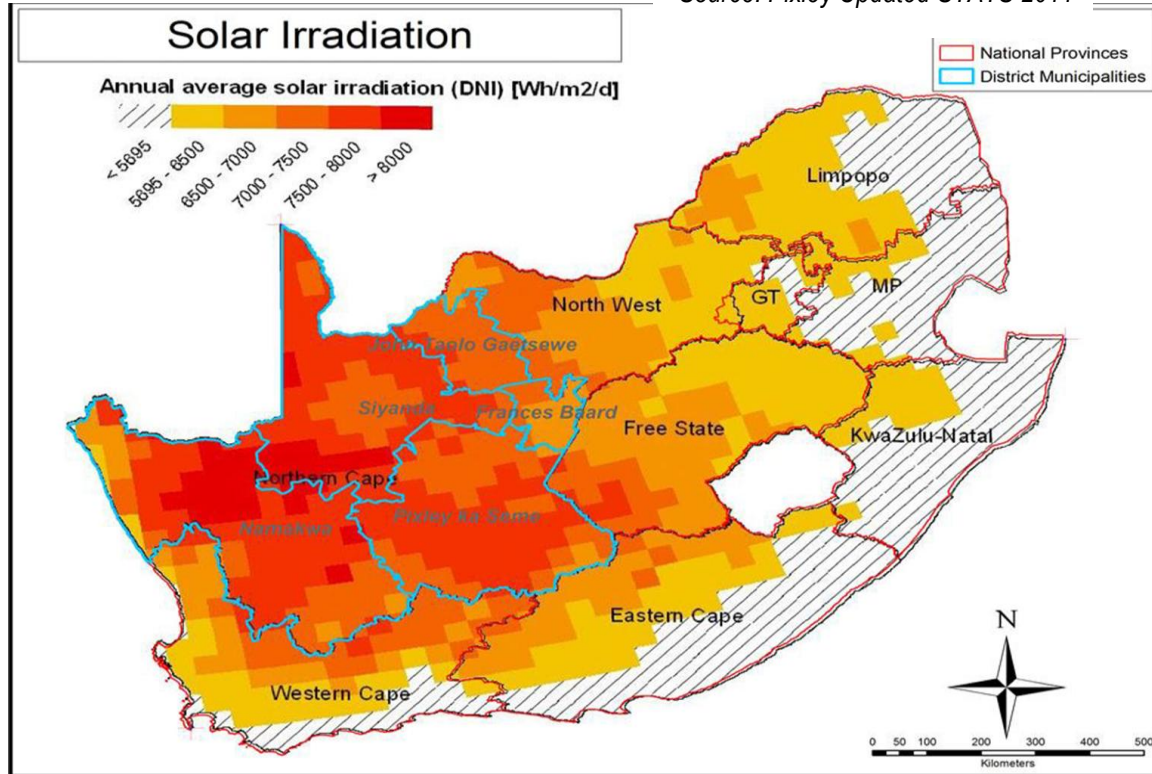


Figure 29: Solar irradiation

Source: Pixley Updated STATS 2011



Source: Pixley Updated STATS 2011

Figure 30: SA Renewable Energy Resource Database

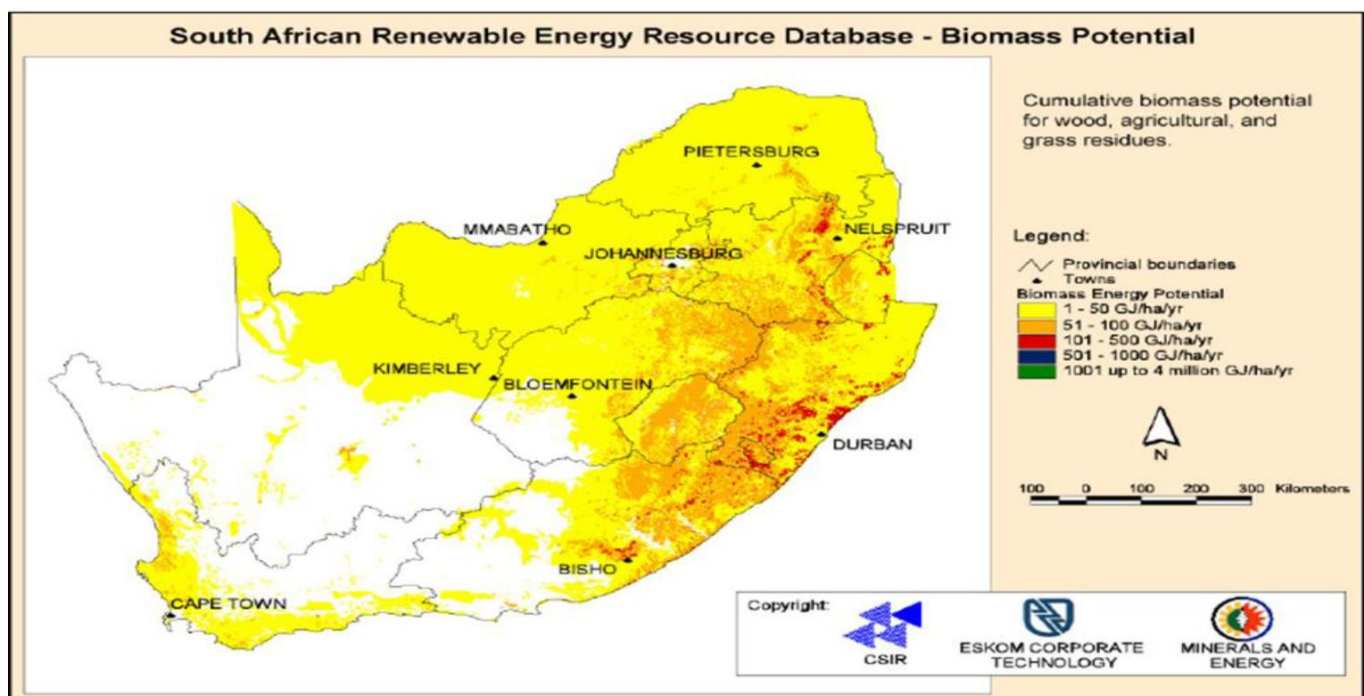
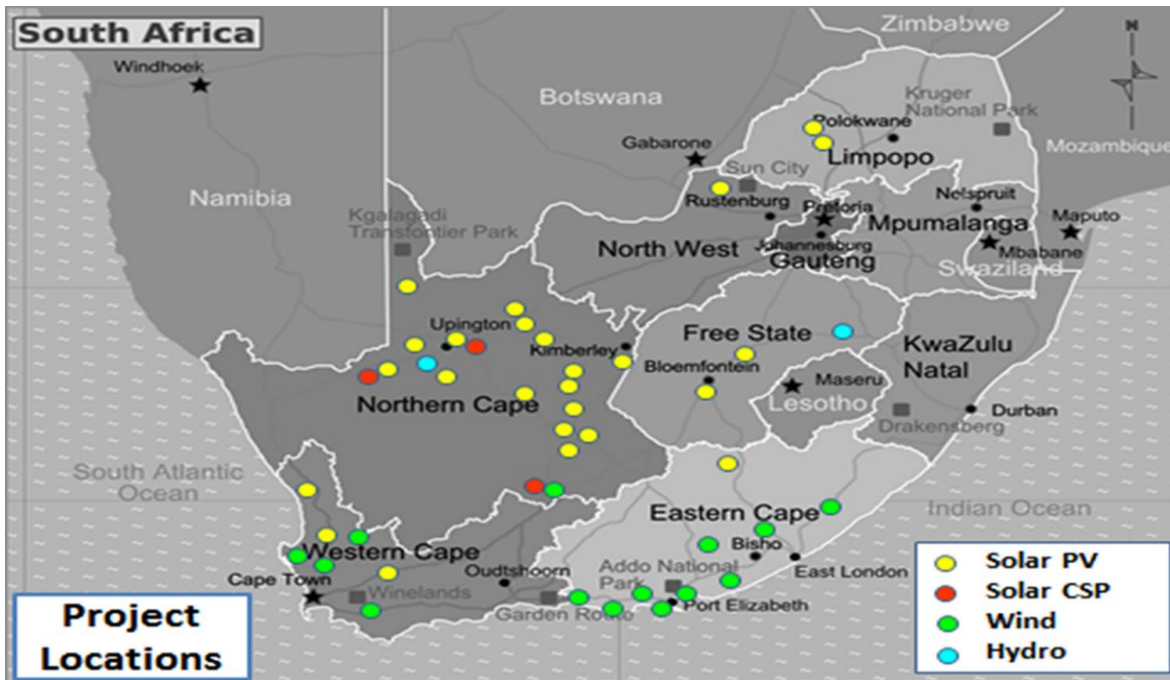


Figure 31: Renewable project locations

Source: Pixley Updated STATS 2011



Source: Pixley Updated STATS 2011

i) Scatec Solar

Activities for the construction of the 75 MW Kalkbult Solar PV Plant in the Northern Cape Province in South Africa are progressing according to the ambitious plans established by the project which was authorized in the first phase of the Renewable Energy Independent Power Producer Procurement Programme. Civil works, cabling, mounting of substructures and modules, precise logistics and electrical works could not be possible without the full support of very professional partners and their employees, most of which have been recruited from the local community.

The project has high focus on health and safety as well as on the strict environmental requirements set forth by the South African government. The Commercial Operation Date is planned for January 1st 2014.

5.6.2 Hydraulic Fracturing (FRACKING)

Gas exploration in the Karoo caused both elation as well as concern with the prospect of job creation and reduced dependency on coal-generated electricity on the one hand and concern on the other hand regarding pollution of already scarce water supplies and pristine Karoo lifestyle. Hydraulic fracturing, or

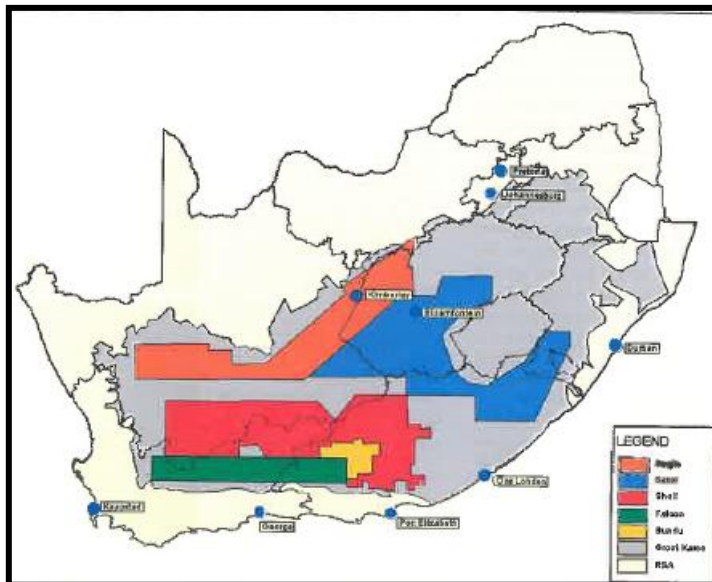
fracking, is the controversial technology used for the extraction of unconventional gas, such as shale gas. Shale gas is gas generated from organic-rich shale with methane as the target gas. Methane is a dry gas and an energy source for the production of fuels or power source for electricity generation. Hydraulic fracturing, also known as “fracking,” is the process of injecting a mixture of water, chemicals, and sand underground to create fractures, through which natural gas can flow for collection.

Organic-rich shales were mud deposits in marine or lacustrine basins containing algae, spores and pollen and became buried over millions of years generating hydrocarbons. The following is found on various depths:

- ✚ Oil production: 2 – 4 kilometres;
- ✚ Wet gas: 4 – 5 kilometres;
- ✚ Dry gas: 5 – 6 kilometres.

The minimum proposed depth for hydraulic fracturing is 1500m. Researchers only have a relative idea of the geology of the different areas in the Karoo and the only way to get a clearer idea of what can be found underneath the surface is by exploration. Exploration is done by drilling vertically and installing casing to a depth where all potable water cannot be affected. Cement is pumped into the casing until the space between the wellbore and the outer casing is filled. Intermediate casing follows as drilling continues to stabilise the deep borehole and isolate and separate brines and hydrocarbons which might be trapped in the sub-surface. From the so-called kick-off point drilling continues horizontally through the production zone and can stretch as far as 3 kilometres. Production casing and cement prevent leaking. The production casing is then punctured at selected points where fracturing fluid is pumped through at increased pressures to release the shale gas. The same method is being used for tight sand, coal beds and deep shales to be mined.

Figure 32: Exploration areas by different companies



Source: ESKOM

The success will lie in how to prevent environmental damage and also the use of water, especially in a water scarce area like the Karoo where demand for water can range between 189m³ to 18927m³. Other issues of concern include:

- ✚ Migration of gas;
- ✚ Management of produced water;
- ✚ Identification of chemical additives;
- ✚ Spills of chemical additives;
- ✚ Flowback water.

In support of Shell's application for shale gas exploration licences across the Karoo Region, Shell has committed to identify, assess and manage the associated groundwater issues related to the Karoo Gas Exploration Project. This Stage 1 Project was undertaken by a consortium of hydrogeologists led by SRK Consulting South Africa and covers a desk study and workshop to identify and agree on key groundwater attributes and their ranking and weighting in terms of significance to Karoo Aquifers.

Investigative Approach

This **Stage 1 Project** was motivated by:

- The need to obtain a full understanding of the hydrogeology of the exploration precincts and surrounds;
- The reliance of communities in the Karoo on groundwater for domestic, stock watering and irrigation use;
- The ecological sensitivity of the Karoo region;
- The need to minimise environmental impacts of exploration;
- The presence of major and sole source aquifers;
- The need to have a defensible strategy to inform selection of exploration drill sites;
- The intense public interest in shale gas exploration; and
- The need to establish an interactive database with baseline data.

To achieve these objectives, a multi-phased approach is planned, the first of which uses a consortium of local specialists, totalling over 250 years of joint experience and each individually with over 10 years of experience in Karoo groundwater resources management (see Table 1 below) to map the key groundwater attributes in the Karoo area.

This approach was followed so that the output could be technically defensible and sufficiently robust to withstand peer review and public scrutiny. SRK was chosen to lead this consortium because of their track record in managing similar technical teams

Consideration Zones

Some of the criteria do not have fixed boundaries and may have zones of influence extending beyond their mapped positions (e.g. dolerite intrusions) or coordinates (e.g. boreholes). To accommodate such variation the concept of consideration zones was derived. These zones were agreed during the workshop and do not represent

exclusion zones, but rather areas where groundwater is considered to be more significant. Therefore, more detailed assessment of these zones will be required should any operations be conducted in or near them.

The following preliminary conclusions can be drawn at this interim stage in the project:

- Ten key factors contribute to characterising groundwater attributes of Karoo Aquifers, the most important being depth to water level, groundwater quality, presence of dolerite intrusions and aquifer yield. These four factors together make up 60 per cent of the median weighting derived at the workshop;
- Aquifer yield, groundwater quality and recharge generally increase/improve from west to east and from south to north in the Eastern Precinct;
- The weighting of significant attributes and ground-truthing will be used in the next stage of the project to produce further groundwater maps to inform exploration activities;
- Consideration zones of varying widths have been assigned to features such as dykes and boreholes to reflect the potential importance of their zones of influence;
- The shallow (<300 m depth) aquifer is well understood and documented but some ground-truthing will be required, in the form of a series of borehole surveys, to fill in gaps and update the attributes maps;
- The deeper geological/hydrogeological model is less well understood and further work, such as land and airborne geophysics and exploration drilling, would be required to obtain a better understanding of this environment.

Benefits

The key benefits of this Stage 1 Project are:

- Provides a comprehensive, versatile and interactive database;
- Builds on the EMP;
- Adds a meaningful new dimension to the literature available in the public domain on Karoo Aquifers, endorsed by a group of key hydrogeologists;
- Will assist in informing exploration activities;
- Provides evidence of Shell's commitment to an environmentally responsible approach to shale gas exploration;
- Provides guidance at a broad planning scale for the feasibility of groundwater exploitation (brackish/saline groundwater can be used by Shell, i.e. non-competing with local use).

Regulation of the whole process is critical to the success thereof therefore the application of good management practises and monitoring by a regulatory body would ensure good practises and provision have to be made for heavy penalties. A monitoring team should be independent from the government and include water, site and drilling specialists.

5.6.3 Biomass to biofuels

As an energy source, biomass can either be used directly via combustion to produce heat, or indirectly after converting it to various forms of biofuel. Biomass includes plant (mainly wood) or animal matter that can be converted into fibers or other industrial chemicals, including biofuels. Conversion of biomass to biofuel can be achieved by different methods which are broadly classified into: *thermal*, *chemical*, and *biochemical* methods. Rotting garbage, and agricultural and human waste, all release methane gas—also called “landfill gas” or “biogas.” Biomass can be converted to other usable forms of energy like methane gas (biogas) or transportation fuels like ethanol and biodiesel. Co-generation projects are currently being investigated on municipal level.

Hydraulic fracturing & Biomass/ biofuel issues:

- ❖ Fracking (exploration and mining) has to be handled sensitively, because of the possible impacts it can have;
- ❖ Proper regulation is very important to ensure good practise;
- ❖ Support the establishment of co-generation biomass/ biofuel projects on municipal level.

5.6.4 Electricity

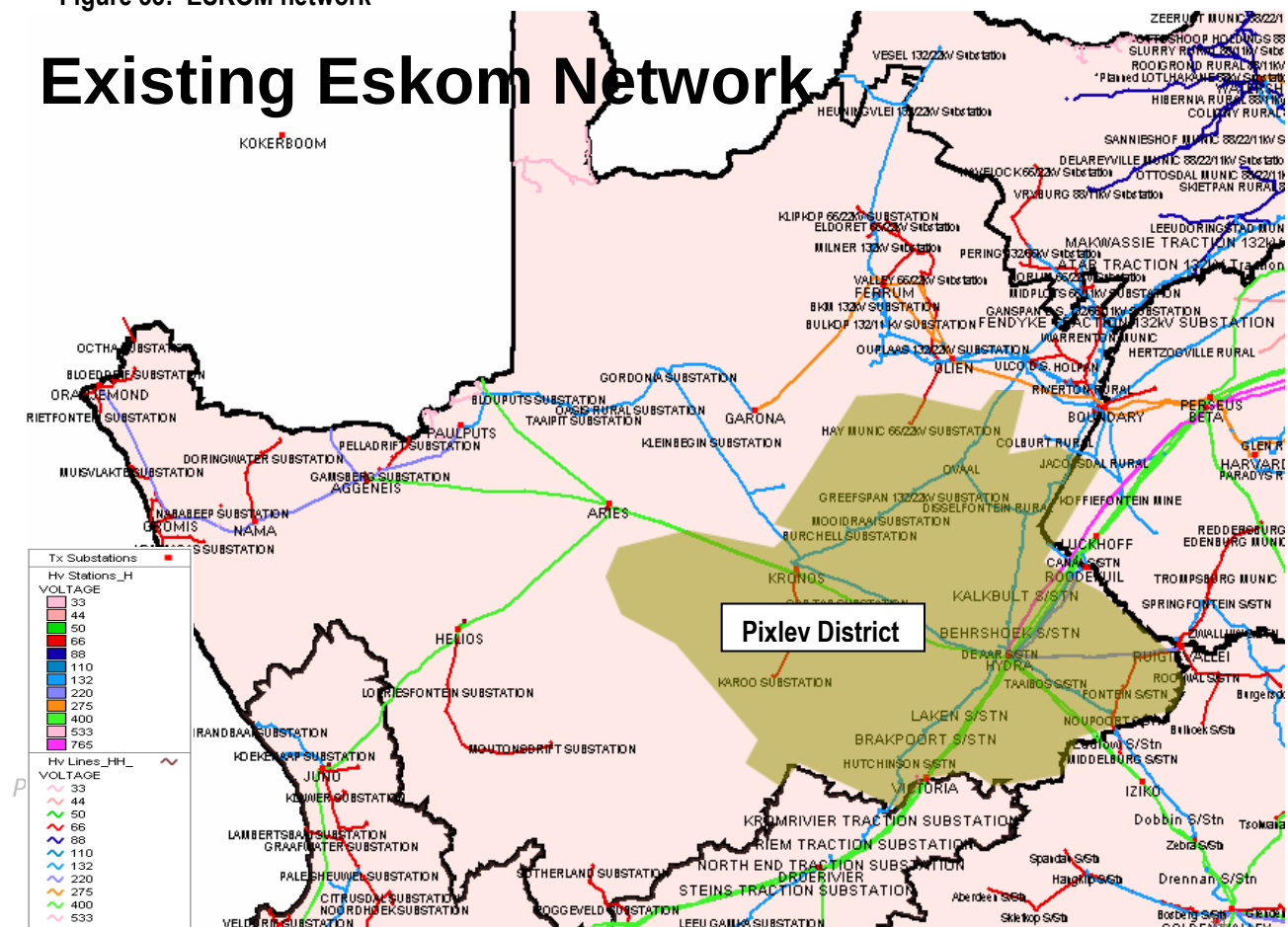
According to the IDP for Pixley Ka Seme District 2011 - 2016 eighty three percent (83%) of households has access to electricity for cooking and lighting. The rest of the households still use paraffin and candles.

Eskom's strategic plans include the following:

- Eskom compiles Transmission Development Plans (TDPs), Master Plans (MPs) as well as Network Development Plans (NDPs) to expand, strengthen and maintain the existing network to cater for future demands.
- TDPs are compiled at Transmission level, while MPs (20 year plans) and NDPs (5 year plans) are compiled at Distribution level.
- In order to ensure a reliable supply for energy, Eskom needs to be aware of current and future electricity demands.
- Eskom is restructuring from 6 to 9 regions at Distribution level to align with provinces.

Figure 33: ESKOM network

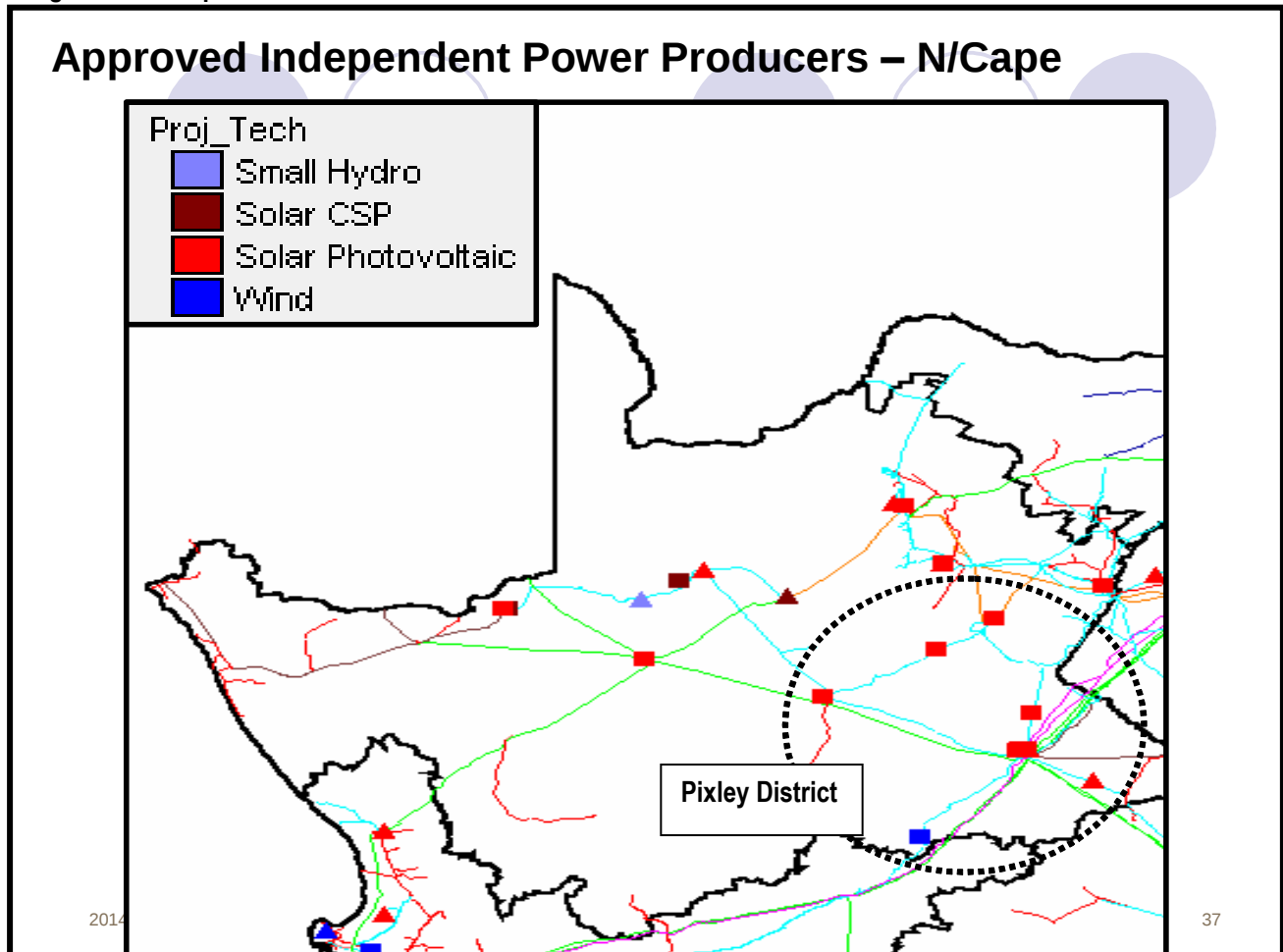
Existing Eskom Network



Source: ESKOM

Eskom is also involved in alternative energy resources as can be seen from the map below where Independent Power Producers are allowed with Eskom buying electricity from them.

Figure 34: Independent Power Producers



Source: ESKOM

The table below gives a comparative indication of the access to the source of energy in the district as captured during the 2011 censuses.

The proportion of households using electricity for lighting has increased from 57% in 1996 to 84% in 2011. South Africa aims to ensure that by 2030 at least 90% of people have access to grid electricity.

Increase in both demand and tariffs may slow down this last effort.

Households using electricity as a source of energy for cooking increased from 47,5% in 1993 to 73,9% in Census 2011.

Table 33: Energy for heating per Local Municipality

	Electricity	Gas	Paraffin	Wood	Coal	Animal dung	Solar
Ubuntu	3180	111	219	1356	81	3	18
Umsobomvu	2709	216	2721	1182	297	12	15
Emthanjeni	6921	258	1026	1131	402	36	42
Kareeberg	1617	141	63	1062	114	3	24
Renosterberg	1998	45	183	531	6	-	9
Thembelihle	1818	120	96	1362	9	-	24
Siyathemba	3057	69	51	2298	18	-	18
Siyancuma	5112	126	57	3480	93	3	21
Total	26412	1086	4416	12402	1020	57	171

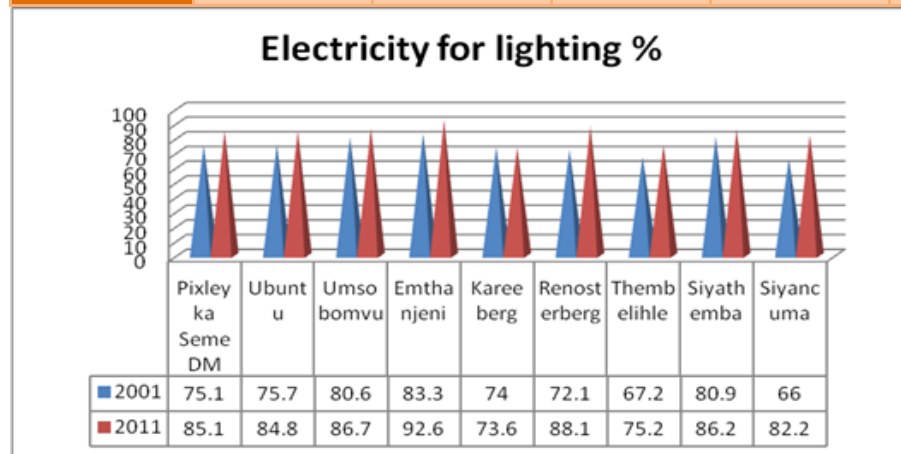
Source: Statistics South Africa 2011

Although relatively expensive, paraffin and gas are used on a limited scale for cooking and heating. Animal dung also features on a limited scale as energy/fuel source for cooking and heating in some rural areas.

Table 34: Energy for lighting per Local Municipality

	Electricity	Gas	Paraffin	Candles (not a valid option)	Solar
Ubuntu	4350	18	33	561	138
Umsobomvu	6801	15	135	855	15
Emthanjeni	9684	18	54	609	63
Kareeberg	2370	9	39	564	231
Renosterberg	2637	6	24	297	24
Thembelihle	3111	9	99	861	45

Siyathemba	5025	9	42	639	102
Siyancuma	7872	6	36	1551	75
Total	41850	90	462	5937	693



Source: Statistics South Africa 2011 Census

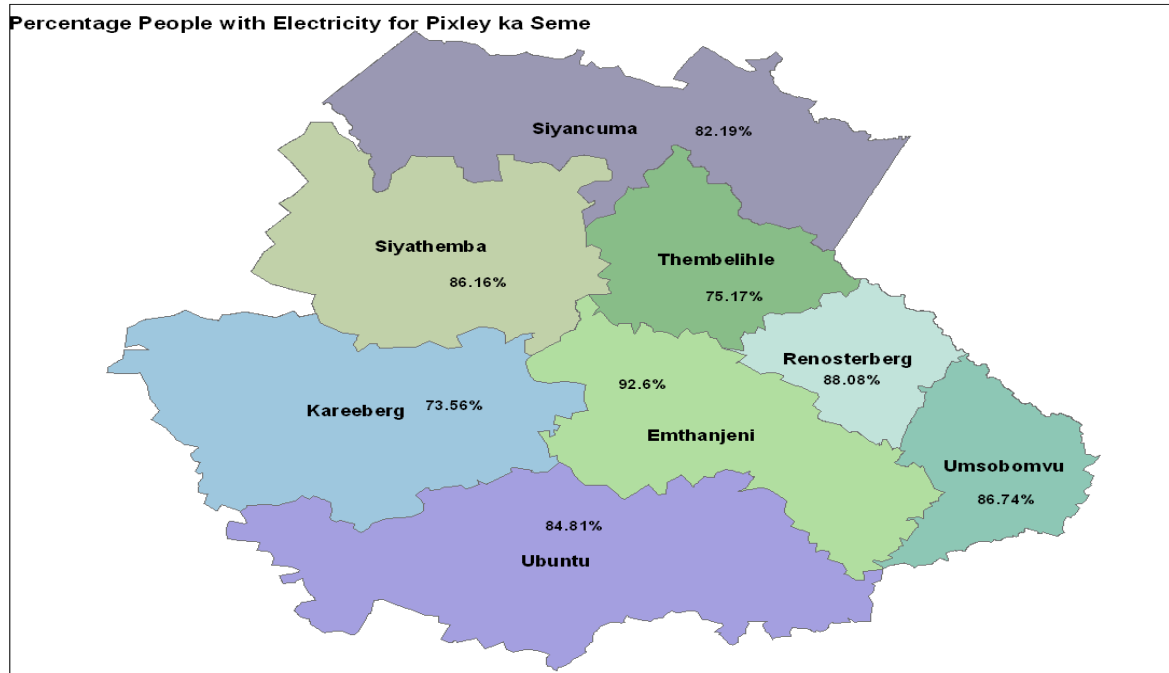
The combination of low rainfall, relatively high population densities and the fact that most of the indigenous vegetation in the area is slow growing, have already resulted in over-utilization of this renewable natural resource in certain places. Of major concern in this respect is wood harvesting and usage in the rural areas.

Table 35: Energy for lighting per Local Municipality

	Electricity	Gas	Paraffin	Wood	Coal	Animal dung	Solar
Ubuntu	3927	228	171	744	24	3	18
Umsobomvu	6174	348	828	393	42	21	12
Emthanjeni	9105	420	240	603	27	18	9
Kareeberg	2103	300	63	696	21	-	24
Renosterberg	2469	102	132	261	6	-	9
Thembelihle	2613	684	375	435	3	-	9
Siyathemba	4788	255	51	699	6	3	15
Siyancuma	7182	471	207	1671	15	-	9
Total	38361	2808	2067	5502	144	45	105

There has been an increase in the use of electricity as an energy source and a decrease in the use of paraffin, gas and candles as a source of energy/lighting. Siyancuma, Emthanjeni and Ubuntu have the highest number of backlogs, representing approximately 59,5% of the backlogs in the district.

Figure 35: Percentage people within Pixley with access to electricity



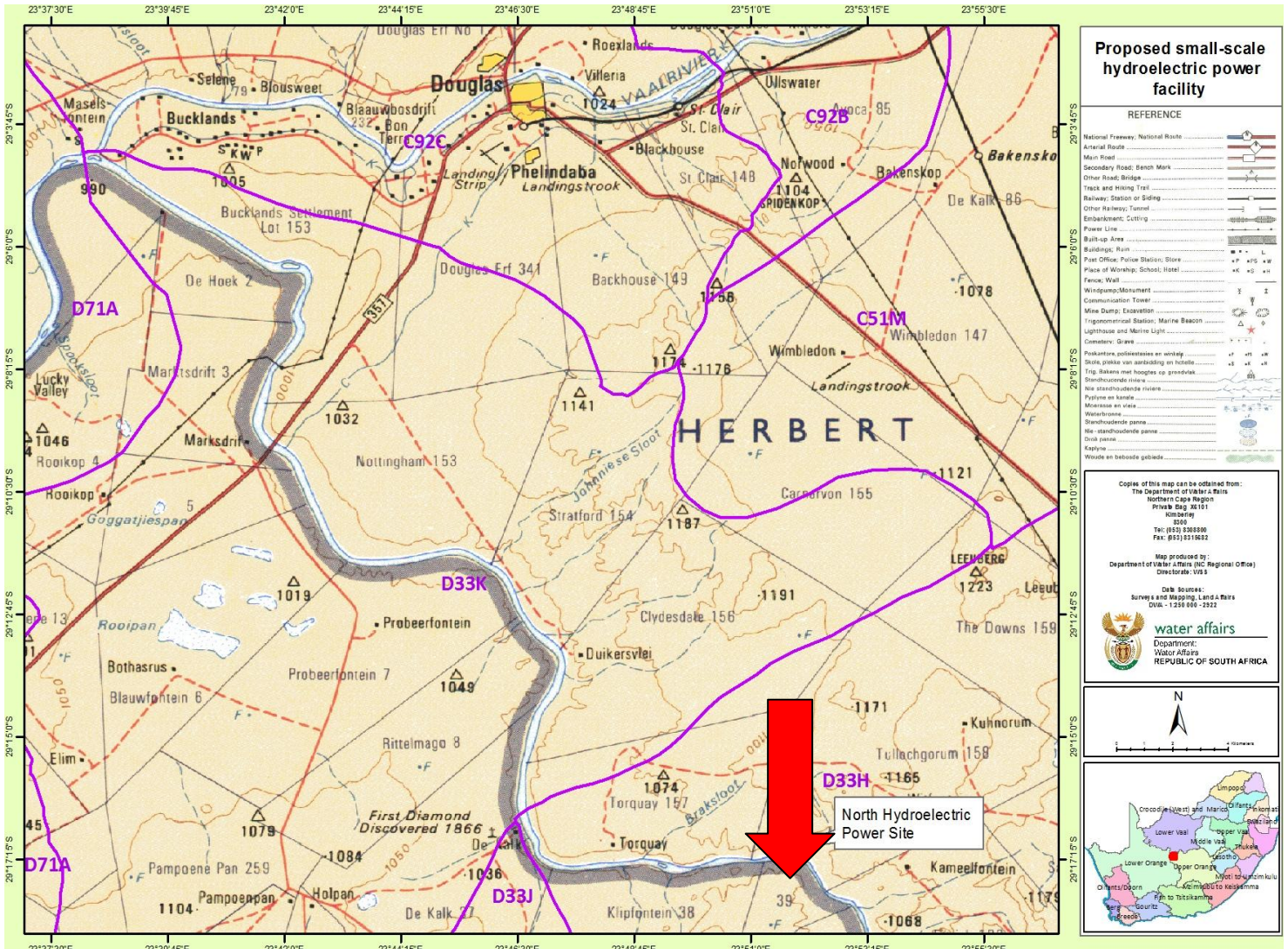
Source: Statistics South Africa 2011 Census

All the recent information indicates that much of the district households 83% households have access to electricity for lighting and cooking purposes. As much as the existing situation is encouraging, it is however very important to note that some households (17%) are still using candles and paraffin as alternative power sources for meeting their power needs.

5.6.5 Hydro-electric power

The North Hydro-electric power site is being proposed in the Northern Cape on the Orange River within the jurisdiction area of the Siyancuma Municipality between the remainder of Farm Tullochgorum No. 158 and Remainder Farm Kameelsdrift No. 258, in the Siyancuma local municipality, Northern Cape.

MapX: North Hydro- electric power site on the Orange River.



Source:DWA

Electricity issues:

- ❖ Developments earmarked for housing cannot access electricity;
- ❖ Eskom provides services to rural areas and previously disadvantaged areas;
- ❖ Implementation of free basic electricity is problematic.

5.7 Telecommunications



The Square Kilometre Array (SKA) Telescope is an international initiative by the International Square Kilometre Array Committee that sought to establish a fourth site that will be situated in the Southern Hemisphere.

The SKA SA project at Carnarvon comprises three (3) separate projects, namely:

- ✚ KAT 7 project;
- ✚ MeerKAT project;
- ✚ SKA project.



All three projects consist of the construction of dishes receiving and accommodating different wave lengths to gather information from outer space.

5.7.1 KAT 7

The Karoo Kilometer Array project entails 7 dishes and is therefore known as KAT 7. This project is the first of the three (3) telescope projects at Carnarvon to be completed with 7 dishes all in operation.

Benefits accrued for KAT 7 infrastructure and site operations (in the period of July 2008 to August 2012)

- Total job opportunities created: 618 (50 female; 335 male, 232 youth, 1 disabled);
- Total cost for job opportunities: R8,9 million;
- Contribution to Affirmative Business Enterprises (ABEs): R7,8 million;
- Total contribution: R16,7 million.

KAT 7 was the engineering prototype for the design of MeerKAT. MeerKAT dish design changed from 12m centre fed dish to Offset Gregorian dish. It consists of 64 dishes and will be incorporated into SKAP1 (250 dish array). This phase of the project includes the design and delivery of the dish & its subsystems and the associated infrastructure.

5.7.2 MeerKAT Radio telescope

The MeerKAT project comprise 64 dishes of which the first dish has been completed and was put in operation on 27 March 2014.

Scope of Work for MeerKAT

- Construction of 35km new internal road network on site (gravel road and farm roads)
- Establishment of two construction camps for contractors.
- All-weather landing strip on site. Electrical and fibre ducting reticulation from Site Complex to MeerKAT dishes
- Construction of the Karoo Array Processor building (RFI-shielded bunker)
- Power Facility including Rotary UPS, Switchgear and Transformers
- 64 Antenna Foundations
- KAT 7 and MeerKAT Local Area Network
- Building Management System
- Upgrade to Karoo substation and switchover of power line from 22kV to 33kV
- New workshops and offices at Klerefontein
- Trunked communication network

The SKA SA is committed to transformation through the optimisation of socio-economic benefits in terms of the Broad Based Black Economic Empowerment Act. The general principles, upon which the implementation of the KAT 7 and MeerKAT phases of construction are based, include the following:

- Contribute to local and regional economic development by optimising the use of locally available skills, materials and resources;
- Promote transformation, technology and skills transfer through short term employment creation, preferential procurement, enterprise development, training and skills development objectives; and
- Ensure the project is implemented in a socially responsible and sustainable manner.
- The SKA SA is committed to ensuring that preferential employment, procurement processes, and the promotion of enterprise and skills development meets its targets in a manner that is cost-effective and achieves project oriented socio-economic objectives.

This commitment is achieved through the implementation of Contract Participation Goals (CPGs).

Contract Participation Goals:

All contractors as part of Labour maximisation, on a preferential basis recruit staff and labour to meet the employment targets. Preference for recruitment shall be given to black people from the local area.

The following targets have been set for the following infrastructure contracts:

- SMME/Black Enterprise utilization: 8% of total contract value of which 90% is contributed to Black Enterprises.

- Procurement targets:
 - Black-owned enterprise: 15%
 - Black-owned Local enterprise: 5%
 - Black women-owned enterprises: 2.5%
 - Black women-owned local enterprises: 2.5%

Roads/civils contract:

- Labour maximization: 7% of total contract value (i.e. R7,98 million)

Buildings contract:

- Labour maximization: 20% of total contract value (i.e. R21 million)

Measurement of Performance

Contractors' participation performance is measured on a monthly basis in order to monitor the extent to which they meet the contract participation goals (CPG) specified in each tender. The SKA SA has developed a local skills register with 500 people registered on the list and a local supplier list with 33 local companies registered. This database and the Municipal indigent list are utilized by contractors to source local labour.

Training, mentorship and guidance:

Each contractor provides a structured training programme designed to improve the entrepreneurial and basic business management skills of identified black enterprises and hired local labour that show initiative as well as specific task skills (engineering skills) commensurate with the applicable levels of subcontract that will enable these companies to achieve the successful execution and completion of their subcontracts.

Entrepreneurial skills training include basic business management, contractual rights, statutory obligations, financial control and programming.

Engineering skills training includes the use of hand tools, operating small plant, basic concrete skills, bricklaying etc.

Generic skills training include basic hygiene, HIV/AIDS awareness, and management of the environment, tourism awareness and alcohol abuse.

Local labour challenges:

Contractors are responsible for the appointment of local labour. At present, there is a discrepancy between the civil sector labour rates (as published by the South African Federation of Civil Engineering Contractors) which is the same throughout the country and much higher (almost double) than that of

the building sector. This has been questioned by locals employed on the building contract who refused to continue working, thus resulting in them being dismissed. This is not an issue that can be resolved for MeerKAT without cost implications on the buildings contract, however for the SKA; it is proposed that the project follows the same approach as Eskom by signing a local labour agreement where the rates are standardized for all construction work packages in the project.

MeerKAT benefits from infrastructure & site operations (March 2012 – August 2012):

- Total job opportunities created: 164 (148 Male, 16 Female);
- Total cost for job opportunities: R3,1 million;
- Total contribution to Affirmable Business Enterprises (emerging contractors): R909,000-00;
- Procurement from local suppliers: R2,3 million;
- SKA SA long-term contracts: 27 local people appointed by SKA SA. These staff includes site technicians and assistants, site support staff, administrative staff, security and housekeeping.

An additional 100 jobs are expected to be created from the MeerKAT infrastructure contracts.

Other Local Benefits:

- Upgraded provincial road to site which is utilized by farmers in the area;
- Farmers will have access to grid power infrastructure once MeerKAT is operational;
- The Northern Cape Department of Agriculture's buildings have been upgraded at Klerefontein and the SKA SA has provided the Agricultural Research Centre (ARC) with access to grid power and will also provide the ARC with data and voice connectivity through the SKA Local Area Network.

Corporate social investment:

The private sector and other government agencies have made corporate social investment contributions during the construction phase of KAT 7 and MeerKAT. This includes the following contributions:

Carnarvon High School Cyberlab:

The Universal Services Agency (USAASA) provided R750, 000 for the establishment of a cyberlab at Carnarvon High School. The school is connected with optic fibre through funds donated by Optic 1 (power line contractor). The SKA SA has also donated 170 scientific calculators as a pilot project to promote mathematics amongst high school learners. Microsoft and Learnthings provided educational software.

Carnarvon High School, Carnarvon and Williston Primary School Science Laboratory equipment:

Optic 1 contributed R50, 000 for the provision of science laboratory equipment for these 3 schools.

Carnarvon Primary, The US Embassy donated reading books to the value of R10 000.

Carnarvon Hospital:

Brink & Heath Civils (Pty) Ltd has contributed R50, 000 for the upgrading of the hot water facilities at the hospital.

Bonteheuwel Library, Carnarvon:

CBI Electric has offered to provide the optic fibre cable to connect the library's new tele-centre. The value of this installation is estimated at approximately R75, 000. Cisco will provide about 15 computers to the centre plus all the hardware. Siyafunda will provide all the software, programmes and training for the centre manager and provide continuous support to the centre. The centre will be built for the community, run by the community for the community of Carnarvon. The SKA will provide R36 000 towards stipends of 2 facilitators for the initial 6 months of operation of the centre.

Corporate social investment commitments by all MeerKAT contractors are being finalized and further projects will be identified by the project, contractors and local authorities.

5.7.3 SKA Project

The Square Kilometer Array project (SKA) is located to the northwest of Carnarvon and entails a revolutionary radio telescope with approximately one square kilometer of collecting area. Astronomers will be able to have insight into the formation of the first stars and galaxies, how galaxies have evolved, the role of magnetism in the cosmos, the nature of gravity as well as studies in astro-biology. It is a global project with 20 countries participating. The core region will accommodate three sub-cores, each 5km in diameter:

- a) One for the dishes;
- b) One for sparse aperture array dipoles;
- c) One for dense aperture array tiles.

Factors taken into account for site selection were current and future radio quietness, infrastructure capital as well as operational costs. The site at Carnarvon has been declared an Astronomical Reserve. The site will accommodate the following areas:

- (a) a core astronomy advantage area;
- (b) a central astronomy advantage area; or
- (c) a coordinated astronomy advantage area.



Source: CKR

A 30km radius will be applicable around the core site as planned. The core site is fenced off by mountains, but in the sightline of Van Wyksvlei area. The project will comprise between 2000 and 3000 dishes with a first phase of 190 dishes. Signals received by the antennas will be transferred to a central signal processing system and high performance computer by optical fibre links. A sophisticated data archive and distribution system will secure access to the data to users all over the world. Detailed planning will be done for the next two years after which construction will follow to be completed in 2023 and operations to start in 2024.

Access to telecommunication services in protected radio astronomy areas (known as Astronomy Advantage Areas)

Background:

- The Astronomy Geographic Advantage (AGA) Act was promulgated in 2007 and empowers the Minister for Science and Technology to make Declarations and Regulations to protect astronomy in the Northern Cape Province. The necessary consultative and legal process was followed in the promulgation of the AGA Act;
- A schedule of Declarations and Regulations (referred to as the D&R's) to be promulgated by the Minister has been developed by the SKA Project Office (SASPO), the Department of Science and Technology (DST), and other stakeholders in the telecommunication sector (commercial and government);
- The promulgation process of the D&R's follows very strict public participation processes (prescribed in the AGA Act), which are no less stringent than what is required by any other South African legislation;
- Only 5 of the estimated 14 D&R's have been promulgated thus far. These have not directly resulted in any impact on access to telecommunication services in the surrounding area;
- The remaining D&R's to be promulgated will follow a very strict public participation process, and the public will be well informed and will be actively engaged;
- The remaining D&R's will impact access to existing telecommunication. The DST and SASPO continue to engage with telecommunication operators to ensure that the local community has means to access telecommunication services in the future. An example of this engagement is the national roll-out of Digital Terrestrial Television, where communities in the area of the SKA will access television via satellite instead of high powered terrestrial broadcasting transmitters, which are potentially damaging to the SKA;
- The local farming community has a level of mistrust in the process. This is mainly as a result of a changed cellular phone signal in 2009 (subsequently reversed) that saw a loss of signal to some farmers, and was blamed on the SKA. As a result, the local farming community mobilized behind a small number of agitators (with legal counsel). Certain interventions with Agri-Noordkaap by the

DST and SASPO have since improved communications and working relationships with the farming community, and the DST and SASPO continue to work in good faith with the local community at large;

- Agri-NoordKaap officially supports the SKA Project but does have concerns that were expressed in a letter to the Minister's Office, dated 2nd July 2012. The working relationship with Agri-NoordKaap has since been strained due to a lack of response to this letter;
- A second letter from Agri-NoordKaap was sent on the 17th September 2012, requesting a response.

Way Forward:

- ❖ A public participation process will commence in the next 2-3 months for the next set of D&R's. Significant public input is expected, as the DST is ensuring all potentially impacted people are informed via registered post, public service announcements on radio, and newspaper advertisements;
- ❖ Once promulgated, the D&R's will be implemented over a 12 to 24 month period;
- ❖ The DST and SASPO continue to engage with telecommunication service providers, and are developing plans for the rollout of alternative means of access to telecommunication services that will look at providing for existing as well as future needs. Timescales for this roll-out will be aligned with the implementation period of the D&R's, and budgeting has been requested for further resources to properly address these and other requirements;
- ❖ It is recommended that the Minister's Office responds to the letter from Agri-NoordKaap as a matter of urgency, as a lack of response will result in continued deterioration of the existing relationship between the DST, SASPO and Agri-NoordKaap.

Community outreach:

Carnarvon Visitor's Centre

The Northern Cape Department of Economic Affairs and Tourism has finalized the feasibility study for the establishment of a visitor's centre in Carnarvon. This centre would serve as a multi-purpose centre for community outreach, visitors, training and entrepreneurial skills development. The Department is working with the National Department of Tourism to secure capital funding for the construction of this centre.

Outreach programmes:

Every year the SKA bursary holders visit the schools in Carnarvon, Williston and Van Wyksvlei to motivate, spark interest, mentor the learners with the aim of helping them through high school so that they can also get university entrance and benefit from the bursaries. Public talk and Sky viewing sessions are held at the schools. Astronomy workshops, encouragement of aspiring to role models and educator forums are held as often as possible.

Promotional program:

Annual SKA competitions are held to promote SKA project awareness. The target market are school learners and adults e.g. Dish building competition and motor sticker competition

Monthly SKA news letters are distributed in Pixley ka Seme and Namakwa Districts Municipal areas.

Carnarvon, Williston, Vanwyksvlei and Agric Northern Cape Stakeholder forums have been established to inform the broader community in the affected area about the SKA projects and to ensure support for the SKA projects.

Human capital development program:

The Programme aims;

To use the exciting nature of the SKA and MeerKAT projects to attract young people into science and technology;

To create a skilled and integrated user community for MeerKAT and SKA, and other international radio astronomy projects such as PAPER and C-BASS. These can be achieved through the following:

Increase the teaching, supervisory and research capacity in South African universities relevant to the SKA;

Increase the number of PhD and MSC graduates in radio astronomy and the engineering relevant to radio astronomy, in South Africa, and in our African partner countries;

Establish technical capacity for the maintenance and operations of radio astronomy facilities.

To date none of the learners from Carnarvon has received a bursary from the project which could enable them to study at a tertiary institution and obtain a university degree. This is due to the fact that learners' Mathematics and Physical Science marks do not meet the requirements. The Project therefore started a Schools Programme which has the following objectives:

Increase the enrolment of Mathematics and Physical Science in Grade 10, 11 and 12;

Improve Mathematics and Physical Science results in Grade 10,11 and 12;

Improve the level of literacy and numeracy in the primary schools;

Enhance the knowledge, skills and experience of Mathematics and Physical Science teaching at the schools.

A number of activities have been held and programs have been implemented at the various schools including talks, career guidance, teacher training programmes, role modeling, holiday programmes, sky viewing sessions, field trips, exchange programmes etc.

The Project has facilitated the appointment of two qualified Mathematics and Physical Science teachers at the high school.

Challenges:

The teachers and learners are still scared of teaching and learning Mathematics and Physical Science. The teachers do not have the content knowledge of the subjects to confidently teach the learners. Given the nature of the community (poor, 90% illiterate, alcohol and drug abuse, teenage pregnancy, isolated etc.) most of the learners feel de-motivated;

The schools still do not have sufficient resources such as textbooks, qualified teachers, computers etc;

There is very little to no support from the department of education;

Teachers feel overworked and de-motivated;

Physical conditions of the schools and lack of support and resources remains a huge challenge for the schools;

The number of learners per classroom is still very high.

New plans are being brainstormed by all the principals, teachers and the project to ensure that results improve and students benefit from the bursaries offered by the SKA SA.

A list of the challenges that the schools have has been compiled and the SKA SA is working hard to get sponsors and donors to improve the conditions at these schools.

The SKA SA is working hard to facilitate the appointment and support additional teachers at these schools and getting teacher training programmes in place.

FET Programme (Further Education Training):

As a result of the education situation in these towns, the SKA Project started a FET bursary programme open to students from Carnarvon, Williston and Van Wyksvlei. In 2011 nine (9) students from these towns were given bursaries to study at the Kimberley Further Education and Training College. At the beginning of 2012, eight (8) of these students were permanently employed by the SKA SA. In 2012, 15 more students were selected to study at the Kimberley College with some funding made available through the IDC. These students will be supported further in enrolling in the N course in 2013 which will allow them to become fully qualified artisans.

Land acquisition for the SKA:

Work is underway between the SKA SA and the international SKA project office to revisit the SKA configuration based on the site bid decision. This was expected to be completed early in 2013;

The SKA SA has developed a SKA land acquisition strategy and a high-level implementation plan. A number of land studies were initiated by the project in 2013 and the development of a stakeholder engagement strategy is underway.

Other programmes:

Working for Water program;

The SKA SA is currently working with the Northern Cape Departments of Economic Affairs & Tourism, Agriculture and Water Affairs and Forestry to develop a business plan for the removal of invasive trees

on the MeerKAT and SKA site. It is expected that should funding be secured for this programme, it could provide between 50-100 long-term local job opportunities.

Local benefits

- SKA infrastructure
- Creation of local jobs
- Increase in hospitality and tourism opportunities
- Entrepreneurship
- Business development

Socia economic benefits

- Infrastructure to a value of R185 million delivered by the Northern Cape and SKA SA over the period Nov 2007 to Aug 2009. All contracts specify 80% local labour and preference given to NC contractors
- 618 local jobs (50 female, 335 male, 232 youth, 1 disabled)
- Total contribution to jobs: R8,1 million
- Total contribution to BEE: R4,9 million
- Total local contribution: R13 million
- Local business and hospitality industry has experienced 30-50 % increase in turnover during 2008/09
- Property market increased (longer-term contractors purchasing houses and short-term contractors leasing houses)

District benefits

- Tourism increase expected (~500/yr to > 10,000/yr in 10 years) => large increase in jobs for hospitality workers, shop workers, service sector employees, tour guides. Entrepreneurial opportunities expected to increase steadily.
- Renewable energy opportunities possible: PV / solar thermal power
- EPWP – maintenance of provincial road to site
- Economic Development/EPWP collaboration for project to remove invasive trees on site – biofuel project?
- Water Affairs – Water Licenses
- Mineral Resources – Mineral permits / licenses
- Environmental Affairs – EIA approvals, Waste Management licenses for MeerKAT
- Local Government and local authorities – job creation; skills development training, rezoning
- Northern Cape Department of Roads – tarring provincial road to site and upgrading of detour road. Ongoing maintenance of gravel road (EPWP?)
- Water Affairs – Water Use licenses & detailed geo-hydrological studies
- Environmental Affairs – EIAs, waste management licenses
- Economic Development & Tourism – Visitor's Centre, tourism strategy; EPWP bio-fuel project
- Mineral Resources – mineral licenses

- Local Government and local authorities – job creation; skills development training, rezoning, support to local authorities
- Local Government – assessment of existing bulk infrastructure in local towns (power, water, sewerage) – plans and funding needs to be put in place to upgrade bulk infrastructure to deal with influx of people
- Welfare – ongoing programmes on alcohol abuse; alcohol foetal syndrome; entrepreneurship, life skills in local community
- Eskom – construction of new 132kV power line to site – Eskom Brackenfell region currently working on this

5.7.4 Telephone communication

According to the table below most households in the district, approximately 66.2% do not have telephones at their homes although many of them have expressed need for the service. The existing situation results in many households still depending on public phones and other means of telecommunication. The public telephones according to Telkom authorities are vandalised frequently. The situation calls for a need to protect these facilities as they will be of help to the residents who depend on them.

It is perhaps interesting to note, as the table indicates, that only in Emthanjeni Municipal Area that a substantial number of the households have telephones at their homes and Cell phones.

Table 36: Household access to Telephone

CELL PHONE ACCESS								
	Ubuntu	Umsobomvu	Emthanjeni	Kareeberg	Renosterberg	Thembelihle	Siyathemba	Siyancuma
Yes	3651	5775	8103	2211	2169	2991	4239	7296
No	1479	2064	2352	1011	825	1152	1593	2280
TELEPHONE ACCES								
Yes	708	849	1434	504	453	585	708	1026
No	4422	6993	9024	2718	2541	3555	5124	8550

Source: Statistics South Africa 2011 Census

Cell phones have bettered the communication problem within the province drastically although there are still areas and poorer communities without access to the network or cell phones. They have to rely on public phones or other means of telecommunications. A network of exchanges serve the district, but those in farm areas are outdated and in need of an upgrade. The new network installed by Telkom will overcome this problem. All main towns within Pixley Ka Seme District are served by Post Offices

5.8 Human settlements

Pixley Ka Seme District Municipality consists of eight local Municipalities which represent a total of 26 towns of different sizes and statuses. From the analysis of the municipalities and different towns it is evident that unemployment, poverty, difficulties with delivery of basic services and poor economic conditions have a negative impact on many of these areas. The extensive and intensive rural farming areas represent the larger part of the municipalities and also form the economic basis of most of these municipalities. The majority of the towns within the district fulfil the role of agricultural service centres which provide the following services to the urban and rural areas:

- Administrative centres for local and provincial government;
- Commercial retail centres;
- Centres providing basic education and health services;
- Resource centres for the farming hinterland areas;
- The towns remain important destinations for people migrating from rural and urban area;
- Unique character of small towns provides opportunities for innovative tourist strategies.

All local municipalities are composed of various residential components varying from formal housing units to informal dwelling units as indicated in the table above. Within the District, 82, 8% of households live in formal housing, 10,8% in informal housing and only 2% in traditional houses. Households in the whole PKSD is about 49 193 in respect to the Census 2011, where the average Household Size is about 3.70%, female headed households is about 36.90%, formal dwellings at 86.30% and the housing owned is at 52.00%

Table 37: Enumeration Area type by Local Municipality

	Formal residential	Informal residential	Traditional residential	Farms	Parks and recreation	Collective living quarters	Industrial	Small holdings	Vacant	Commercial
Ubuntu	13926	339	-	3729	-	-	444	-	54	105
Umsobomvu	23361	1890	-	2451	45	264	222	-	96	45
Emthanjeni	39306	-	-	2499	9	3	6	483	39	9
Kareeberg	9450	-	-	2118	-	-	102	-	3	-

Renosterberg	8934	801	-	1173	-	-	-	57	15	-
Thembelihle	13989	-	-	1626	-	12	-	-	75	-
Siyathemba	18555	-	-	2763	-	-	24	162	90	-
Siyancuma	26061	2697	-	7125	-	-	486	594	114	-

Source: Statistics South Africa 2011 Census

The following section provides an overview of the different municipalities and their towns after the first round of the public participation process and the assessment of their local SDF's and IDP's where available.

5.8.1 EMTHANJENI Municipality

 De Aar

 Britstown

 Hanover

The Emthanjeni municipality covers a total area of 13 472km² with an urban population of 39 890 and a rural population of 2 466 for a total of 42 356 people that predominantly inhabit the centre of the Pixley Ka Seme District municipality in the Northern Cape Province. The district municipality is adjoined by three provinces - Free State to the east, Eastern Cape to the south east and Western Cape to the south. Emthanjeni local municipality is the fourth largest in area of the eight municipalities that is contained in Pixley Ka Seme District Municipality. The Emthanjeni municipal area is not located within any of the identified development corridors that were identified along the major transport routes that transgress Pixley Ka Seme District Municipality, but falls within the proposed renewable energy hub as proposed between Upington and De Aar. The SDF for Emthanjeni has not been approved by the MEC.

Table 38: Emthanjeni Municipality Population Growth

Emthanjeni Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural	-	-	2 466
Urban	-	-	39 890
Total	35 549	38 228	42 356

Emthanjeni municipality was established through the amalgamation of the towns of De Aar, Hanover and Britstown as well as the surrounding rural areas consisting of farms. The administrative centre of the municipal area is located in De Aar on the crossing between Hopetown/ Richmond and Britstown/ Hanover. The spatial distribution of Emthanjeni's population clusters around the main economic centres (towns), within these centres are more likely to record high future population growth rates as a result of both natural growth and migration of farm dwellers to the urban areas.

The landscape of Emthanjeni Municipality is typical Karoo, with moderate hills and lowlands. The area has a low annual average rainfall of 300mm. There are no constant rivers running through the municipal area with all the towns relying on underground boreholes for their water supply.

According to the Emthanjeni IDP the municipality is committed to improving the quality of life of all residents by implementing credible administration; adequate infrastructure and improved economic and social initiatives in the region. The local population growth rate depends on local economic opportunities for its people. Such opportunities are sadly lacking. Large portions of the population leave the area to seek opportunities in other towns and provinces. The instigation of continued effective service delivery and quality infrastructure can also affect population growth in the municipality.

A Spatial Development Framework (SDF) was compiled for Emthanjeni Municipality in February 2007 and because of a review of these documents undertaken every 5 years, it is due for revision.

Rural development

The farming community of Emthanjeni is centred on extensive farming with the focus on sheep and goat farming. The Emthanjeni area is increasingly becoming famous for delivering the famous “Karoo” mutton with its unique flavour and quality. Emthanjeni has several abattoirs in De Aar; one solely for sheep with a capacity of 1000 carcasses per day, supplying meat to all the provinces. The second abattoir has a capacity of 550 sheep carcasses and, in addition to beef, supplies meat far beyond the region, even as far as Durban. The third abattoir specialises in venison for export. Another abattoir for pigs and ostriches aimed at the export market has also been commissioned recently.

The municipal issues for the area identified by the IDP/ interviews are:

- Current Spatial Development Framework to be updated;
- Good access/ enough space, land and opportunities available;
- Renewable energy hub from Upington to De Aar;
- Shortage of trained personal and health professionals;
- Shortage of ambulances: at most 3 per town;
- Sewer capacity restricted;

- Stormwater problems;
- Fracking to be undertaken in a cautious manner within the region to its benefit (the manner in which this is carried out is more important than that it goes under way at all);
- Uranium belt from Carnarvon to Colesberg;
- Hanover is a special historic town and has architecture that is to be preserved (this is also the case in Loxton/ Victoria West);
- Green energy hub from Prieska, Douglas, De Aar to Renosterberg;
- Spatial Planning Categories map for municipal area is to be commissioned;
- Local Municipality Capacity – lack stormwater drainage;
- Water & Sanitation – sources are to be considered.

The following issues were identified as social threats in the IDP:

- The quality of the water is hard and presents problems.

Priority list as identified in the IDP:

- Sustainable environment;
- Water & sanitation;
- Housing;
- Roads;
- Street and area lighting;
- Community hall/ Youth centre;
- Shelters for farm workers;
- Upgrading of emergency services along N1;
- Sport & recreational facilities;
- Stormwater drainage;
- Upgrading and fencing of cemeteries;
- Electricity;
- Installation and upgrade of electrical network;
- Education;

- 24 Hour ambulance service;
- Full time doctor in Hanover and Britstown;
- HIV/ AIDS;
- Effective spatial planning;
- Post office;
- LED;
- Job creation;
- Upgrade of clinics;
- Health services;
- Hostel;
- Bursaries/ study loans;
- Public transport;
- Speed humps and upgrade of road signs.

In the spatial overview of Emthanjeni the town of De Aar is identified as the main urban centre and development node and should be promoted through the implementation of urban rehabilitation programmes to stimulate the economic growth in the town. The other towns of Britstown and Hanover are identified as rural service centres that provide for the distribution of services within the surrounding rural areas.

As stated a Spatial Development Framework (SDF) is in place for the Emthanjeni Municipal area, but has to be reviewed and updated.

Services:

Water

Water quality is hard and present problems for bathing, washing and electric appliances.

Stormwater

Stormwater problems are being experienced in some areas during heavy down pours.



Pixley Ka Seme Population Distribution:

Emthanjeni	Urban:	36495
	Rural:	2466

**ISSUES & CONSTRAINTS
EMTHANJENI MUNICIPALITY**

KEY:

SETTLEMENT STRUCTURES:



INFRASTRUCTURE:

ROADS:

National

Trunk

Main

District

Railway lines

Air strips

NATURAL ELEMENTS:

Rivers & Streams

Wetlands

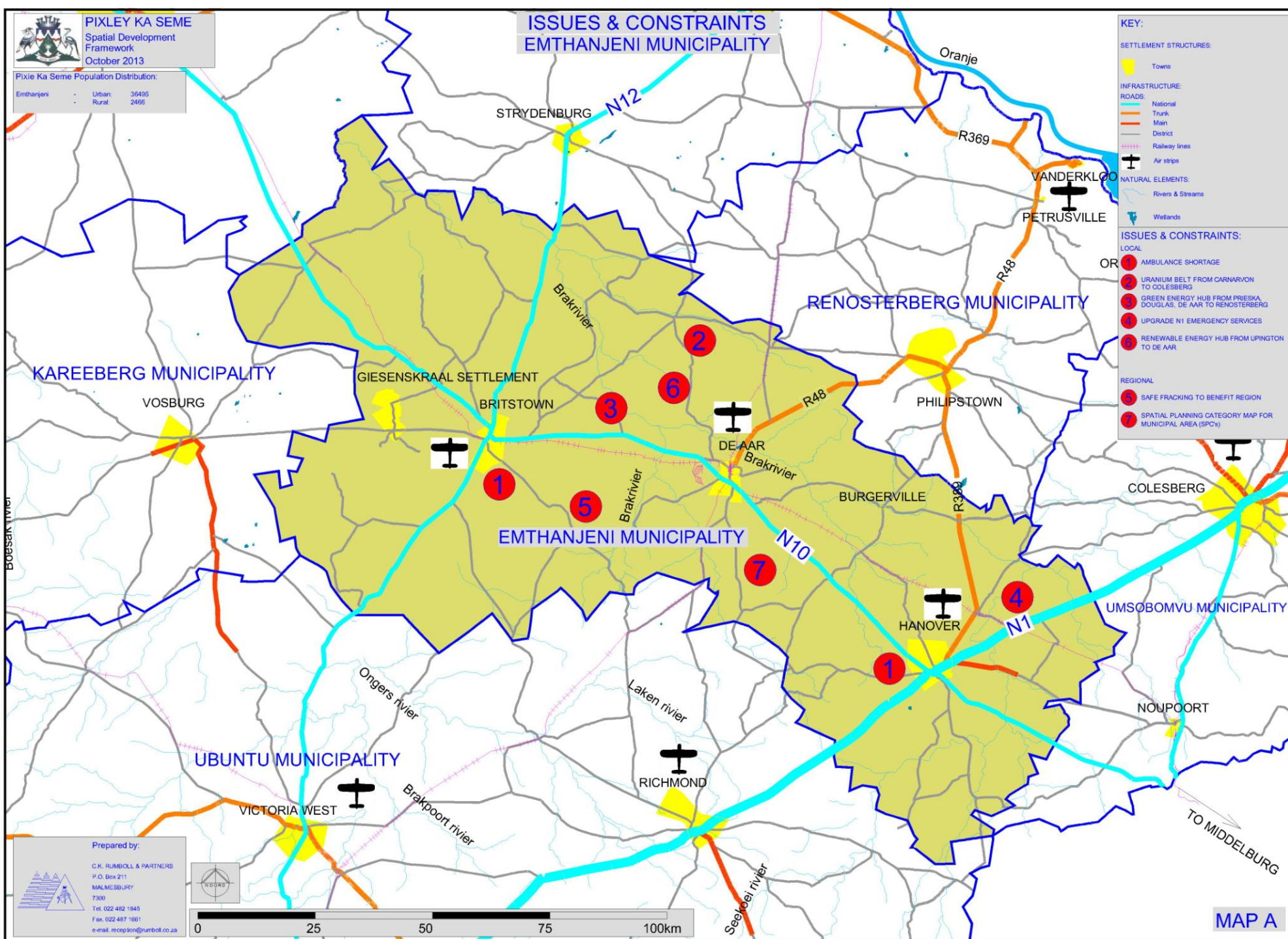
ISSUES & CONSTRAINTS:

LOCAL:

- 1 AMBULANCE SHORTAGE
- 2 URANIUM BELT FROM CARNARVON TO COLESBERG
- 3 GREEN ENERGY HUB FROM PRIESKA DOUGLAS, DE AAR TO RENOSTERBERG
- 4 UPGRADE N1 EMERGENCY SERVICES
- 5 RENEWABLE ENERGY HUB FROM UPINGTON TO DE AAR

REGIONAL:

- 6 SAFE FRACKING TO BENEFIT REGION
- 7 SPATIAL PLANNING CATEGORY MAP FOR MUNICIPAL AREA (SPCs)



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DE AAR

Overview

De Aar is the capital of the Pixley Ka Seme District Municipality and the third largest town in the Northern Cape. It is centrally located regarding main railway lines between Johannesburg, Cape Town, Port Elizabeth and Namibia as well as tarred roads to surrounding towns. The railway junction was the second most important junction in South Africa, including 110km of railway lines and 29 rail-tracks. The name De Aar comes from underground water arteries providing De Aar's water from 68 boreholes.

Table 39: De Aar Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
De Aar	Large 27594*	1500	Urban Centre	Transportation/ Administrative/ Service Centre	High development/ Low need	Infrastructure and Basic

*Stats SA 2011

Source: NCPSDF-2012

De Aar is identified as the Urban Centre within Emthanjeni municipal area and also known as the main administration centre located on the N10 national route linking Namibia with the coastline of Port Elizabeth. De Aar is the third largest town in the Northern Cape and the name refers to underground water arteries with 69 boreholes supplying water to the town. De Aar consists of several residential areas, including De Aar-West, De Aar-East, Barcelona, Nonzwakazi and Waterdal. The railway network in De Aar is well known and at least 30 trains pass through the station daily. De Aar station is directly or indirectly linked to almost every corner of South Africa and was the second most important railway junction in South Africa, with 110km of railway lines including 29 rail-tracks. The Eskom Hydra power station is located near to De Aar and supplies power to the Western Cape as well the rural areas.

Recreational facilities entail Excelsiorpark and the showgrounds. Community services in the town include three community halls, three libraries, one hospital, three clinics, 1 hospice, a fire station, seven primary schools, three high schools and one tertiary institution. Government is also well presented with post office, police station, prison, weather service, defence and magistrate's court. The commercial

sector is well presented with banks and businesses while accommodation is available in a hotel and guest houses.

Spatial / land use issues

The main spatial/ land use issues influencing development of the town as identified in the Emthanjeni IDP and during the first round of Public Participation process of the District Spatial Development Framework are as follows:

Spatial

- Urban edge for town to be demarcated.

Social

- Almost no job creation;
- TB/ HIV aids/ alcohol misuse – FAS high;
- Teenage pregnancies – government grants;
- More clinics needed in spite of new hospital.

Economy

- Possible cargo hub – Department of Transport to assist;
- Small businesses to be supported by larger businesses so that smaller businesses do not get pushed out. Capital is a problem for smaller businesses;
- Government departments to work together and not on their own;
- Need for skills development (engineers, plumbers, carpenters, technical skills);
- Lack of economic stimulants for economic growth;
- Solar projects to be supported;
- Public transport to provide linkages to other areas and more/ better economic opportunities;
- Initiative to re-open railway lines and built and repair trains.

Housing

- Address the housing backlog - 1500. De Aar needs 60 to 70 houses per year. Too many people in one house;
- Social Housing: Government Officials require municipal rental units;
- Lot of backyard dwellers not on waiting list;
- Identify areas for residential expansion. To the west of the town lies a local koppie which hampers normal development in this direction;
- The town is split in two by the major railway junction that are to be found in the centre of town and this prohibits integration of the town;
- Support densification and redevelopment of areas;
- Many open spaces that can be utilized for play areas. People to be educated on open spaces.



Future residential extensions to De Aar as per Emthanjeni SDF.

Infrastructure

- Upgrading of internal road system especially roads to schools/ churches;

- Replace gravel roads with tarred roads;
- Improve public transport system to improve mobility;
- Lots of hides, but not enough water for tannery;
- There are several smaller storm water furrows running through the town which causes problems during severe thunderstorms and especially the area to the east of the railway line can cause problems in severe circumstances.

Tourism

Support and built on the existing tourist attractions in the area:

- Nature education programmes;
- Initiative to re-open railway lines and build and repair trains;
- Central Karoo Show: A major show during January/February each year drawing entries from the whole country and is a red letter event every year;
- Garden of Remembrance: Honouring British soldiers killed in the Anglo-Boer War;
- House of Olive Schreiner: Home of the famous author and feminist who wrote Women and Labour, the house now serves as a restaurant;
- Paragliding: a well established paragliding school not only offers a thrilling bird's eye view of the Karoo landscape, but hosts regular events attracting local and international paragliders in search of world long-distance records, for which the local conditions are suitable. To date, more than half of the world's long- distance records have been set in De Aar;
- Weather Station: Visitors welcome. Tel 053 631 1053 for appointment.

BRITSTOWN

Overview

The town was named after Hans Brits, who settled on the farm, Gemsbokfontein after accompanying David Livingstone on an inland venture. In 1877, a section of the farm was bought by an association of local men, headed by TP Theron, on which they built a community centre and a church.

A private irrigation scheme was started by the Smartt Syndicate in 1885 who built two dams, planted lucerne and wheat and farmed with karakul sheep and Clydesdale horses. The scheme was liquidated in 1954. The dams were destroyed in the 1961 floods, but rebuilt by government in 1964.

Table 40: Britstown Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
BRITSTOWN	Medium 4671 (Mziwabantu included)*	600	Urban satellite town	Service centre	Transition	Infra & Social

*Stats SA 2011

Source: NCP SDF-2012

The town of Britstown is located on the N12 in the north-eastern section of the Emthanjeni Municipal area and is identified as an Urban Satellite Town which complements the satellite towns in the remote areas for the purpose of even distribution of services and to promote the creation of employment opportunities in these remote areas. Residential areas include Jansenville, Mziwabantu, Britstown town and Proteaville.

Recreational facilities include a sports club and the showgrounds. Community services in the town include a community hall, library, museum, hospital, primary school and two high schools. Government

is also well represented with a post office, police station and magistrate's court. The commercial sector is well represented with 2 banks and businesses while accommodation is available in the form of a hotel and guest houses.

Spacial

- Urban edge for town to be demarcated.

The current spatial trend in the town is to develop tourism along the main road (Mark Street) of Britstown. This is clear from the number of guesthouses that opened their doors over the past few years. Another trend is for city people to buy a house in a rural town, upgrade it and visit it during holidays or to rent it out as guesthouses.

The main spatial/ land use issues influencing the future patterns and development of the town include:

Economy

- Public transport to provide linkages to other areas and more economic opportunities;
- Provision of sites for business uses;
- High levels of unemployment.

Housing

- The northern section of the town is separated in two by the railway line that is situated in this section of the town;
- The dam that is located to the south-east of the town hampers development in this direction;
- Housing backlog of 600 units.

Infrastructure

- The area to the south-west of the town also has problems with storm water drainage.

Tourism

Support and built on the existing tourist attractions in the area:

- Britstown Museum: Raath Str. Originally the Holy Trinity Church;
- Dutch Reformed Church: Church Str. Built in 1877;
- Hiking: Experience the unique Karoo landscape on several hiking trails on surrounding farms. Arrangements by Transkaroo Country Lodge;
- Khoisan Rock Art: Interesting archeological sites on farms Brakwater, Keurfontein, Maritzdam and Omdraaivlei are considered important heritage sites. Permission is required to visit. Contact local tourist information for details;
- Stargazing: Excursions to marvel at the sparkling Karoo night sky can be arranged by Transkaroo Country Lodge.

HANOVER

Overview

Hanover originally formed part of the Graaff-Reinet district and was known as Bo-Zeekoeirivier. The farming community grew and in 1854, the 8 656ha farm, Petrusvallei, was bought for 33 333 Rixdollars (R5 000) as a community centre. The former owner requested the town to be called Hanover, because of his ancestors coming from the German city with the same name.

Table 41: Hanover Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
HANOVER	Medium 4230*	400	Service Centre	Service Centre	High development/ High need	Infra & Social

*Stats SA 2011

Source: NCPSTDF- 2012

The town of Hanover is located on the eastern fringe of Emthanjeni Municipality and is identified as an Urban Satellite Town to complement the satellite towns in the remote areas. Residential areas in Hanover include residential components, which include Kwezi, Nompumelelo, Joe Slovo Park, Tornadoville.

Hanover has access to a holiday resort, sports club and showgrounds for recreation. Community facilities include a library, 2 community halls, 1 primary, 1 combined and 1 secondary school and a clinic. Government is well presented with police station, post office and magistrate's court. On the commercial side 1 bank is available, 1 hotel and 4 guest houses.

The location of Hanover on the N1 national route has led to the spatial trend of businesses opening alongside this route, as well as guesthouses catering for the tourists passing through. Hanover has a beautiful architectural character and the renovation and utilization of such buildings for holiday purposes or as guesthouses is common practice. An area surrounding the Smartt Syndicate dam was developed into smaller agricultural plots below the dam wall. This area is however not utilized to its full potential

due to droughts and the invasion of the Prosopis tree. The farms alongside the N1, the N10 and the N12 have all started to open guesthouses on the farms for tourists in order to provide a sleepover location for people traveling from the north to the south and visa versa. The opening of abattoirs on the farms and the distribution of meat from the said farms, have also developed over the past few years and can definitely be seen as a spatial trend.

The spatial/ land issues influencing the future patterns and development of the town include:

Spatial

- The N1 route hampers development in close proximity of the road and access to the said road is very difficult;
- Urban edge for town to be demarcated.

Housing

- Address backlog of 400 houses;
- Densification, redevelopment or infill planning of residential areas.

Infrastructure

- Storm water furrows are located to the north of the town which must be taken into consideration with future expansions;
- The periodic droughts are hampering development of the rural areas and have a negative impact on the economy of the area.

Tourism

Support and build on the existing tourist attractions in the area:

- Anglican Church: This national monument was built in 1895 and is still in use;
- Ash Tree Art Gallery: Experience a different kind of art;
- Cenotaph Memorial: Memorial to those who died in WWII;
- Hanover Museum: Housed in the farm house around which the town developed. The museum in Viljoen Street contains artifacts dating back to pioneer days;
- Hippo Pool: in Zeekoei River, for more information contact Tel no 053 643 0020;
- House of Olive Schreiner: Grace Str. The famous author lived here during the Anglo-Boer War.

5.8.2 KAREEBERG Municipality

 **Carnarvon**

 **Van Wyksvlei**

 **Vosburg**

The Kareeberg municipality with a total area of 17 702km² and is located on the western side of the Pixley Ka Seme District municipality in the Northern Cape Province. The Phase 1 Spatial Interpretation of the Municipal IDP was approved by the MEC in 2011. The District Municipality is adjoined by three provinces - Free State to the east, Eastern Cape to the south east and Western Cape to the south. Kareeberg local municipality is the second smallest of the nine municipalities within Pixley Ka Seme District Municipality. The Kareeberg municipal area is not located within any of the identified development corridors that were identified along the major transport routes that transgress Pixley Ka Seme District Municipality, but forms part of the Pixley Renewable Energy Hub that still has to be incorporated into the NCPSTDF.

Kareeberg municipality was established through the amalgamation of the towns of Carnarvon, Vosburg, Van Wyksvlei as well as the surrounding rural areas consisting of farms. The administrative centre of the municipal area is located in Carnarvon, located on the main route from Kimberley/ Bloemfontein to the Southern part of Namakwaland and the West Coast. The spatial distribution of Kareeberg's population clusters around the main economic centres (towns), with these centres more likely to record high future population growth rates as a result of both natural growth and migration of farm dwellers to the urban areas.

The landscape of Kareeberg Municipality is typical Karooscape, with moderate hills and lowlands. The area has an annual average rainfall of 260mm and an annual evaporation of 2300mm. There are no constant rivers running through the municipal area with all the towns relying on underground boreholes for their water supply.

According to the Kareeberg IDP the municipality is committed to improving the quality of life of all residents by implementing credible administration; adequate infrastructure and improved economic and social initiatives in the region. The local population growth rate depends on local economic opportunities for its people. Such opportunities are sadly lacking and there is a current drive to establish the Agave Project at Carnarvon. Large numbers of the population leave the area to seek opportunities in other towns and provinces. The effective service delivery and quality infrastructure can also affect population growth in the municipality.

The municipal issues for the area identified by the Kareeberg IDP are:

- Low degree of education;

- High rate of unemployment resulting in high degree of poverty;
- A declining economy that is largely based on sheep farming;
- The area lack economic opportunities and incentives;
- Municipality making available free basic services to the poor people;
- Social problems including: HIV/ AIDS, high alcohol abuse, teenage pregnancies, domestic violence and high rate of smoking;
- Lack of quality health facilities in the municipal area; to the extent that people have to be transported to bigger towns, like Kimberley for quality health services;
- Lack of recreational facilities;
- Slow rate of housing delivery left huge backlog and stimulate informal housing;
- Inadequate schools regarding farming areas.

In the spatial overview of Kareeberg the town of Carnarvon is identified as an urban centre and should be promoted through the implementation of urban rehabilitation programmes to stimulate the economic growth in the town. The other towns of Vosburg and Van Wyksvlei are identified as rural service centres that provide an even distribution of services within the surrounding rural areas.

There is a Phase 1 Spatial Interpretation of the Municipal IDP in place for the Kareeberg Municipal area.

The most critical challenge facing the Kareeberg municipality is the reduction of poverty by:

- ❖ Ensuring that all citizens have access to basic services such as water, sanitation, electricity and housing;
- ❖ Increasing access to services in education, health and social services;
- ❖ Stabilising and decreasing the rate of HIV/ AIDS infection and TB;
- ❖ Youth development;
- ❖ Economic empowerment through diversification e.g. the Agave project at Carnarvon;
- ❖ The development of an attraction and retention strategy, to improve critical skills of the labour force;
- ❖ Targeting special groups e.g. women, disabled, etc.;
- ❖ Sustainable job creation.

Table 42: Kareeberg Municipality Population Growth

Kareeberg Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			1 914
Urban			9 759
Total	9 488	9 866	11 673

The total population as per the 2011 Census is slightly lower than the total given in the Phase 1 Spatial Interpretation of Municipal IDP.

Services:

Water

The towns in Kareeberg rely on boreholes for their water supply. This system requires continuous maintenance and upkeep.

Sewerage

The municipality operate sewerage systems in Carnarvon (aerated ponds) and Vosburg (oxidation ponds). In Van Wyksvlei sewerage is dumped at a solid waste disposal site. The bucket system is still used in some areas of Carnarvon. Poor sanitation is experienced by farm workers in some rural areas.

Electricity

Most of the people in the towns have access to electricity while electricity provision in rural areas is still problematic.

Solid Waste

Each town has a dumping site, with licensing of the sites still in progress.



ZF MGCAWU
DISTRICT MUNICIPALITY

ISSUES & CONSTRAINTS KAREEBERG MUNICIPALITY

SIYATHEMBA MUNICIPALITY

PRIESKA

N10

Oranje

KEY:

SETTLEMENT STRUCTURES:

- Towns

INFRASTRUCTURE:

- Roads
- Railroad
- Water
- Electricity
- Railway line
- Airports

NATURAL ELEMENTS:

- Rivers & Streams
- Wetlands

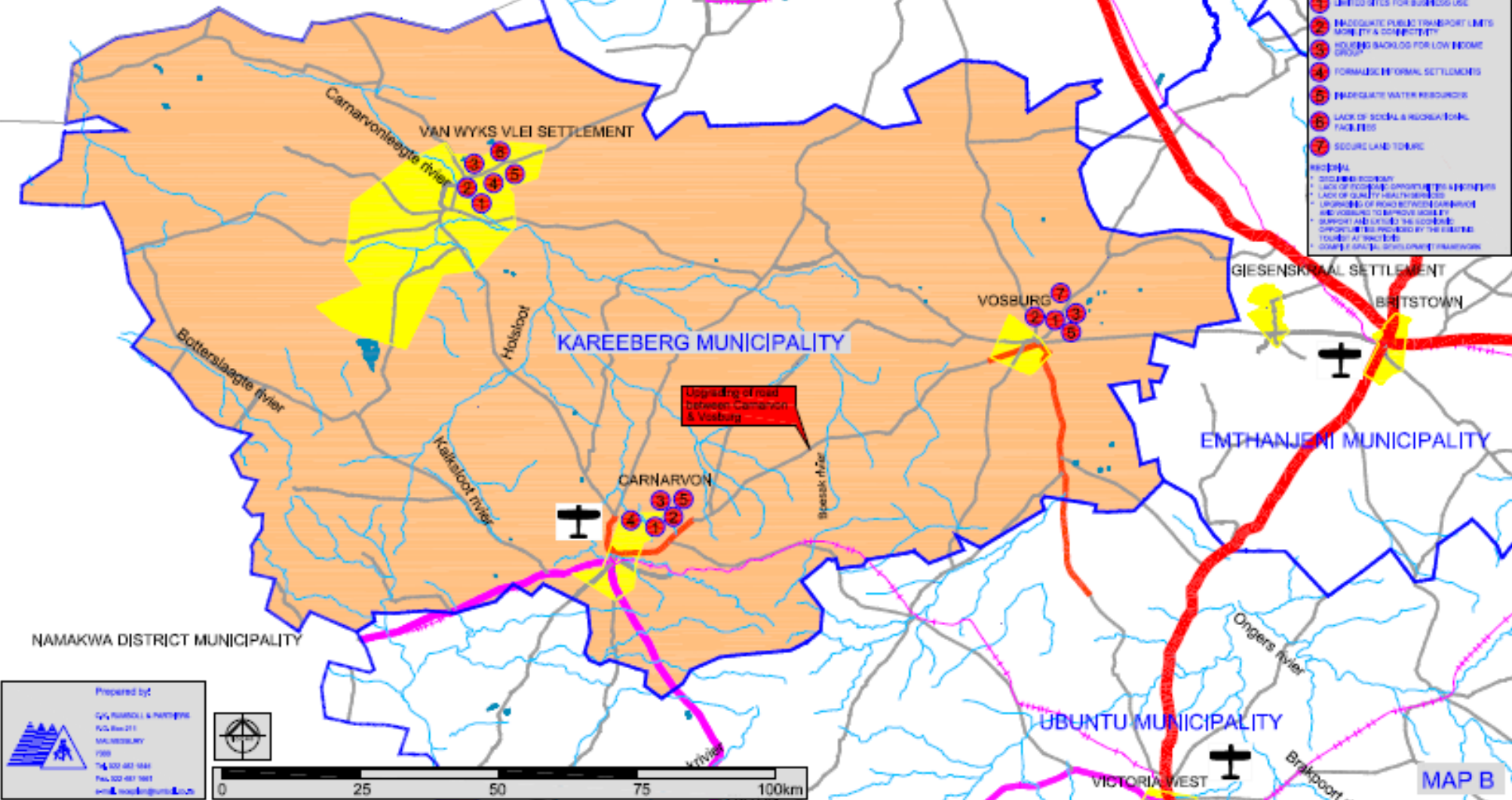
ISSUES & CONSTRAINTS:

LOCAL:

- 1. LIMITED SITES FOR BUSINESS USE
- 2. INADEQUATE PUBLIC TRANSPORT LINKS
- 3. HOUSING BACKLOG FOR LOW INCOME GROUP
- 4. FORMER INFORMAL SETTLEMENTS
- 5. INADEQUATE WATER RESOURCES
- 6. LACK OF SOCIAL & RECREATIONAL FACILITIES
- 7. SECURE LAND TENURE

REGIONAL:

- 8. ECONOMIC GROWTH
- 9. LACK OF ECONOMIC OPPORTUNITIES & EMPLOYMENT
- 10. LACK OF QUALITY HEALTH SERVICES
- 11. UPGRADE OF ROAD BETWEEN CARNARVON & VOSBURG
- 12. UPGRADE OF ROAD BETWEEN CARNARVON & VOSBURG TO IMPROVE MOBILITY
- 13. SUPPORT AND ENHANCE THE ECONOMIC OPPORTUNITIES PROVIDED BY THE EXISTING TOURISM AT EACH SITE
- 14. COORDINATE AND DEVELOP TOURISM



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CARNARVON

Overview

From 1795 Xhosa communities moved up to the Orange River where a group settled at Schietfontein that was served by a Rhenish mission. The village Harmsfontein was established in 1860, but the name was changed in 1874 to honour the British Colonial Secretary, Lord Carnarvon. Distinctive to the Carnarvon district is the new SKA project as well as its corbelled houses, built between 1811 and 1815. Carnarvon is one of the region's busiest farming centres.

Table 43: Carnarvon Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Carnarvon	Large 5 928*	630	Urban Centre	Administrative/Service Centre	Transition	Infrastructure and Basic

*Stats SA 2011

Source: NCPsDF- 2012

Carnarvon is identified as the Urban Centre within Kareeberg municipal area and is also known as the main administration centre located on the main route between Bloemfontein/ Kimberley and Namaqualand and the West Coast. The town is located on the southern fringe of the Municipal area, which provides potential problems in terms of local accessibility within the Kareeberg municipal area.

Recreational facilities in the Kareeberg municipal area are also only available in Carnarvon. Community services in the town include two libraries, two primary schools and one high school.

The development of the Square Kilometer Array (SKA), Karoo Array Telescopes (KAT) and MeerKAT projects, located near Carnarvon and due to be completed by 2023, are of global importance and interest and provides major infrastructure development and investment in the area. This is linked to new skills development and the potential for job creation. The development also provides opportunity for training, construction and maintenance. This will assist in retaining skilled people in the area that can further assist in local economic development and upliftment. The Agave project is also currently being planned as part of a Special Economic Zone where the first phase will comprise a lucerne plantation.

This envisaged Agave project will have the features of a Single Factory EPZ, wherein a single, large investor can be accommodated. Access to local raw materials and feedstock will be the biggest attraction of this location. This is a Renewable Energy Technology Park with a single large anchor tenant. This has a 'local focus SEZ' wherein this Technology Park will be focused on the manufacturing of very specific products with specific applications, typically for a large local, long term product. If the renewable SEZ project can develop then the renewable energy outputs can be provided to a company seeking independent, green energy. The Single Factory EPZ can then be extended to that investor. The project is to be undertaken in phases with the cash crop part aimed at generating income in-between as

Agave plantations take up to 6 years to reach commercial potential for processing into bio-fuels and other by-products. Feasibility studies are currently being undertaken for different phases of the project, with others awaiting funding. The crops will be sold to an investor that will buy from growers who are part of cooperatives. The intent is to exploit the value chain to the maximum.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Kareeberg IDP and that gathered during the first round of Public Participation process of the District Spatial Development Framework (SDF), are as follows:

Economy

- Lack of economic stimulants for economic growth;
- Agave project to enhance economic growth;
- Provision of sites for business uses;
- Need opportunities to stimulate economic growth;
- Public transport to provide linkages to other areas and more economic opportunities.

Housing

- Address the housing backlog - 630 units;
- Formalise areas and secure land tenure;
- Identify areas for residential expansion;
- Support densification and redevelopment of areas.

Infrastructure

- Upgrading of internal road systems in towns;
- Upgrading of road between Carnarvon and Vosburg;
- Improve public transport system for improved mobility;
- Investigate potential alternative water resources, since Carnarvon is already utilising 80% of their water resources.

Tourism

Support and build on the existing tourist attractions in the area which include:

- Carnarvon is well known for its corbelled houses, built between 1811 and 1815. Small domed roofed houses built of flat stones for lack of wood for roof trusses by the Trekboers. The cement was a mixture of chaff and soil mixed with water and kneaded to the correct texture. Floors were of smeared earth coloured a rich red by a mixture of fat and oxblood polished with a smooth stone;
- Museum & Corbelled House: Old church Hall;
- Blikkiesbar: A large collection of beer cans and whiskies can be seen at the Carnarvon Hotel;
- Brick Yard: A donkey and man combine forces to produce bricks;
- The Fort on top of the Carnarvon Koppie used between 1899-1902, is the only one of its kind in the region;
- Tours and crafts at Oukraal: Unique handmade local Karoo crafts. Tours: Anglo-Boer War tours, 4x4 and 4x2 self-drive tours and marked farm trails. Tel 053 382 3029;
- San Rock engravings at Springbokoog;
- Tortoise reserve: 60 Mountain tortoises can be found here. Some respond to their name and will come for a titbit when called. Tel 0533822 ask for 3002.;
- Anglo Boer War tours;
- Hunting in the rural areas;
- Nature Reserve: A wide variety of wildlife can be seen. Tel. 053 3823012;
- Tours and Crafts at Oukraal: Unique handmade local Karoo crafts. Tours: Anglo-Boer War tours, 4x4 and 4x2 self-drive tours and marked farm trails. Tel 053 382 3029.

Future completion of the Square Kilometre Array (SKA), Karoo Array Telescope (KAT) and MeerKAT projects have the potential to attract national and international visitors to the area as well as provide opportunities for job creation and economic stimulants.

VAN WYKSVLEI

Overview

The town was named after a local farmer and established in 1880. Van Wyksvlei has the first, state-funded dam, built in 1882 which is still in use.

Table 44: Van Wyksvlei Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Van Wyksvlei	Small 1 539*	90	Rural Service Centre	Service Centre	Transition	Social

*Stats SA 2011

Source: NCPsDF- 2012

The town of Van Wyksvlei is located in the northern section of the Kareeberg Municipal area and is identified as a Rural Service Centre which complements the satellite towns in the remote areas for the purpose of even distribution of services and to promote the creation of employment opportunities in these remote areas.

The community services in the town include one library, one primary school, but no high school.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Kareeberg IDP as well as the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Public transport to provide linkages to other areas and more economic opportunities;
- Provision of sites for business uses;
- High levels of unemployment.

Housing

- Secure land tenure for all;
- Housing backlog of 90 – need for low cost housing.

Community

- Lack of recreational facilities;
- Provision of sites for social services.

Infrastructure

- Serious water shortages due to salinity and lack of potable water. Water is transported by tanks over long distances;
- First dam as funded by the state and built in 1882 close to the town is still in use;
- Upgrading of road infrastructure.

Tourism

Support and built on the existing tourist attractions in the area which include:

- Tours and crafts at Oukraal;
- San Rock engravings can be viewed at Springbokoog. Tel 053 382 3029 or 0533832 ask for 1212. ;
- Tortoise reserve;
- Anglo Boer War tours;
- Hunting;
- Farm stays.



Van Wyksvlei Dam

With a unique, earthen wall, the dam is still in use.

VOSBURG

Overview

Vosburg was established on the farm Processfontein in 1895 and named after Mr J Vos and the Van Rensburg family. More than 22 buildings in the town are national monuments.



Spring supplying water to Vosburg

Table 45: Vosburg Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Vosburg	Small 1 155*	65	Rural Service Centre	Service Centre	Transition	Basic

*Stats SA 2011

Source: NCPsDF- 2012

The town of Vosburg is located on the eastern fringe of Kareeberg Municipality and is identified as a rural service centre to complement the satellite towns in the remote areas.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Kareeberg IDP and the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Improve public transport to provide linkages to other areas and more economic opportunities;
- Provision of sites for businesses.

Housing

- Densification, redevelopment or infill planning of residential areas;
- Secure land tenure;
- Need additional area of 5ha to address housing backlog.

Community

- Lack of social services and open space areas;
- Lack of recreational facilities especially for the youth.

Infrastructure

- Investigate alternative water resources – or provide water by pipe from other areas.

Tourism

Support and build on the existing tourist attractions in the area which include:

- In Vosburg more than 22 buildings are national monuments;
- 4x4 and 4x2 trails;
- Khoisan implements are on view at Keurfontein;
- San rock engravings at Springbokoog and Keurfontein farm. Tel 0536732 ask for 1911;
- Vosburg Museum - an old Karoo-style house museum. Tel 053 675 0021;
- Game Hunting;
- Farm stays;
- Hiking: Graskop tel 0536732 ask for 1631; Nuwedam tel 0536732 ask for 1503.

5.8.3 THEMBELIHLE Municipality

 Hopetown

 Strydenburg

 Orania

Thembelihle Municipality is located north west of Renosterberg on the eastern fringe of the Pixley Ka Seme District Municipality *and no SDF has been compiled for the municipality*. The municipality was formed with the amalgamation of the towns of Hopetown and Strydenburg as well as more recently a section of the Pixley Ka Seme DMA area. There seems to be a dispute regarding the incorporation of Orania into this area. Orania does however form part of the Pixley Ka Seme District Municipal area and will be accommodated under the Thembelihle municipal area.

The N12, as one of the identified development corridors, runs through the Thembelihle municipal area, and passes through the towns of Hopetown and Strydenburg. The Orange river as one of the larger perennial rivers in South Africa also transgress the municipal area and is identified as a development corridor providing water for irrigation farming, providing for a constant supply of water as well as various recreational opportunities within the municipal area. The areas are also rich in tourist attractions.

The northern portion of Thembelihle Municipal area is located within the Renewable Energy Hub that was identified by the Northern Cape Spatial Development Framework. A special economic zone is envisaged within this area that will support the development of alternative energy sources to stimulate economic growth and development.

The following issues were identified as economic threats in the IDP:

- low rural population density;
- passenger trains that stop 3 days a week at any of the stations within the municipal jurisdiction area;
- high health risk rate due to HIV/ AIDS and TB;
- poor quality and standard of basic infrastructure with reference to the rural and urban areas;
- low average level of education;
- high unemployment rate;
- vandalism and littering;
- high crime rate;
- poor communication;
- poor marketing of the town;
- lack of funding for development;

- control of straying animals;
- high level of alcohol abuse;
- shortage of qualified skills & artisans.

Priority list for Thembelihle as identified in the IDP:

- Tarring of 15km of the Brakfontein road;
- Solar panels on farms;
- Upgrading of the N12 between Hopetown and Strydenburg;
- Provision of roads for small holdings to be developed between the river and Hopetown;
- Provision of proper sanitation within the Steynville and Deetleffsville informal areas - phasing out of the bucket system if and where still in operation;
- Urgent need to upgrade the electrical bulk supply and distribution system of the wider Hopetown and Strydenburg to make provision for investment;
- Poor quality of drinking water in Strydenburg;
- Upgrading of the bulk water supply system, purification and storage system as well as distribution;
- Improved refuse removal system and updating of present facilities;
- Upgrading and maintenance of cemeteries & provision for toilets in towns;
- Allocation for houses;
- Poverty elevation and job creation;
- Need for formal houses to address the housing backlog.

Proposed IDP projects

- Delivery of 250 houses (Hopetown – 200 units and Strydenburg – 50 units);
- Organise emerging farmers and provide them with better opportunities;
- Provide Multi Purpose Community Centre in the Thembelihle Municipal area;
- Improved sport facilities – Hopetown and Strydenburg;
- Improve bulk water supply in both towns;
- Provide an SDF for future development purposes;
- Develop 800ha of land for irrigation purposes – job creation, food production;
- Create an environment for tourism initiatives;
- Improve graveyard facilities in both towns – upgrading of existing and provide area for new site.

Table 46: Thembelihle Municipality Population Growth

Thembelihle Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			1 449
Urban			14 252
Total	13 987	13 218	15 701

Services:

Water

Hopetown reservoirs recently upgraded to provide adequate capacity for the next 10 years. An upgrade is needed for the water treatment plant.

Strydenburg water supply is from the Witpoort borehole supply system with new boreholes also drilled in Fairfields for additional supply. The lifespan of this system is uncertain. A need was identified to investigate the extraction of water from the Orange River as an alternative source.

Sewerage

Hopetown – the oxidation ponds operated at full capacity, but were recently upgraded.

Strydenburg – the old oxidation pond system was recently upgraded with new ponds constructed and already in use. The eradication of the bucket system in Deetlefsville remains a priority in the area.

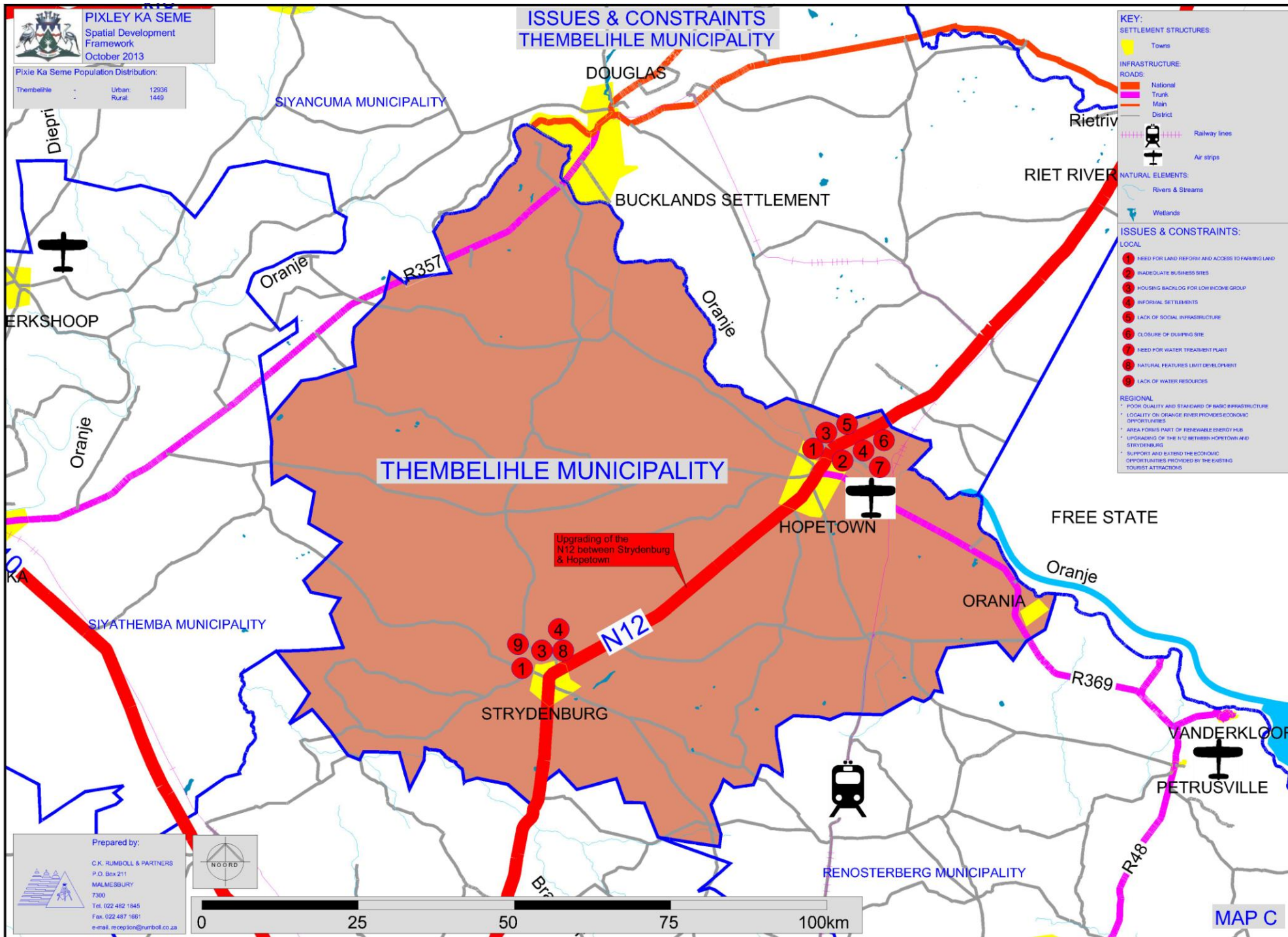
Electricity

Hopetown – old electricity system was outdated and poses a safety risk. The upgrading of the Hopetown main receipt sub station to 5MW, has commenced which will provide adequate capacity until 2030. Eskom is still servicing the old segregated township areas.

Strydenburg - electricity system is outdated and poses a safety risk.

Waste

Hopetown - Old dumping site to be closed and new one opened – new solid waste site constructed, but need electricity connection.



HOPETOWN

Overview

The name Hopetown is odd and comes from the widow of the first owner of the farm, De Kalk, who wore a small anchor. This represented hope and an imitation from tin was nailed to the farm entrance. On 18 February 1854 a town was laid out with a Dutch Reformed Church. The church was a rough frontier-type building of mud and manure. A diamond, 'Eureka', was found in 1866 and in 1868 the 83,5 carat 'Star of South Africa' diamond was discovered on the farm Zandfontein.

Table 47: Hopetown Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Hopetown	Large 9 429*	1 202	Urban Centre	Service Centre	High development & high need	Infrastructure & Social

*Stats SA 2011

Source: NCPSDF- 2012

Hopetown is identified as the Urban Centre within Thembelihle municipal area and should be further developed as an administrative centre. Urban rehabilitation of the town should be promoted to stimulate economic growth. The town is located on the northern fringe of the Municipal area, next to the Orange River.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Thembelihle IDP and during the first round Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Access land for emerging farmers and land reform – Karoo irrigation project is planned for Hopetown to provide land for upcoming farmers;
- Lack sites for business related uses;
- Investigate a more direct benefit from the major transport route/ development corridor the N12.

Housing

- Shortage of lower income housing – 1202 housing backlog - need to add 20ha of land for housing development in Hopetown;
- Limited land available for residential development;

- Upgrading of informal settlements;
- Development potential of erven along river frontage.

Community

- Lack sites for social services and open space areas;
- Proposed closure of the dumping site.

Infrastructure

- Need to address the sanitation needs in the informal areas of Hopetown;
- Need for a water treatment plant at Hopetown;
- Limited payment of services and taxes in the municipality limit the funds available in the municipality for maintenance and expansion of infrastructure services.

Tourism

Support and build on the existing tourist attractions in the area which include:

- Recreational activities along the Orange River;
- Various sport and adventure opportunities - abseiling, angling, bird watching, game viewing, hiking, 4x4 and white water rafting;
- Game Hunting;
- Farm stays;
- Rich in tourism attractions:
- 33 Church Street: A cutting mark from the 'Star of South Africa' was made on a window here to test its authenticity;
- Battle of Belmont – memorials and info panels along the N12 Battlefield route;
- Concentration Camp Cemetery – Kromhout landgoed, Doornbult;
- Edgerton Game Ranch and Adventures;
- Old Wagon Bridge and Convict Stone;
- Blockhouse: At Orange River Station;
- Convict Stone: For lack of a holding cell in the old magistrate's building, convicts were secured to this stone;

- Old Wagon Bridge: Predates the Anglo-Boer War, when one span was dropped and subsequently restored;
- Sport & Adventure: Abseiling; angling; bird-watching; game-viewing; hiking; 4x4ing; white water rafting.

STRYDENBURG

Overview

The town got its name after incessant squabbling over the name and means town of strife. Strydenburg was established on the Farm Roodepan in 1892 by the Dutch Reformed Church on the verge of a large pan filled with salty water during the rainy years.

Table 48: Strydenburg Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Strydenburg	Medium 2 748*	351	Urban Satellite	Service Centre	Transition	Social

*Stats SA 2011

Source: NCPsDF- 2012

Strydenburg is located in the southern side of Thembelihle Municipality along the N12, which is identified as one of the main development corridors in the Pixley Ka Seme District Municipal area. The town is classified as an urban satellite town.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Thembelihle IDP and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Access to land for emerging farmers – lack of water limit potential of these small farmers;
- Investigate more direct benefits from the N12 as a development corridor.

Housing

- Shortage of low income housing with a housing backlog of 351 units;
- Densification and infill planning and redevelopment of residential areas;
- Formalise informal settlements;
- Natural features limit development in Strydenburg:
 - to the south and southeast development would be hampered by the pan and the presence of dolomite;

- to the west the present dumping site and sewerage works blocks development;
- the “Rooidam”, “koppies” and potential clay to the northwest limit development;
- the N12 separate the town in two;
- Future expansion of the town is to be in the vicinity of the caravan park and to the north and east thereof.

Infrastructure

- Existing challenges in terms of water resources;
- Investigate alternative water resources;
- Economic development affected due to water shortage.

Tourism

Support and build on the existing tourist attractions in the area which include:

- Examples of well maintained Karoo architecture;
- Farm stays.
- Aloe Garden: Church Str. Opposite the hotel, offers the traveller a chance to take a break and stretch their legs.
- Cruciform: Church and well-maintained examples of typical Karoo architecture.
- Khoisan Rock Art: Kareekloof Tel 053682 ask for 1730/1712 and Sandbult Tel 053682 ask for 2531.

ORANIA

Overview

Orania was originally built as a construction base in 1970 for the impressive Orange River Water Distribution Project. After completion of construction the town stood empty for years and a group of Afrikaners then purchased it together with some surrounding land as an Afrikaner volkstaat.

Orania caters for the 'traditional' Afrikaner lifestyle with advanced irrigation techniques, implemented in close cooperation with pioneers in Israel, the only fully organic vineyards in Southern Africa and a sophisticated dairy farm and the cultivation and export of Pecan nuts.

A monument to Irish soldiers who sided with the Boers in the Anglo-Boer War



Table 49: Orania Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Orania	Very Small 759*	-		Residential	Very small 759*	Infra & Basic

*Stats SA 2011

Source: NCPsDF-2012

Orania was originally built in 1970 to accommodate the construction workers during the Orange River Project. Orania is located on the eastern fringe of the Thembelihle Municipality close to the Orange River. Orania offers an example of an alternative way of life by an Afrikaner community, which demonstrates the ingenuity of a marginalized community with advanced irrigation techniques as well as industrial development. The town and surrounding farms offers various economic stimulants like the only fully organic vineyard in South Africa, sophisticated dairy farm and the cultivation and exports of large quantities of Pecan nuts. The town also offers various recreational facilities along the Orange River which include a Resort, Hotel and Spa.

All the municipal services are provided by the local municipality. The town has adequate educational facilities with two private primary schools and two private high schools. The town also have its own cooperative bank which is registered under the South African Reserve Bank with the currency unit known as the "Ora".

Spatial / land use issues

The main spatial/ land use issues influencing development of the town as identified in the Thembelihle IDP and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Irrigation project to optimise use of water for production which include greenhouse tunnels, organic vineyards, pecan orchards and dairy farm;
- Orania has a collaboration agreement with Nyameni Empowerment Project, that is focused on the eradication of poverty and upliftment of communities.

Housing

- Various housing options are provided in Orania which include single quarters and granny flats to accommodate the various income groups in the town. The town is fully integrated in terms of income groups.

Tourism

Support and build on the existing tourist attractions in the area which include:

- Orania attract many visitors;
- Recreation opportunities provided by the Orange River;
- Architecture: Orania has a characteristic architecture, with, among others, several buildings built of straw;
- Cultural History Museum: Includes the Felix Lategan collection of firearms, some dating back to the 18th Century;
- Irrigation Project: Including greenhouse tunnels, organic vineyard and a dairy farm.

5.8.4 SIYATHEMBA Municipality

-  Prieska
-  Marydale
-  Niekerkshoop
-  Copperton

The Siyathemba municipality has a total area of 14 725km² with an urban population of 18 948 and a rural population of 2643 amounting to a total of 21 591 that is located to the northwest corner of the Pixley Ka Seme District Municipality in the Northern Cape Province. The municipality was formed with the amalgamation of the towns of Prieska, Marydale, Niekerkshoop and Copperton as well as more recently a section of the Pixley Ka Seme DMA area. The SDF for Siyathemba is currently in the process of being drafted.

Table 50: Siyathemba Municipality Population Growth

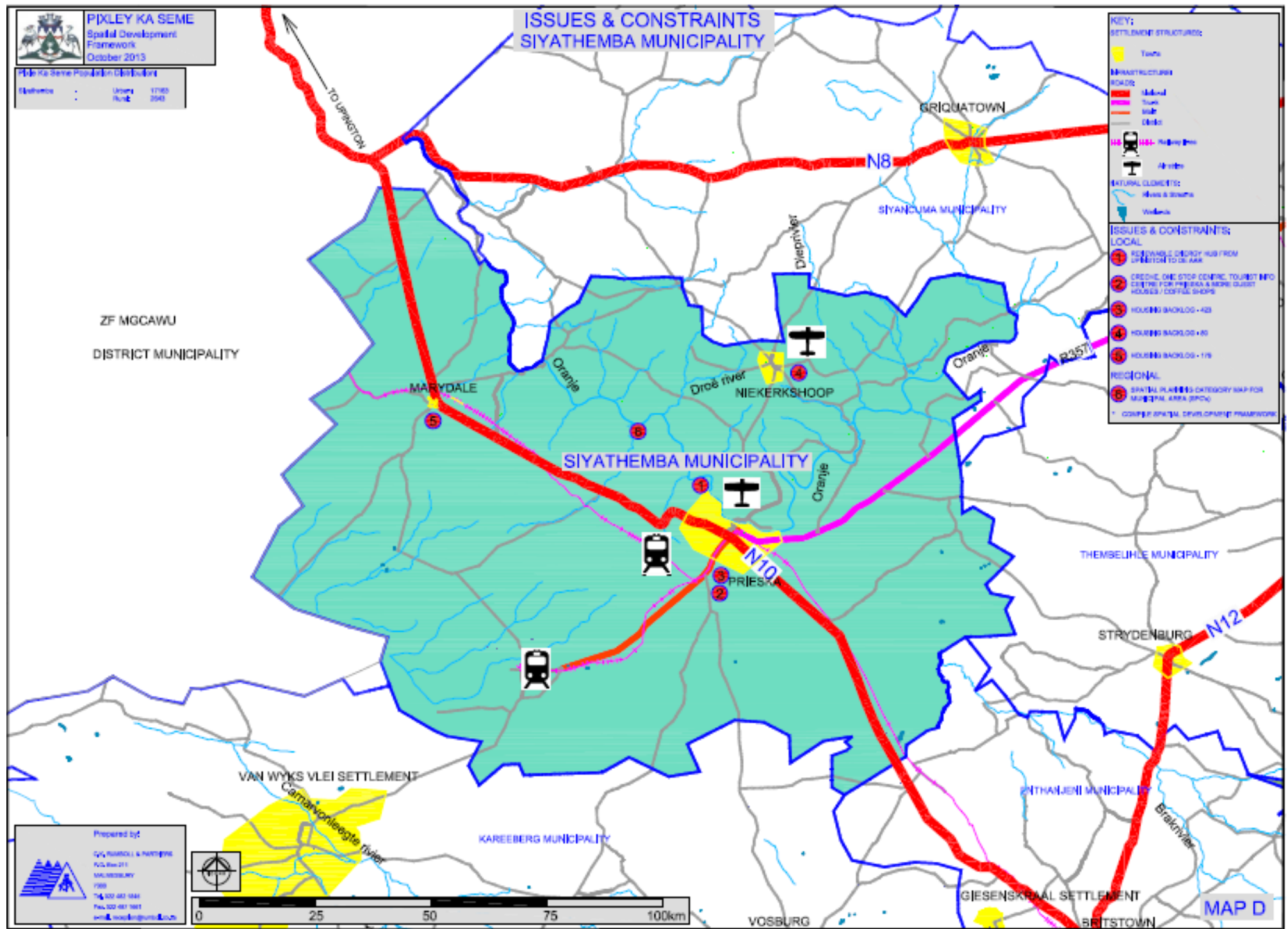
Siyathemba Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			2 643
Urban			18 948
Total	17 512	20 120	21 591

The N10, as one of the identified development corridors, runs through the Siyanthemba municipal area and passes though the towns of Prieska and De Aar. The Orange river as one of the larger perennial rivers in South Africa also transgress the municipal area and is identified as a development corridor providing water for irrigation farming, providing for a constant supply of water as well as various recreational opportunities within the municipal area. The areas are also rich in tourist attractions.

Siyathemba Municipality does not have an approved Spatial Development Framework for their area of jurisdiction and only an Integrated Development Plan (IDP) for 2013/ 2014.

Priority list for Siyathemba as identified in the IDP/ Interviews:

- Compile Spatial Development Framework (SDF) for municipal area;
- Renewable energy hub from Upington to De Aar;
- Housing;
- Sanitation;
- Access to government services;
- Stormwater drainage;
- Health services;
- HIV/ AIDS;
- One stop service centre;
- Maintenance of present services within the municipal area;
- Land;
- Economic development;
- Sports and recreational facilities;
- Illiteracy;
- High mast lighting;
- Public transport to service municipal area;
- Spatial Planning Categories map for municipal area to be commissioned;
- Low Income Housing;
- GAP Housing.



PRIESKA

Overview

Prieska lies on the south bank of the Orange River and at the foot of the Doringberg. The town's original name was Prieschap, a Khoisan word meaning 'place of the lost she-goat. The town was founded in 1882 and became known for its semiprecious stones as well as a fording place for travellers.

Table 51: Prieska Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
PRIESKA	Large 13017*	423	Urban centre	Service centre	Transition	Infra & basic

*Stats SA 2011

Source: NCPsDF- 2012

Prieska is identified as an Urban Centre within Siyatemba municipal area and should be further developed as a service centre. The town is located almost to the centre of the Municipal area and on the southern bank of the Orange River.

Recreational facilities include a golf club and holiday resort. Community services in the town include 3 community halls, 2 libraries, a hospital, 1 hospice, 5 primary schools, 1 combined school and 1 secondary school. Government is also well represented with a post office, police station and magistrate's court. The commercial sector is well represented with 5 banks and businesses while accommodation is available in 2 hotels and guest houses. An Anglo Boer War battle field is found in the vicinity and acts as tourism draw card. There are potential areas for a solar corridor near Prieska, but this will have to be aligned with the PSDF.

The following social issues were identified in the IDP:

Social

- No crèches or day care centres;

- No one-stop centre;
- No tourist information centre;
- Inadequate guest houses and coffee shops;
- No drive-in cinema.

Housing

- Eradicate housing backlog of 423 units.

Tourism

Support and build on the existing tourist attractions in the area;

- Re-develop and expand Die Bos Nature Reserve/ Resort: Indigenous trees, shrubs and abundant bird life, picnic spots and angling. Suspended bridges cross the Prieska River;
- Fort: On top of Prieska Koppie, built with tiger's eye by the British during the Anglo-Boer War (1899-1902);
- Green Valley Nuts: Cultivation and export of Pistachio Nuts;
- Hiking Trails: The Oranjezicht and T'Keikamspoor hiking trails are 10km south of town in the Doornberge;
- Khoisan Rock Art: Kleindoring, Omdraaisvlei, Uitdraai and Wonderdraai;



Khoisan Rock Art

- Memorial Garden: In town, it contains graves of British soldiers killed during the Anglo-Boer War;
- Prieska Museum: A skillful display of the yesteryear Prieska;

- Ria Huysamen Aloe Garden: A large array of succulents. The area between Prieska and Vioolsdrif is often called the 'Rock Garden Route' - the rare halfmens and succulents of the Lithops family are found here;
- Schumann Rock Collection: Includes semiprecious stones and San stone implements at the municipal offices;
- Wonderdraai: A wonderful "freak of nature" where a horseshoe-shaped island is formed by the flow of the Orange River and makes it seem as if the river turns to flow uphill.

MARYDALE

Overview

Marydale was named after the wife of Mr GP Snyman who was the owner of the farm on which the town was established. The town was established in 1903 by the Dutch Reformed Church.



The nearby Boegoeberg Dam

Table 52: Marydale Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
MARYDALE	Medium 2358*	179	Rural service centre	Service centre	Low development/ High need	Social

*Stats SA 2011

Source: NCPSDF-2012

Marydale is located almost on the eastern boundary of the Siyathemba Municipality. The town is classified as a rural service centre serving the rural area surrounding it.

Recreational facilities are available while community services in the town include a community hall, library, clinic and 1 combined school. Government is represented by means of a police station. The commercial sector is represented with 1 bank and an abattoir while accommodation is available in a hotel.

IDP issues identified:

Economic

- Need resources required for the extension of the vegetables project.

Social

- No sports and formal recreation facilities.

Tourism

- Kokerboom Forest. Tel 054 8710007;
- Boegoeberg Dam.

NIEKERKSHOOP

Overview

Table 53: Niekerskshoop Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
NIEKERKSHOOP	Medium 1692*	80	Rural service centre	Agriculture	Transition	Social

*Stats SA 2011

Source: NCP SDF- 2012

Niekerkshoop is located almost on the northern border of Siyathemba Municipality on the road between Prieska and Griekwastad. The town is classified as a rural service centre serving the agriculture surrounds.

Recreational facilities are available while community services in the town include a community hall, library, clinic and primary school. Government is represented by means of a police station.

Priority issues identified in the IDP:

Social

- No crèches or day care centres;
- No sport facilities;
- Fighting and HIV/ AIDS is a serious problem.

Pixley SDF proposals

- Land needed for housing backlog;
- Water shortage to be addressed by means of feasibility study.

COPPERTON

Overview

Table 54: Copperton Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
COPPERTON	Medium 27*	0	Rural service centre	Mining	Low	Social

*Stats SA 2011

Source: NCPSDF- 2012

Copperton is located in the Siyathemba Municipality and 60km southwest of Prieska. The town's economic base was that of a copper and zinc mining area. The mine was opened in 1972 and closed in 1991. At that time 3 000 workers and their families lived here. Community facilities included a school and recreation facilities, including a golf course. Most of the buildings have been demolished, but some houses are still occupied by DENEL personnel who operate a missile testing site in the area.

The Garob Wind Farm is planned near Copperton.

**Copperton
today**



5.8.5 Renosterberg Municipality

 **Petrusville**

 **Philipstown**

 **Vanderkloof**

The Renosterberg municipal area is located on the eastern side of the Pixley Ka Seme District Municipal area along the Oranje River and adjoining the Vanderkloof Dam. The Renosterberg Municipal area does have a municipal Spatial Development Framework, but it has not been approved by the MEC. The Renosterberg Municipal area consists of the towns of Petrusville, Phillipstown and Vanderkloof.

The locality of the area along the Orange River which provides a sustainable water resource offers various development opportunities in terms of tourism, agriculture and potential for the development of some industries. Development opportunities in the area will be further supported by close locality of Phillipstown to the N10 and N1 as major transport routes that cross the Pixley district municipal area.

Table 55: Renosterberg Municipal Population Growth

Renosterberg Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			1 110
Urban			9 868
Total	9 070	9 185	10 978



Pixley Ka Seme Population Distribution:

Renosterberg	-	Urban:	8952
	-	Rural:	1110

ISSUES & CONSTRAINTS RENOSTERBERG MUNICIPALITY

KEY:

SETTLEMENT STRUCTURES:

- Towns

INFRASTRUCTURE:

ROADS:

- National
- Trunk
- Main
- District

Railway lines

Air strips

NATURAL ELEMENTS:

- Rivers & Streams
- Wetlands

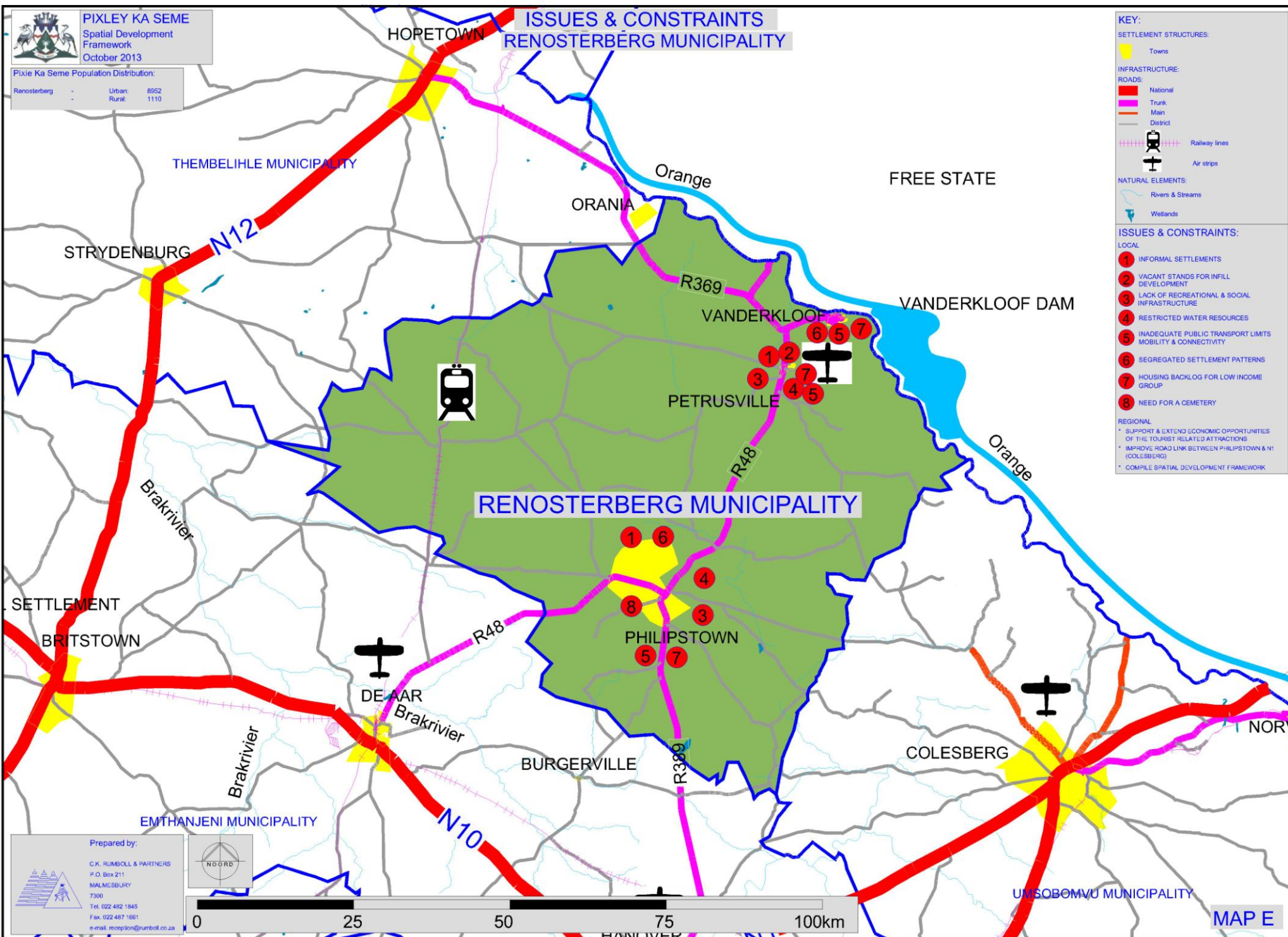
ISSUES & CONSTRAINTS:

LOCAL

- 1 INFORMAL SETTLEMENTS
- 2 VACANT STANDS FOR INFILL DEVELOPMENT
- 3 LACK OF RECREATIONAL & SOCIAL INFRASTRUCTURE
- 4 RESTRICTED WATER RESOURCES
- 5 INADEQUATE PUBLIC TRANSPORT LIMITS MOBILITY & CONNECTIVITY
- 6 SEGREGATED SETTLEMENT PATTERNS
- 7 HOUSING BACKLOG FOR LOW INCOME GROUP
- 8 NEED FOR A CEMETERY

REGIONAL

- SUPPORT & EXTEND ECONOMIC OPPORTUNITIES OF THE TOURIST RELATED ATTRACTIONS
- IMPROVE ROAD LINK BETWEEN PHILIPSTOWN & N1 (COLESBERG)
- COMPLETE SPATIAL DEVELOPMENT FRAMEWORK



PETRUSVILLE

Overview

Petrusville was named after Petrus van der Walt who was the owner of the farm, Rhenosterberg where the town was established in a fertile valley surrounded by a cluster of high hills.

Table 56: Petrusville Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Petrusville	Medium 4830*	300	Urban Centre	Service Centre	Transition	Infrastructure & Social

*Stats SA 2011

Source: NCPsDF-2012

The town of Petrusville is located on the northern periphery of Renosterberg Municipal area, close to the Vanderkloof Dam and is a service centre for the surrounding farming areas.

Spatial / land use issues

The main spatial/ land use issues influencing development of the town as identified in the Pixley Ka Seme District IDP (2011) and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Develop the town further as an administrative centre;
- Urban rehabilitation to stimulate economic growth;
- Locality of the town in terms of Vanderkloof should be further developed to positively influence economic development in the town;
- The close proximity of the N1 and N12 can provide opportunities for future economic stimulants.

Housing

- Shortage of lower income housing units with current backlog of 300;
- Vacant land audit identified various vacant stands in municipal area which allow for infill development and densification;
- Formalization of informal settlements.

Community

- Lack of recreational facilities and social infrastructure.

Infrastructure

- Experiencing water resources challenges especially during the summer months – Pixley Ka Seme District feasibility study indicated the following alternatives:
 - Development of an additional borehole, and
 - Investigate potential for pipeline from Vanderkloof Dam to Petrusville;
- Inadequate public transport limits connectivity to other surrounding towns;
- Old sanitation systems need to be eradicated.

Tourism

Town and surrounding area support many existing tourist related activities and attractions:

- Existing tourist activities and attractions:
- Church Museum;
- Hunting;
- Farm stays;
- Pillar fountain erected in honour of King Edward VII;
- Stone trenches from the Anglo Boer War still found in koppies;
- **San Rock Art - on the farm Kraaibosch.**



- Dutch Reformed Church Museum: The museum houses a horse-drawn, hooded cart and century-old clothing.

PHILLIPSTOWN

Overview

Phillipstown was founded as the church centre for the area in 1863. The town was named after Sir Philip Wodehouse, Governor of the Cape.

Table 57: Phillipstown Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Phillipstown	Medium 4830*	100	Urban Satellite	Service Centre	Transition	Infrastructure & Social

*Stats SA 2011

Source: NCPsDF-2012

The town of Phillipstown is located on the southern periphery of Renosterberg Municipal area within an extensive farming area with the town serving as an Urban Satellite within the surrounding rural area.

Spatial / land use issues

The main spatial/land use issues influencing development of the town as identified in the Pixley Ka Seme District IDP (2011) and during the first round of Public Participation process of the District Spatial Development Framework is as follows:

Economy

- High levels of unemployment especially among the youth;
- Close proximity to the N1 and N12 should be further enhanced to bring about economic opportunities;
- Improve road network, especially links to N1 (Colesburg) – proposed tarring of the road to improve mobility;
- Inadequate public transport limits the mobility of the community and linkages with surrounding areas;
- Investigate potential to add value to farming products - cleaning of wool in town before it is dispatched to provide more economic opportunities;
- The close proximity of the N1 and N12 can provide opportunities for future economic stimulants.

Housing

- Densification, redevelopment and infill planning in residential areas;
- Shortage of lower income housing with a backlog of 100 units;
- Segregated settlement pattern;
- Poor quality of houses that were constructed in the past provides continued maintenance problems.

Community

- Lack of recreation facilities and social infrastructure in the community;
- Need for a cemetery.

Infrastructure

- Experiencing water resource challenges especially during the summer months – Pixley Ka Seme District Feasibility study investigated the following:
 - Additional borehole in Phillipstown;
 - Pipeline from Vanderkloof Dam to Petrusville, Phillipstown, de Aar providing extensions to Britstown and Vosburg;
 - Pipeline form Vanderkloof Dam;
- Need for improved lighting in urban areas to improve security of areas.

Tourism

Town and surrounding area support many existing tourist related activities and attractions:

- Hunting;
- Khoisan rock engravings: Kareepoort Tel 053652 ask for 1522; Olievenfontein Tel 053652 ask for 1713; Rooipoort Tel 053652 ask for 2122; Somerlus Tel 053652 ask for 2121; Waschbank Tel 053652 ask for 1922;
- National Monuments – old prison museum, magistrate's office, the Reform Church and Teichhouse.
- Wire car Grand Prix.

Contestants in the Grand Prix



VANDERKLOOF

Overview

Vanderkloof is named after the farm on which the Vanderkloof Dam was built and the town accommodated the people building the dam. Today it is a popular holiday resort. The dam has the highest dam wall in the country (108m) and links the Northern Cape to the Free State.

Table 58: Vanderkloof Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Vanderkloof	Small 2154*	50	Urban Satellite	Residential/ recreation	High development and low need	Infrastructure & Basic

*Stats SA 2011

Source: NCPsDF-2012

The Vanderkloof settlement is located next to the Vanderkloof Dam. The main focus of the town is for residential and recreational purposes. This town is a flourishing holiday resort with its economic base largely related to these uses.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Pixley Ka Seme District IDP(2011) and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Economic base largely limited to recreational activities and supporting services;
- Inadequate public transport limits the mobility of the community.

Housing

- Segregated town pattern;
- Shortage of lower income housing units with a current housing backlog of 50 units.

Infrastructure

- Potential to provide more sustainable water resources from this area to rest of Renosterberg Municipal area;

- Eskom Hydro Electrical Power Station situated in the Dam wall – provide electricity supply.

Tourism

Town and surrounding area support many existing tourist related activities and attractions:

- Vanderkloof Dam is a flourishing holiday resort;
- Rolfontein Nature Reserve as a tourist attraction;
- Damhuis information centre – in one of the original construction workers houses with history of dam and surrounds;
- ESKOM Hydroelectric Power Station situated in the Vanderkloof Dam wall – One of only two Hydro Power Stations in South Africa that generates electricity into the Eskom network. The station is situated within the dam wall and can be visited by appointment. Tel 053 664 0002.
- Hunting;
- Nature conservation museum;
- Rolfontein Nature reserve. A 6 200ha reserve. Tel 053 664 0170 ;
- Vanderkloof Dam reserve;
- Watersports. Waterskiing, boardsailing, boating, swimming, etc

5.8.6 UBUNTU Municipality

 **Victoria West**

 **Richmond**

 **Loxton**

The Ubuntu Municipality is located on the southern border of the Pixley Ka Seme District Municipality, and has a total area of 20 389km² which include the towns of Victoria West, Richmond and Loxton as well as the rural settlements of Merriman and Hutchincon (developed around the railway systems). The Ubuntu area is mainly a sheep farming area with the municipality representing 20% of the total area of the Pixley Ka Seme District Municipality. The SDF for Ubuntu has not been approved by the MEC.

According to the Ubuntu IDP of 2011, 33.9% of the population resides in the rural areas of the municipality – with continued rural-urban migration that is foreseen. There will always be a higher demand on the urban areas in term of services, housing delivery and infrastructure as well as job opportunities.

The northern portion of Ubuntu Municipal area is located in the Renewable Energy Hub that was identified by the Northern Cape Spatial Development Framework. They envisage a special economic zone within this area that will support the development of alternative energy sources to stimulate economic growth and development.

Table 59: Investment required in the larger Ubuntu municipal area according to the Ubuntu IDP

SECTOR	PRIORITIES	TOWNS
Community Development	Clinics	Ubuntu
Infrastructure	Landfill sites	Ubuntu
	New water resources	Victoria West, Richmond and Loxton
	Investigate the establishment of road between Victoria West and Richmond	
Housing	Sub-economic housing provision	Victoria West, Richmond and Loxton
Land use management	Zoning Scheme and local land use regulation	Ubuntu
Environment	Comprehensive management plan	Ubuntu
	Extension of nature reserve to include riverine rabbits	Victoria West

Source: Ubuntu IDP 2011-2016

230

Table 60: Ubuntu Municipality Population Growth

Ubuntu Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			3 522
Urban			15 079
Total	16 375	16 153	18 601

Services:

Water

The towns in Ubuntu municipal area rely on boreholes for their water supply. The challenges are:

- Water quality in Richmond;
- Investigate additional and alternative water sources;
- Insufficient water for Victoria West.

Sewerage

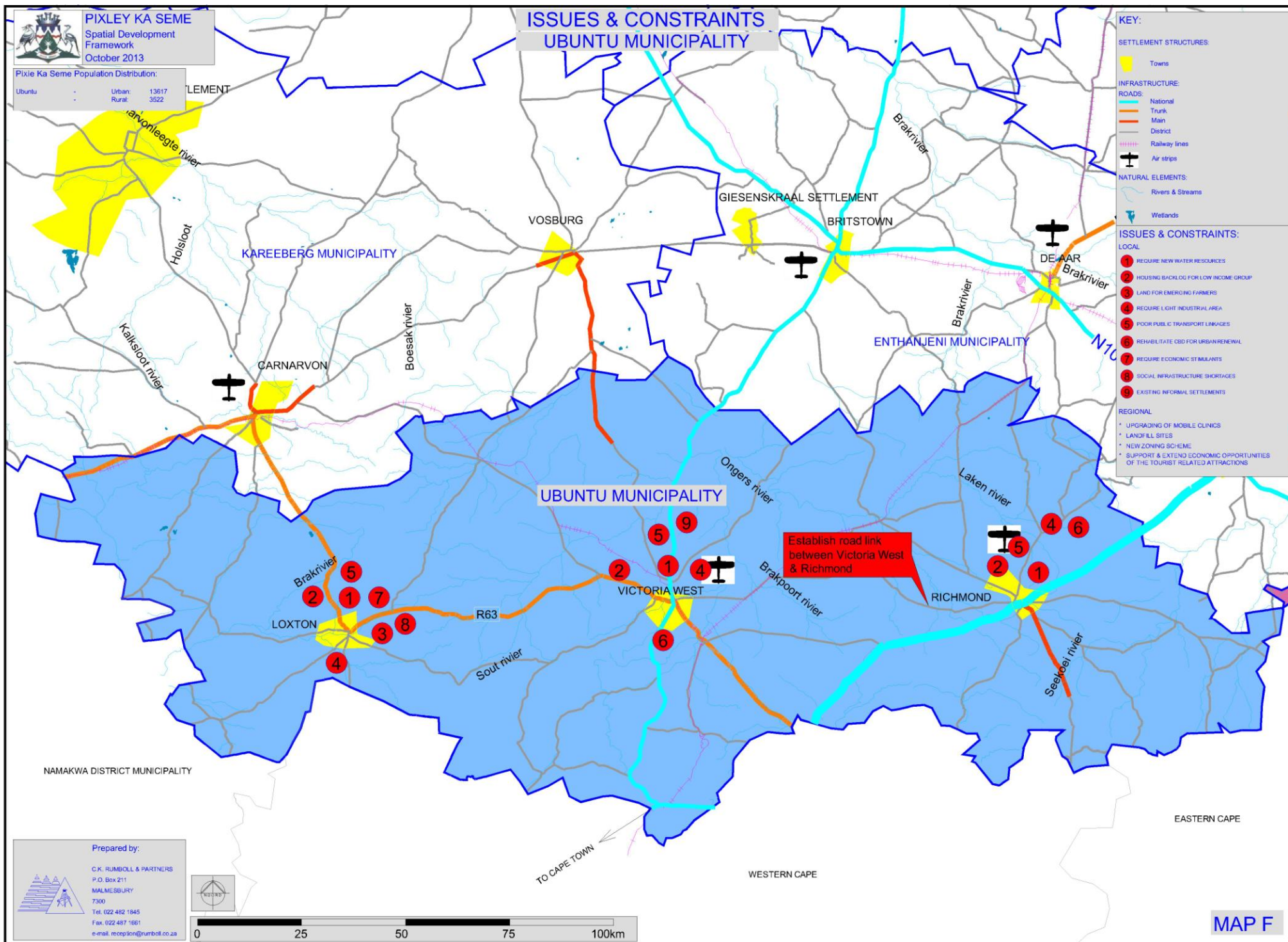
Eradication of the bucket systems in the towns of Ubuntu by formalizing the areas with connection of reticulates systems.

Rural Land Use Guidelines

Land use guidelines for rural areas in the Ubuntu Municipality according to the Ubuntu SDF:

- Care should be taken not to exceed the carrying capacity of the farming land units;
- Caring for the environment should be paramount especially in the management of the soil;
- Groundwater to be utilized according to the regulations set by the relative authority;
- Mobile clinics must be established to provide health care;
- Rural roads need to be upgraded;

- Housing and social services of rural communities need attention;
- Need for small farmers to gain access to land;
- Removal of alien vegetation in rural areas;
- Improve access to socio- and economic facilities in rural areas to support sustainable land uses in rural areas;
- Minimize clearing of natural vegetation – protect top soil;
- Off road vehicles restricted to impact tolerant areas.



MAP F

Source: CKR

VICTORIA WEST

Overview

The town was named after Queen Victoria of England and established in 1843. Victoria West forms the starting point of the Diamond Way and lies on the main route from Cape Town to Kimberley. Diamond fever was sparked in 1866 with the discovery at Hopetown and then at Kimberley.

The railway from Cape Town to the north missed Victoria West by 12km with the closest station on Hutchinson.

Table 61: Victoria West Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Victoria West	Medium 7611*	600	Urban Centre	Service Centre	Transition	Infrastructure and Basic

*Stats SA 2011

Source: NCPsdf- 2012

Victoria West is the seat of the local government of Ubuntu Municipality and is also identified as an Urban Centre. The town is located in a central location in Ubuntu and is also located on the N12 as an identified development corridor and is also identified as a major traffic node within the Pixley Ka Seme District Municipal area.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Ubuntu IDP (2011-2016) and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Access to land for emerging farmers;
- Light industrial area required for economic development;
- Improve public transport to allow for increased mobility;
- Develop the potential of the town's location on the N12;
- Rehabilitation of CBD in Victoria West to enhance economic opportunities.

Housing

- Shortage of low income housing with a backlog of 600;
- Formalization of the existing informal settlements;
- Densification and redevelopment in the town.

Infrastructure

- Prioritize the building of an access road between Victoria West and Richmond to increase mobility.

Tourism

Support and build on the existing tourist attractions in the area which include:

- Rich source of Architecturally unique buildings – provide tourism potential in future;
- Rich in tourism attractions that have the potential for economic development:
- Apollo Theatre – hosting regular Film festivals. A declared Heritage Site. The only surviving example, in South Africa, of a 1950s Art Deco cinema;
- Hunting;
- Museum. Displays on history, archaeology and fossils, including those of fossilised fish, reminding the visitor that the Karoo was, 200 million years ago, an inland sea;
- Victoria West Nature Reserve – habitat to the rare Riverine Rabbit.



The Victoria Trading post houses plenty of unusual memorabilia

- Anglican Church: Built in 1869. Two beautiful stained glass windows can be viewed.
- Dutch Reformed Church: Built in 1847.
- Print Shop: Time has stood still in the printshop of the Victoria West Messenger, published since 1876.

RICHMOND

Overview

Richmond was established in 1843 when a new congregation was formed for the area. This happened on a portion of the farm Driefontein and erven were sold on 19 April 1845 during a communion gathering. Unusually for this arid region, it was built astride a river which has been cited as the reason for the irregular street grid. The town got its name from the Duke of Richmond from Kent, who was the father-in-law of the Governor of the Cape at that time, Sir Peregrine Maitland. It was a resort town for European aristocratic tuberculosis patients in the 1800s due to its clean air and mineral rich waters.

Table 62: Richmond Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Richmond	Medium 2841*	225	Rural Service Centre	Service Centre	Transition	Social

*Stats SA 2011

Source: NCPsDF- 2012

Richmond is located in an extensive farming area on the N1 route between CapeTown and Johannesburg. This route is also identified as a development route in the Pixley Ka Seme District Municipal area.

Spatial/ land use issues

The main spatial/ land use issues influencing development of the town as identified in the Ubuntu IDP (2011-2016) and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- Located on the N1 route between Gauteng and Western Cape – provide potential for development;
- Located on one of the identified development corridors of the Pixley Ka Seme District and should have more intervention to support economic growth;
- Provide opportunities and land for emerging farmers;
- Identification of light Industrial area;
- Rehabilitation of CBD in Richmond to enhance economic opportunities.

Housing

- Shortage of low income housing with a backlog of 225;
- Rich in tourism attractions;
- Densification and redevelopment of residential areas.

Tourism

Town and surrounding area support many existing tourist related activities and attractions:

- Anglo-Boer War graves – At Deelfontein Station;
- De Oude Dak – first house built in town in 1846;
- Driefontein – Original house on farm where town was founded. It also served as the first church;
- Dutch Reformed Church – built 1854 – highest pulpit in the country;
- Fossil Footprints and Bat cave. 60 clear claw-like footprints can be seen, presumably from the Aulacephalodon that lived about 250 million years ago;
- Hunting;
- Mailbox dating from the reign of Queen Victoria – only three in country;
- Market Square garden – See the old Market Bell, Memorial Needle and Mountain Tortoises brought here to recover from accidents with vehicles;
- Old horse Corn mill – dating from 1868 in working order;
- Pedestrian Bridge. It was originally the Sprigg Bridge when built in 1846;
- Rooikop hiking trails;
- Saddle Horse Museum. Richmond is home to one of only two of its kind in the world;
- Verborgenfontein –game viewing and bird watching. Tel 0536912 ask for 2221.

Loop Street, Richmond



LOXTON

Overview

Loxton was established in 1899 by the Dutch Reformed Church on the Farm Phizantefontein that belonged to AE Loxton. The town supplied in the needs of the sheep-farming community and became a municipality in 1905. A flash flood destroyed three-quarters of the town in March 1961 causing the dam above the town to burst.



Table 63: Loxton Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
Loxton	Small 921*	80	Rural Service Centre	Service Centre	Transition	Infrastructure & Social

*Stats SA 2011

Source: NCPsDF-2012

The town of Loxton is located on the southern periphery of Ubuntu Municipal area within an extensive farming area with the town serving as a Rural Service Centre.

Spatial/land use issues

The main spatial/land use issues influencing development of the town as identified in the Ubuntu IDP(2011-2016) and during the first round of Public Participation for the District Spatial Development Framework (SDF) are as follows:

Economy

- The location of the town on the main access route from and to Namakwa District to Pixley Ka Seme District should be investigated for potential economic growth;
- Center supports surrounding rural areas;
- Inadequate public transport system limits the mobility of people and connectivity between towns;
- High levels of unemployment;

- Need economic stimulants;
- Access to land for upcoming farmers;
- Need for light industrial zoned land.

Housing

- Densification and redevelopment of residential areas. – most vacant land in private ownership;
- Existing housing backlog of 80;
- Shortage of lower income housing units;
- Formalization of land and secured tenures.

Community

- Need to develop social services and infrastructure to support the surrounding area;
- Need for new cemeteries and upgrade of old ones.

Tourism

Town and surrounding area support many existing tourist related activities and attractions:

- Continue to develop the hunting as a tourist related activities that are well known in the area.
- Hiking: Voetspoor Tel 0533812 ask for 1522.
- San Rock Art: Engravings at Kafferskraal, tel 0533812 ask for 1513.

5.8.7 SIYANCUMA Municipality

 Douglas

 Griekwastad

 Campbell

The Siyancuma municipality with a total area of 16 753km² and an urban population of 30 506 and a rural population of 6570 for a total of 37 076 is located in the northern corner of the Pixley Ka Seme District Municipality in the Northern Cape Province. Siyancuma Municipality is located northeast of the Thembelihle and Siyathemba municipalities on the eastern fringe of the Pixley Ka Seme District Municipality and borders on the neighbouring Frances Baard Municipality. The municipality was formed with the amalgamation of the towns of Douglas, Griekwastad and Campbell as well as more recently a portion of the Pixley Ka Seme DMA area. Rich mineral deposits (diamonds, tiger eye, zinc, lead, copper) are also present within the municipal area. The SDF for Siyancuma forms a small part of the IDP and has not been approved by the MEC, but adheres to SPLUMA and the NC PSDF.

Table 64: Siyancuma Municipality Population Growth

Siyancuma Municipality	Population		
	2001 Census	2007 Survey	2013 Census
Rural			6 570
Urban			30 506
Total	35 810	35 970	37 076

Siyancuma Municipality does not have an approved Spatial Development Framework for their area of jurisdiction and only an Integrated Development Plan (IDP) for 2012/ 2013.

Restitution areas include:

-  Schmidtsdrift – 300 informal households;
-  Bucklands – 21 farms.

Rural areas include:

- ✚ Plooyburg;
- ✚ Salt Lake;
- ✚ Witput (railway town);
- ✚ Belmont (railway town);
- ✚ Graspan (railway town);
- ✚ Heuningskloof;
- ✚ Volop.

The N12 as one of the identified development corridors runs through the southern portion of the Siyancuma municipal area. The Orange River as one of the larger perennial rivers in South Africa and forms part of the southern border of the municipal area and is identified as a development corridor providing water for irrigation farming, a constant supply of water as well as various recreational opportunities in the municipal area. The area is also rich in tourist attractions.

The following issues were identified as social threats in the IDP:

- Renewable energy hub from Upington to De Aar;
- Weak conservation of properties;
- Nepotism;
- HIV/ AIDS;
- Crime.

Priority list for Siyancuma as identified in the IDP/ Interviews:

- Spatial Plan for municipal area to be commissioned;
- Housing;
- Water & sanitation;
- Health;
- Roads;
- Sport & recreational facilities;
- Agricultural facilities;
- LED;
- Day care centres;

- Information centres and libraries;
- Employment and poverty alleviation;
- Electricity;
- Education and youth development;
- Access to land;
- Land development;
- Spatial integration;
- Sustainable land management;
- Proper distribution network;
- Land conservation;
- Water resource challenges;
- Spatial Planning Categories map for municipal area to be commissioned;
- Roads – Kimberley + Douglas (Lime Acres) gravel road – tarred would shorten road 200-300km / Prieska + Niekerkshoop connecting Griekwastad + Van Wyksvlei connecting Carnarvon / manganese from Postmasburg to PE;
- Low Income Housing – Backlog Bongani + Bruinpan / 2011 census backlog / +- 4000 not enough funds / complete ward are filled by shanti's – need funds;
- GAP Housing – nothing – no strategy / Third biggest prison in NC +- 200 workers / teachers qualify for GAP housing (4 schools) / contribute to economy, but no tenure security;
- Development Nodes – Colesberg/ De Aar/ Gariep Dam – Tourism – Glazier Pavement/ Confluence/ Architecture/ Mokala as Natural Park to conserve Rhino's / entry as SN for Pixley from the North should be a development node (also the broader SN);
- Agriculture – farmers to act as mentors – agricultural training/education/ financial – Pixley to support upcoming farmers to enter agriculture / good water supply – 3 rivers within 3km radius.



PIXLEY KA SEME

Spatial Development
Framework
October 2013

Pixley ka Seme Population Distribution

Ward Name : 27964
Ward Number : 6570

ISSUES & CONSTRAINTS SIYANCUMA MUNICIPALITY

KEY:

SETTLEMENT STRUCTURE

- Towns

INFRASTRUCTURE

ROADS

- Highway
- Main
- Local
- Other

Public Transport

- Bus
- Train
- Air

NATURAL ELEMENTS

- Rivers & Streams
- Wetlands

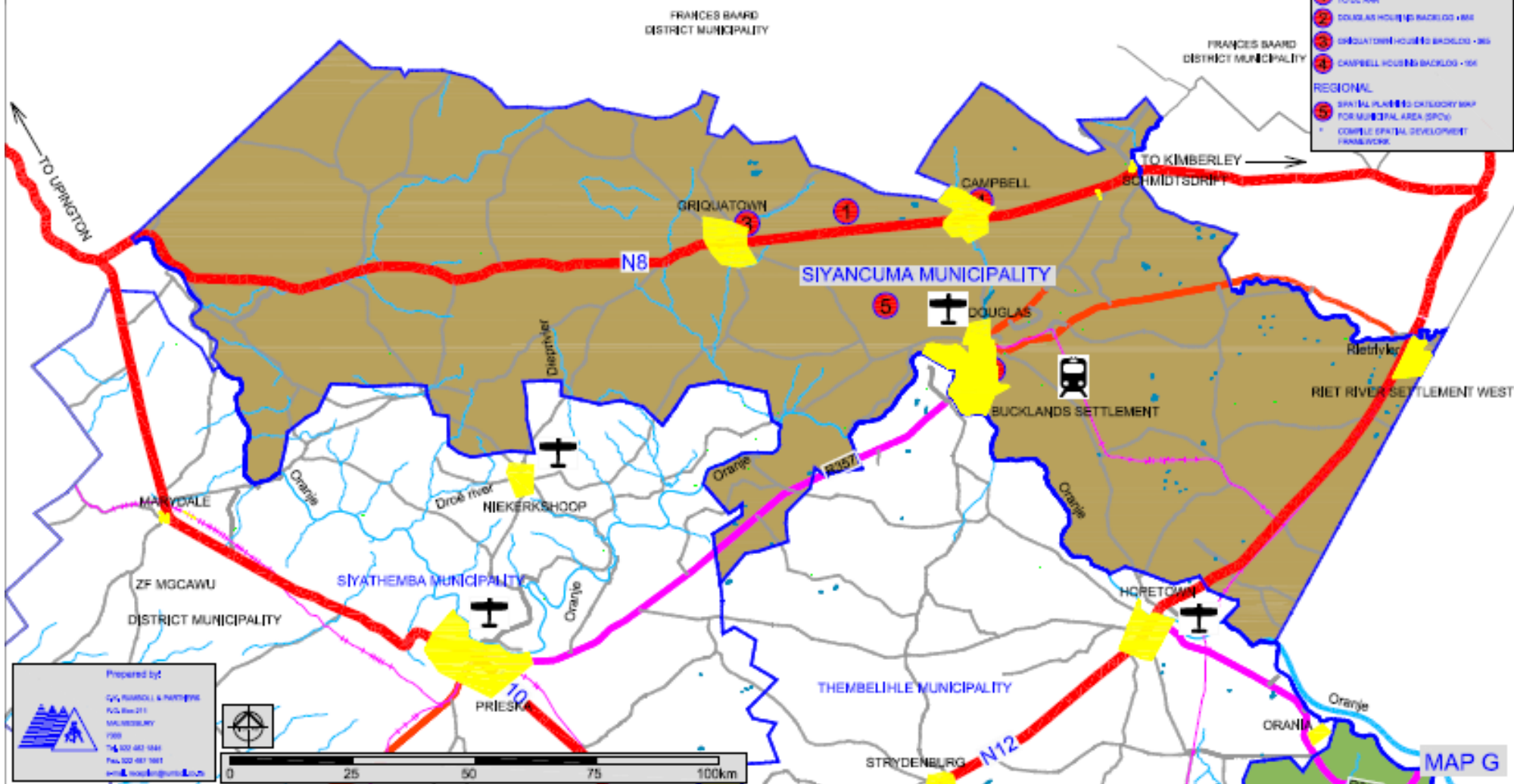
ISSUES & CONSTRAINTS:

LOCAL

- 1. Renewable energy hub from Upington to Garies
- 2. Douglas housing backlog - 100
- 3. Orluquato housing backlog - 100
- 4. Campbell housing backlog - 100

REGIONAL

- 5. Spatial planning category map for municipal area (SPC)
- 6. Core spatial development framework



Source: CKR

DOUGLAS

Overview

The town began as a Mission Station in 1848 on the farm Backhouse, by the Reverend Isaac Hughes. In 1867, a group of Europeans from Griquatown signed an agreement giving them the right to establish a town. The town was named after General Sir Percy Douglas, Lieutenant Governor of the Cape Colony. The town is near the confluence of the Orange River and its main tributary, the Vaal River and surrounded by a wealth of agricultural and stockfarming ventures.

Table 65: Douglas Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
DOUGLAS	Large 18645 (Including Riet Rivier & Belmont)*	884	Urban centre	Agriculture	High development & high need	Infrastructure & Social

*Stats SA 2011

Source: NCPsDF-2012

Douglas is identified as the Urban Centre within Siyancuma municipal area and should be further developed as an agriculture centre. The town is located in the centre of the Municipal area, close to the confluence of the Orange and Vaal Rivers. Residential areas include Bongani, Breipaal and Douglas CBD.

Recreational facilities include a golf club and holiday resort. Community services in the town include a community hall, fire station, a hospital, 3 clinics, 2 primary schools and 4 combined schools. Government is also well represented with post office, police station, prison and magistrate's court. The commercial sector is well represented with 3 banks and businesses while accommodation is available in a hotel and guest houses.

- Budget since 1996 for basic infrastructure in poor areas to catch up service backlogs;
- Influx of unskilled people from farms still continuing;
- Agriculture, community, social, personal service sectors biggest job providers.

Housing

- Eradicate housing backlog – 884 units.

Tourism

Support and build on the existing tourist attractions in the area:

- Die Neus: A scenic spot 14km from town, Die Neus is on the confluence of the Orange and Vaal Rivers;
- Douglas Wine Cellar: Established in 1968. The cellar produces a wide variety of table and desert wines. Visitors are welcome;
- Driekopseiland: Some 3 000 rock engravings and petroglyphs spread over a large area of glacial pavement in the Riet River bed. Some portray animals, but most are abstract or entoptic designs relating to San religious experience.
- Sport: Excellent freshwater fishing on the Vaal and river rafting on the Orange River. For guided walks, tel 053 298 2645.



Douglas holiday resort

GRIEKWASTAD

Overview

In 1803, the London Missionary Society extended its mission north of the Orange River and the place called Klaarwater became Griekwastad. The town had to accommodate a mixed community consisting of members of a Chaguriqua tribe and 'bastaards' (of mixed origin) from Piketberg, and local tribes like the Koranna and Tswana. Their two leaders were Adam Kok II and Andries Waterboer. In 1813 the 'bastaards' renamed themselves Griqua at the instigation of Rev. John Campbell.

Because of disputes between the two leaders, the Kok faction left Griquatown for Philippolis and Kokstad. When diamonds were discovered the Griqua were one of the parties claiming that the Diamond Fields lay within their territory. The area was awarded to Waterboer by the Keate arbitration who immediately sought Crown protection. This led to the establishment of the colony of Griqualand West, which was later annexed to the Cape Colony. The first council chamber of the Griqua, and the execution tree where Waterboer hanged criminals, can be visited in Water Street. Griquatown is known for its semiprecious stones, tiger's eye and jasper and is also a centre for stockbreeding.

Table 66: Griekwastad Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
GRIEKWASTAD	Medium 5802*	365	Rural service centre	Service centre	Transition	Infra & social

*Stats SA 2011

Source:NCPSDF-2012

Griekwastad is located in the northern corner of Siyancuma Municipality and on the main route between Kimberley and Upington. The town is classified as a Rural Service Centre and serves the surrounding rural area. Residential areas of Griekwastad include Mathlomola, Rainbow Valley, Charlesbeespark and Griekwastad CBD. The town is popular as a tourist stopover and the most racially integrated town within the municipality.

Griekwastad is lacking recreational facilities and community services in the town include 2 libraries, a hospital, 1 primary school and 1 combined school. Government is presented by a post office and police station. The commercial sector is presented by guest house and an abattoir.

The following issues were identified as social threats in the IDP:

- Weak conservation of properties;
- Nepotism;
- HIV/ AIDS;
- Crime.

Tourism

- Andries Waterboer's Grave: Two cannon, 'old Niklaas' and 'old Grietjie', gifts from Queen Victoria, are guarding his resting place;
- Mary Moffat Museum: The building dating from c1826, was a mission church. The museum was named after Mary, daughter of Robert Moffat, who married Dr David Livingstone. A pulpit used by Moffat, Waterboer and Livingstone, can be seen here;



Mary Moffat Museum

- Witsand Nature Reserve.

CAMPBELL

Overview

Campbell (a village, on the edge of the Ghaap Plateau), was one of the earliest centres of Christianity north of the Orange River. Original names were Grootfontein or Knoffelvallei, but the town was renamed to honour the Reverend John Campbell, a traveller and missionary who visited the Cape stations of the London Missionary Society in 1813. The town is known for its spectacular dolomite rock formations, many springs and Karee and Wild Olive trees, Campbell has been home to San, Koranna and, later, Griqua settlers drawn by the springs.

Table 67: Campbell Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
CAMPBELL	Medium 1983*	104	Rural service centre	Mining	Low development/ High need	Social

*Stats SA 2011

Source: NCPSDF-2012

Campbell is located right up north in Siyancuma Municipality along the road to Griekwastad. The town is classified as a Rural Service Centre with mining as its economic base. The majority of the Campbell community are Griekwas. Campbell is one of the poorest communities in the country. Campbell is the dormitory town for Douglas (30km away) and use Douglas as business centre and also for schooling purposes and visiting a doctor.

Campbell has no recreational facilities while community services in the town include a clinic and 1 primary school. Government is presented by a police station.

The following issues were identified as social threats in the IDP:

- Renewable energy hub from Upington to De Aar;
- Weak conservation of properties;
- Nepotism;

- HIV/ AIDS;
- Crime.

Tourism

- Aloe Nature Reserve: A kloof on the edge of the Ghaap Plateau, now the Aloe Nature Reserve, is mentioned in accounts by early travellers including Burchell and Andrew Smith;
- Anglo-Boer War: Visit Fabersput Battlefield, the monument to Kasie Briedenham and grave of Oupa Swartbooi (British spy). Tel 053 298 2364;
- Bartlett's Church: Completed in 1831 and proclaimed a national monument in 1960, it is one of the oldest churches north of the Orange River. Reverends Robert Moffat and David Livingstone both preached from its pulpit;
- Griqua Rebellion: Place of the battle between the Settlers and the Griquas in 1878;
- Holy Ark Wood: Trees and succulents;
- Khoisan Cliff: Shelter;



Old Khoisan cliff shelters

- School Building: Built in 1880, now used as community offices;
- Tuff Waterfall: Falls and fountain;
- Wagon Tracts: Made by pioneer and itinerant traders;
- Wildspan Eco-Historical Tours: Tel 053 298 2364.

5.8.8 UMSOBOMVU Municipality

 Colesberg

 Norvalspont

 Noupoot

The Umsobomvu municipality with a total area of 6819km², a population of 26 603 and a rural population of 2313 amounts to a total of 28376 is located on the south-eastern corner of the Pixley Ka Seme District Municipality in the Northern Cape Province. The Umsobomvu SDF has been approved by the MEC in 2011.

Table 68: Umsobomvu Municipal Population Growth

Umsobomvu Municipality	Population		
	2001 Census	2007 Survey	2011 Census
Rural			2 313
Urban			26 603
Total	23 641	21 992	28 376

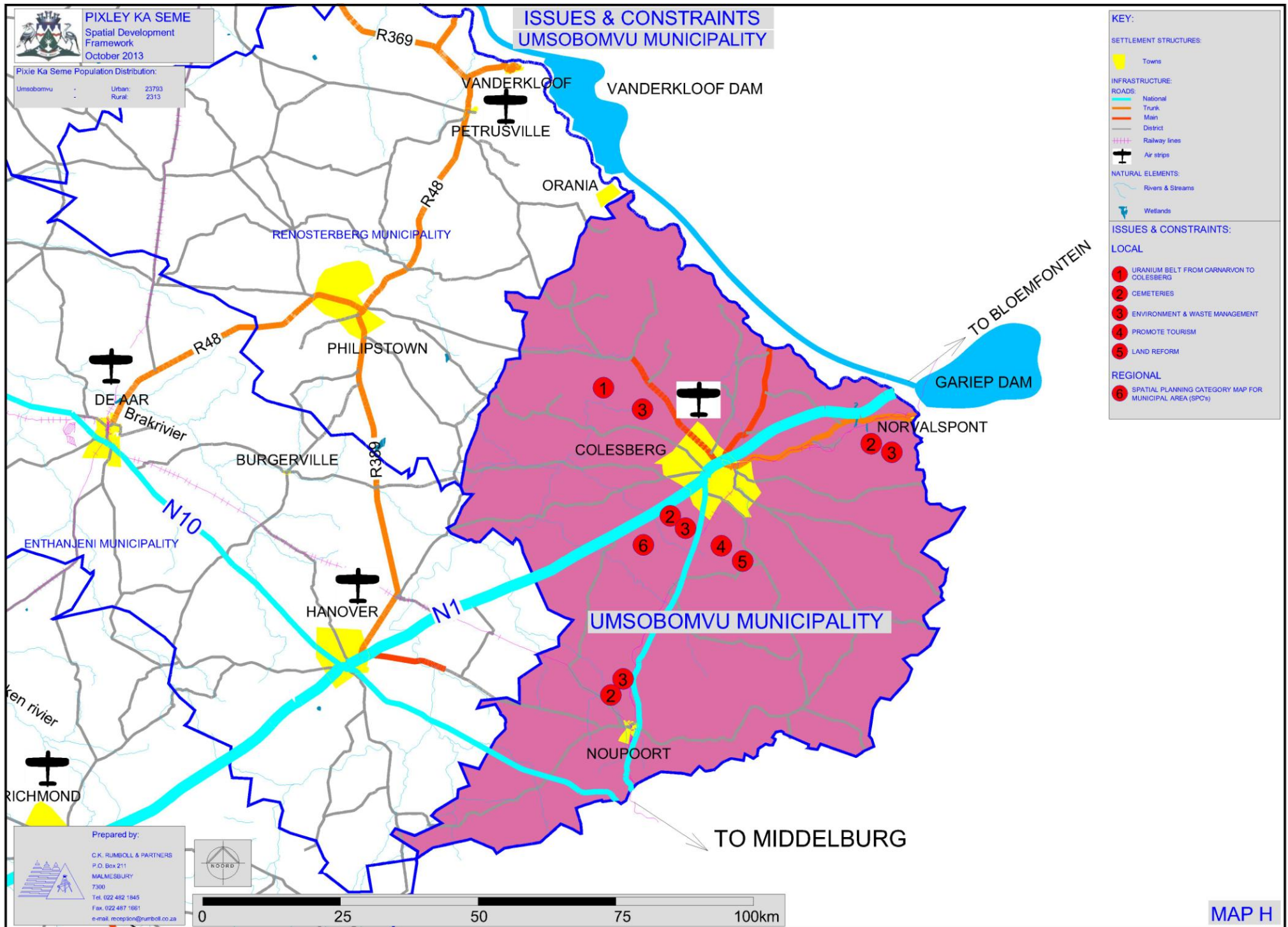
The municipality was formed with the amalgamation of the towns of Colesberg, Norvalspont and Noupoot. The N1 as one of the identified development corridors runs through the Umsobomvu municipal area, and passes alongside Norvalspont and though Colesberg.

A Spatial Development Framework (SDF) was compiled for Umsobomvu Municipality for the period 2010 - 2015.

Priority list for Umsobomvu as identified in the IDP/ Interviews:

- Uranium belt from Carnarvon to Colesberg;
- LED, tourism and poverty alleviation;
- Sanitation;
- Bulk water;

- Roads, streets and stormwater management;
- Health and HIV/ AIDS;
- Electricity;
- Education and youth development;
- Land and land reform;
- Crime and security;
- Disaster management;
- Sport and recreation;
- Environment and waste management;
- Cemeteries;
- Spatial Planning Categories map for municipal area to be commissioned;
- Low Income Housing;
- GAP Housing;
- Access to Land.



COLESBERG

Overview

Colesberg was built in 1814 as a Mission Station to bring peace to a volatile frontier area of the Cape Colony. The town is surrounded by koppies and flanked by the towering Coleskop - original name Toverberg or Magic Mountain, because of being visible from 40km but appears to get no closer. Hepzibah was built as a second Mission Station just a few kilometres away and 700 Khoisan were originally accommodated in the 2 Mission Stations, but this number increased to 1700. Farmers became nervous because of these numbers of Khoisan and drew up a petition in 1829 for a town to be established. 18 138ha were set aside and the first erven were sold in November 1830. The town was named after Sir Lowry Cole, then Cape Governor. Paul Kruger, the Transvaal Republic's President who was born in Cradock in 1825, is believed to have spent his formative years on the farm, Vaalbank, falling in what was, by 1830, the town of Colesberg.

Today, Colesberg caters for travellers on the N1 between Cape Town and Johannesburg and offers accommodation establishments. As a sheep-farming area the greater Colesberg breeds many of the country's top Merinos and is also known for producing high-quality racehorses.

Table 69: Colesberg Overview

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
COLESBERG	Large 15564*	2200	Urban centre	Service centre	High development & high need	Infrastructure & Social

*Stats SA 2011

Source: NCPsDF-2012

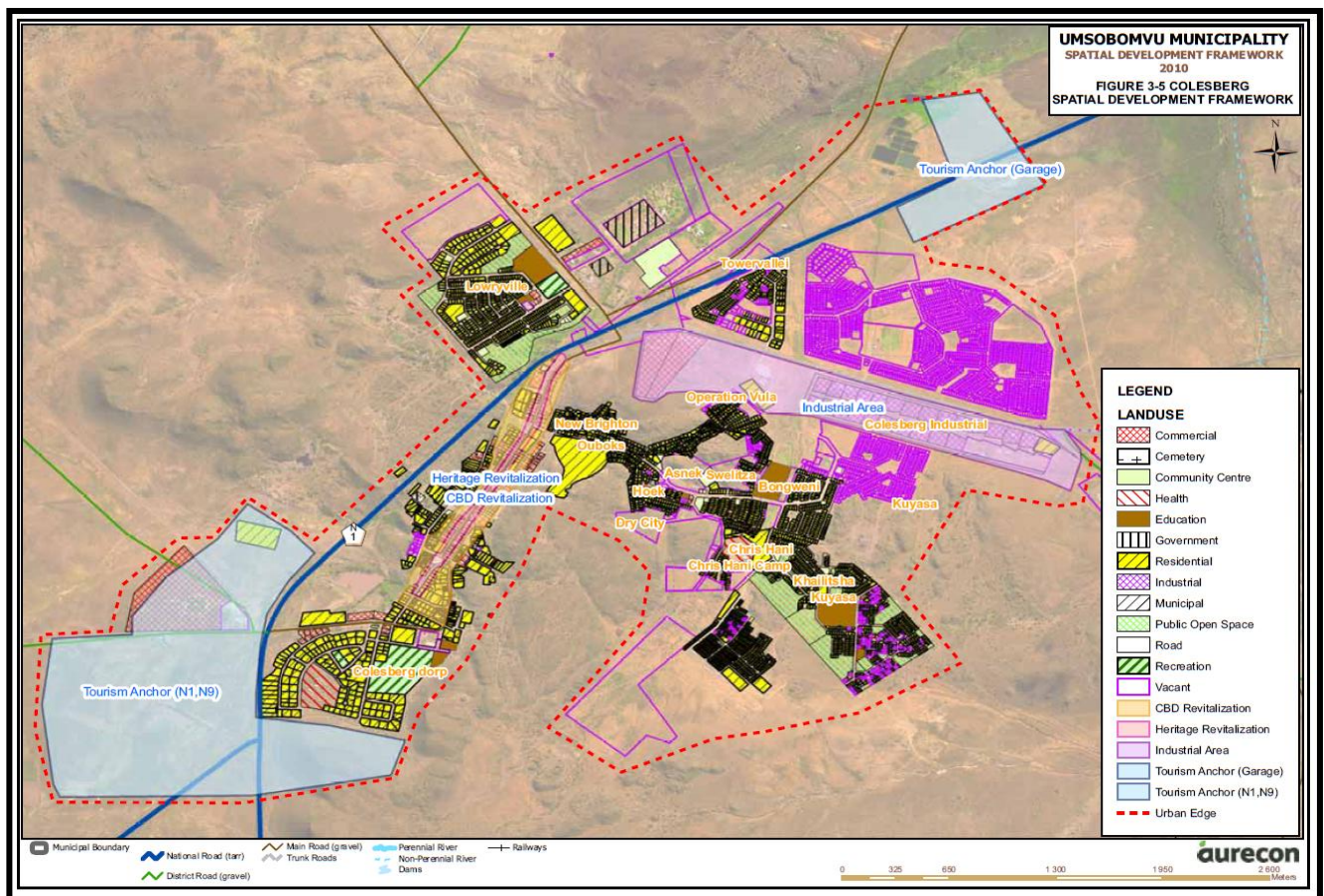
Colesberg is identified as an Urban Centre within Umsobomvu municipal area and should be further developed as a service centre. Urban rehabilitation of the town should be promoted to stimulate economic growth. The town is located in the centre of the Municipal area and on the N1 national route linking the Rand (Gauteng) with the Western Cape. The town is also situated on the N9 linking the district with the Eastern Cape.

Community services in the town include 3 community halls, 2 libraries, a hospital, 3 clinics, 1 hospice, 2 primary schools, 2 combined schools and 2 secondary schools. Government is well represented with a post office,

police station, prison and magistrates court. The commercial sector is represented with banks and businesses while accommodation is available in motels and guest houses.

Spatial

- Current SDF due for review in 2016.



Colesberg Spatial Plan as per Umsobomvu SDF.

Source: Umsobomvu SDF

Housing

- Eradicate substantial housing backlog - 2200.

Tourism

- Support and build on the tourism potential of the N1 and N9;
- Anglican Church: Beautifully decorated, the church, designed by Sophia Gray (wife of Bishop Gray), was built in 1854;
- Anglo-Boer War Tour: From November 1899 to February 1900, Colesberg was the southern front of the war. The Information Office offers a tour of Plateau Camp, Suffolk Hill, Grenadier Guard Rock,

Memorial Hill and the military cemetery where more than 400 men from 20 regiments are buried. A weekend tour includes a visit to Norvalspont prisoner-of-war camp and cemetery. Tel 051 753 0678;

- Colesberg Kemper Museum: Murray Str. Dating to 1861, the building was put up for Colesberg Bank, later absorbed by Standard Bank. For years the town clerk's office, the museum contains many articles dating back to the pioneering days. It includes the Kemper Collection, Anglo-Boer War photographs and artefacts, a 19th century toy collection, a Karoo Nomad photographic exhibition and allows you to relive Erasmus Jacobs's discovery of 'Eureka' at Hopetown, the first recorded diamond find in South Africa;
- Doornkloof Nature Reserve: On the southeastern banks of the Vanderkloof Dam, the 9 388ha reserve features kudu, brown hyaena, mountain reedbuck, steenbok, grey duiker, bat-eared fox, aardvark and aardwolf. Wild olive, sweet thorn and karee can be seen in the ravines. It also features a 10km stretch of the Seekoei River, one of the most important tributaries of the Orange River. There is a hiking trail, an overnight hut and horse trails available. Tel 051 753 1315;
- Dutch Reformed Church: Built in 1860, it dominates Church Str. The clock tower was built in 1925;
- Hiking and Mountain Biking: Well-marked trails are open on many farms in the area. Tel 051 753 0678;
- Horsemill: Bell Str. Now converted into a pub, is one of the country's last, working horsemills;
- Oldest Buildings: Coniston House in Ventershoek Str and the Schutz and De Jager Building in Church Str;
- Trinity Methodist Church: Established in 1840, the Methodist Society built its first chapel in Church Street. The new Trinity Methodist Church, in Stockenström Street, was built in 1882;
- Walking Tours: Many of Colesberg's original buildings, in pristine condition, are fine examples of early Karoo architecture. The Information Office will organise a walking tour lasting about three hours. Learn of the Karoo Nomads, get a grasp of local history, revisit the past in the old cemetery, and visit the town's churches and many of its original reed-ceilinged, yellowwood beamed homes where you will enjoy a unique Karoo architecture. Tel 051 753 0678.



The Colesburg Kemper Museum

NORVALSPONT

Overview

Table 70: Norvalspont Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
NORVALSPONT	Small 1101 (including Masizakhe)*	350	Rural service centre	Recreation	High development/ High need	Infra & social

*Stats SA 2011

Source: NCPSTF-2012

Norvalspont is located right on the eastern edge of Umsobomvu Municipality just off the N1 and close to the Gariep Dam. The town is classified as a rural service centre catering for a recreation function to the region.

Community services in the town include a clinic and primary school.

The following issues were identified in the IDP:

Social

- No secondary schools;
- No libraries;
- No community halls.

Tourism activities and attractions:

- Gariep dam and resort.

NOUPOORT

Overview

The railway line from Port Elizabeth ended on the farm Carlton in 1881. The line was then diverted to Colesberg in 1883/4 and a station was built on part of the farm Hartebeeshoek belonging to Mr Barend Kruger. This station was named Naauwpoort, the same name as that of the farm, but in 1963 the name was changed to Noupoot.

Table 71: Noupoot Classification

Settlement	Population	Housing backlog	Municipal Classification	Economic Base	Potential and Need	Investment type
NOUPOORT	Medium 7128*	500	Rural service centre	Service centre	Transition	Infra & social

*Stats SA 2011

Source: NCPSDF-2012

Noupoot is located on the southern edge of the Umsobomvu Municipality along the N9, which is identified as one of the development corridors in the Pixley Ka Seme District Municipal area. The town is classified as a rural service centre and serves the surrounding rural area.

Recreational facilities include a golf club and the Trans Karoo Voetslaanpad. Community services in the town include 2 community halls, library, hospital, clinic, 2 primary schools and 1 combined school. Government is represented by a police station. The commercial sector is represented with 1 bank, an abattoir and businesses.

The following issues were identified in the IDP:

- No crèches;
- Housing backlog and growing need for housing;
- Limited water supply;
- Access of land for emerging farmers;
- Inadequate public transport.

Tourism

- Anglican Church: Shaw Str. A British military museum is housed in this Anglo-Boer War church;

- Blockhouse: Hospital Hill;
- Garden of Remembrance: Reflects the town's history;
- Hiking: Brulberg Hiking, 4x4 & Mountain Biking Trails Tel 049 824 3268; Transkaroo Hiking Trail Tel 049 842 2112;
- Rural Monument: Erected to celebrate the centenary of the Great Trek.



The Anglican Church now houses a military museum

6.1 Regional Perspectives

The locality of the Pixley Ka Seme District Municipality in terms of its region and its connectivity to surrounding regions and provinces provide the backdrop for the regional context. This regional context provides the background for various strengths and weaknesses in the region.

The following identify the various opportunities and constraints that were identified as the result of analysis of the Status Quo report as well as the first round of the public participation process providing various inputs regarding the local and district municipalities:

Table 72: Opportunities and Constraints of the Pixley Ka Seme District

Pixley Ka Seme District Municipality Strengths and Weaknesses	
OPPORTUNITIES	CONSTRAINTS
- Locality on the main arterial routes between South Africa's major cities. - Identified renewable energy hub. - Pristine natural environment.	- Backlog and poor provision of basic services. - Limited availability of bulk water supply. - Scarcity of water resources in large areas of the region for agriculture, industry, commercial and residential development. - Dependence on groundwater.
- Low levels of light pollution and open skylines. - Locality next to the Orange River and the Vaal River provide water for urban and agricultural uses. - Wide range of Agricultural products. - High quality of agricultural products provides opportunities for branding. - Ample land available.	- Increased salinity. - Poor levels of education. - High levels of unemployment and poverty. - HIV/Aids pandemic and its impact on regional resources and development. - Most of the land is privately owned.
- High Solar Index for renewable energy generation. - Fracking has the potential for job creation and development opportunities. - Renewable energy generation provides opportunities for job creation. - Installation of the Karoo Array Telescope provides international exposure to the region.	- Inequality of social services in towns. - Lack of effective public connectivity between the towns. - Rapid growth of informal settlements in towns has increased demands on the demands for housing and services delivery. - Limited land available for commercial and industrial uses.
Current Northern Cape Development and Resources Management Plan/ Provincial Spatial Development Framework set the stage for strong planning policy guidelines for regional and municipal areas.	

• Region rich in mineral resources.	• Poor payment of services results in an increased financial burden on municipalities and ineffective delivery and maintenance of services.
• Rich tourist potential.	• Long distances between towns. • Municipalities without proper strategic policy planning documents in place. • Potential negative impact of fracking on groundwater quality.

After the analysis by the different sectors a regional view was compiled that include the following challenges.

CHALLENGES

A lack of up to date spatial planning at local level
 A lack of business and industrially zoned land
 In some municipalities there is a lack of residential land
 Facilities for long distance road transport
 Land tax increased up to 100% in the case of land with business use rights
 Land valuation done by District, but the contract had limited time and the valuation was not done properly, whilst there are several property valueators in the platteland that could assist and still can assist the municipality
 As Eskom provides electricity in most former townships, municipalities have no leverage (i.e. withholding of electricity to obtain land taxes.)
 Collecting, processing and storing rubbish is a real challenge for most municipalities
 Condition of long distance gravel roads and some municipal roads forming connectors between long distance roads
 Lack of subsidized housing
 Political interference with delivery
 Lack of relationship between agriculture and local municipalities
 Mining of minerals and semiprecious stones

6.2 The Strategic Directives

The Pixley Ka Seme District is a composition of its natural landscapes, agricultural heritage, inhabitants, institutions and history. The establishment of the settlements within the rural areas and the ongoing growth of the areas place continuous pressure on the environment. Future growth within the district should focus on sustainable development with the focus to be placed along identified corridors and the core areas by means of densification, re-development and restructuring of the areas.

It is also of great importance that the sensitive natural areas and productive agricultural land is protected from future development. All these aspects can be addressed through proper management. The spatial demarcation of the urban edges, settlement patterns and the identification of agricultural areas and conservation areas serve the purpose to apply spatial control and unlock opportunities. These aspects can be addressed in the identification of the Spatial Planning Categories (SPC's) that will be included in the District SDF. The following overhead spatial objectives should help with the effective management of land uses within the urban and rural areas of Pixley Ka Seme District Municipal area:

- Protect and strengthen the natural environment by protecting high potential agriculture land to secure food production;
- Protect and strengthen the natural environment through the identification and protection of indigenous biodiversity and sensitive eco systems within and outside the urban areas as identified in the *Critical Biodiversity Areas Map*;
- Promote and support local and regional economic development (and specific Tourism, Agriculture and Industry);
- Provide an effective social environment through planning, supplying and maintaining bulk infrastructure;
- Provide an effective social environment through equal access to all facilities enhancing integration and sustainable settlements.

From the identified strategic priorities in the Northern Cape PSDF certain elements, that are relevant to the Pixley Ka Seme District Municipality were also highlighted and included in the proposed strategies and proposals for the Pixley region.

The following section provides detailed strategies that were developed from the relevant Northern Cape SDF strategies and the various issues that were identified in the Statue Quo of the Pixley Ka Seme District to ensure that all the objectives are met with proposals for the development of a sustainable living environment that support economic growth in the region.

6.2.1 Pixley Ka Seme in terms of the Global Bio-physical Context

Pixley Ka Seme forms part of the Northern Cape Province within South Africa with the over-arching role of the northern Cape PSDF to promote sustainable development throughout the Northern Cape by means of UNESCO's Man and Biosphere (MaB) Programme providing the ideal framework for achieving this objective in the province. The MaB Programme is a global programme of international scientific co-operation, dealing with people-environmental interaction over the entire realm of bioclimatic and geographic situations of biospheres. The programme was designed to solve practical problems of resource management and aims to fill gaps in understanding the functioning and structure of ecosystems and of the impact of different types of human interactions. The *World Network of Biosphere Reserves* provides the ideal platform to implement the MaB Programme. Biosphere reserves are defined in the Northern Cape PSDF as "areas of terrestrial and coastal/ marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO's MaB Programme". The Biosphere Reserves therefore provide the ecological and social framework within which government, land-use planning can happen, for both public and private land and also for dealing and implementing development options that would ensure that human needs are met in a sustainable way. (Northern Cape PSDF, July 2012, p. 85)

The biosphere Reserves should fulfill three basic functions, which are both complementary and mutually reinforcing. These three functions are:

- *Conservation Function* – to contribute to the conservation of landscapes, ecosystems, species and genetic variation;
- *Development Function* – to foster economic and human development which is socio-culturally and ecologically sustainable;
- *Logistical support Function* – to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development.

Although there are no designated Biosphere Reserves as proposed in the Northern Cape PSDF that affect the Pixley Ka Seme District Municipal, there are certain areas within the region that should be protected and enhanced to support sustainable development within the bio-physical environment.

Sustainable Society within the Bio-physical Global Context

Northern Cape PSDF	Pixley Ka Seme	
Provincial Strategy	Objective	Strategy
C3.1.3 (a) Implement UNESCO MaB Programme as an overarching strategy to implement international protocols, agreements and conventions.	Identify significant rivers and riverine corridors in the region	Support the Orange River as an important River Corridor
	Protect Orange River Basin	Protect the Lower and Upper Orange River Water Management Areas to support sustainable development in urban and rural areas
	Implement CBA maps to identify biodiversity priorities areas	Support bioregional planning
C 3.1.3 (b) Prepare and implement climate neutrality strategy through all development projects.	Proactively address ways of neutralising the impact of climate change on the region	Effective management of the environment through the implementation of SPC's
		Effective management of existing resources
		Pro-active planning to limit the potential impact of climate change on the regional

		economy
Geology and soil	Care for soil and minerals	Effective soil management to curb erosion
		Educate small and upcoming farmers with regards to Land use policies and capacities
		Support sustainable mining of semi-precious stones
		Sustainable fracking
		Identify dolomite formations and limit the potential impact on these areas
Climate	Utilise climate to the advantage of the region	Recycle waste
		Kerb the potential impact of climate change
		Support utilisation of renewable energy
Topography	Preserve unique landscapes	Limit the potential negative impact on the visual environment
		Limit development along ridgelines to protect rural landscape character
Hydrology	Protect and preserve all water resources	Prevent the pollution of groundwater and rivers
		Prevent over extraction of groundwater

		Maintain the require buffer areas along rivers and water sources
		Promote the recycling of waste water
Vegetation	Protect areas with natural vegetation	Prevent the degradation of the natural vegetation areas within Pixley
		Support sustainable management of natural farming areas
Conservation and Heritage	Protect and enhance the natural habitat and heritage resources	Conserve fauna and flora
		Incorporate corridors and open spaces to allow movement of wild animals
		Conserve heritage resources and educate communities to attract tourists

6.2.2 Pixley Ka Seme within the Northern Cape provincial and South African Context

The locality of Pixley Ka Seme in relation to the Northern Cape as well as South Africa should be strengthened through the recognition of existing links and amenities within the district. The district objectives and strategies should link directly with the provincial policies and strategies as included in the Northern Cape PSDF. The existing linkages and corridors with the adjoining municipalities, districts, provinces and bordering countries should be strengthened and further developed to enhance the potential economic stimulants that these provide in the Pixley Ka Seme region.

Sustainable development in National and Provincial context

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
C3.2.3(a) Implement the SKA project as planned in collaboration with the designated partners and institute a programme to unlock the economic multipliers and synergies vested in the project.	Develop the potential economic benefits that can be realised by the location of the SKA project	Develop as a potential tourist attraction in the national and global context
C3.2.3(b) Enhance the use of Upington as a cargo hub and international access point to southern Namibia and southern Botswana.	Support links between significant areas within the province and Southern Africa.	Support the regional cargo hub in Upington through the improvement of the link with Upington
		Utilise the N10 as a important route/corridor to support the cargo hub

		Promote the movement of products to the cargo hub to support regional development and to limit the carbon footprint of production processes in the area
C3.2.3(c) Promote the development of tourist related amenities and activities along the main routes through the province.	Support tourist development in the region	Support tourist related land uses and amenities along the major transport routes where the exposure will ensure continued growth
C3.2.3(a) Address the anomalies between the Northern Cape and neighbouring provinces.	Recognise the areas of co-operation between provinces	Major routes provide distinctive links between the areas
Economic Development Nodes	Identify development nodes within the Pixley district	Focus development within the identified development nodes to promote local and district economic growth
		Future subsidised housing needs should be accommodated in the larger development nodes. Beware of creating 'poverty traps'.
Tourism	Identify tourism corridors and nodes within Pixley district	Support and enhance the existing unique features within the tourism corridors and nodes to support continued development and growth of this industry.

		Promote sensitive development along the tourism corridors and within the nodes to protect unique landscapes and features that form the basis of these routes and nodes in Pixley
Development Corridors	Enhance the existing major movement corridors	Promote economic activities along the identified development corridors in the region

6.2.3 Bioregional Planning

Although large areas of the Pixley area might be seen as monotonous with regards to topography and occurrence of major geographical features, these natural landscapes do in fact provide different opportunities and a unique from that is a very important part of the South African landscape and cultural history. The areas are harsh in climate and provide many climate related difficulties with regards to farming, but the area on the other hand provides some of the cleanest air in South Africa in terms of air and light pollution as well as vast areas that are still covered in natural vegetation. The existing landscape and natural features within the Pixley Ka Seme district support three identified bio-regions that should be considered in future spatial planning of the district.

Bio regional Planning		
Northern Cape PSDF	Objective	Strategy
Provincial Strategy		
C3.4.3(a) Facilitate the detailed determination of the	Develop the potential benefits from the SKA project (project area falling over 2 District Municipalities)	Develop as a potential tourist attraction in the national and global

bioregions and neighbour areas as a functional part of the preparation of the IDP's and SDF's.		context. Enhance SKA support programmes
Bio – Regions	Identify bio-regions for the Pixley District	Development within the identified bio-regions should take place in consideration of its locality and characteristics and should also relate to adjoining municipalities with similar bio-regions
Agriculture	Protect all agricultural land	Implement good management practices
		Prevent overgrazing
		Add value to agricultural products close to the production areas
		Combine farming and tourism to provide opportunities for diversification on farms
		Support Aquaculture along the Orange River as additional source for food production
		Strengthen relationship between organized agriculture and other institutions as organized agriculture has expertise and can contribute to social investment and local and

Land Reform	Support land reform in Pixley	district GDP
		Identify areas that will support sustainable farming for emerging farmers
		Educate and mentor emerging farmers
		Secure ownership/ land tenure for emerging farmers
		Prevent overgrazing
Mining	Sustainable protection of resources	Ensure sustainable farming on commonages
		Support urban food security programs
		Support sustainable mining practices
		Add value to raw materials
		Support sustainable Fracking

- Support bio regional planning through the Identification of three Bio-regions within the Pixley Ka Seme District municipality. The three identified bioregions within Pixley are:
 - **Kalahari Thornveld** – area around the northern boundary;

- **Orange River Corridor** – along the Orange River;
- **Nama Karoo** – southern portion – also forms the largest area.
- Implementation of the Spatial Planning Categories (SPC's) within Pixley Ka Seme to ensure effective management of the environment.

6.2.4 Spatial Planning Categories (SPC's)

The following directives are given in terms of the implementation of the Spatial Planning Categories in the Pixley Ka Seme District Municipality to be utilised for the effective management of land uses in the planning process.

Spatial Planning Categories (SPC's)		
Northern Cape PSDF	Pixley Ka Seme	
Provincial Strategy	Objective	Strategy
C4.1.4(a) Prepare a dedicated biodiversity conservation plan for the Northern Cape.	Utilise CBA plans to identify sensitive areas.	Use CBA data for effective land use planning and management
C4.1.4(e) Conservation of existing ecological corridors and consolidate and rehabilitate any remnants of corridors.	Include SPC's into the SDF	SPC's to ensure effective management of land uses

The Spatial Planning Categories identified in the Pixley Ka Seme District Municipal area are as follows.

SPC	DESCRIPTION	SUB CATEGORY
Core (A)	Protected areas	A.a.4. – Nature Reserves – the development of a management plans for these reserves.
Buffer (B.a.)	Non-statutory Conservation areas	B.a.1 – Contractual Conservation areas – area designated for conservation purposes in terms of agreement with agencies.
Buffer (B.b.)	Ecological corridors	B.b.1 – Freshwater Ecosystems Priority Areas (FEPA) – identify river and wetland FEPA's including a generic buffer of 100m. B.b.2 – Rivers and riverbeds – all other perennial and non-perennial rivers
Agriculture (C.a)	Extensive agricultural/ grazing	C.a.1 – Bona-fide game farms C.a.2 – Extensive livestock farms
Agriculture (C.b)	Intensive	C.b.1 – Cultivated areas C.b.2 – Plantations and Woodlots
Urban Related (D)	All land uses for urban purposes in towns, villages, hamlets and settlements.	Provide sub categories for different types of towns as well as different land uses within the towns including: Institutional, Authority, Residential, Business, Service related Business, Special Business, Mixed use development areas, Cemeteries, Sport facilities, Airport facilities and Resort facility.
Industrial Areas (E)	All industrial related uses	Sub Categories include Agricultural industry, Industrial Development Zone, Light industry, Heavy industry and Extractive industry.
Surface Infrastructure	Surface Infrastructure &	Sub Categories include National roads, Minor roads, Public streets, Heavy Vehicle Overnight facilities, Railway lines, Power lines, Tele-communication infrastructure, Renewable Energy

(F)	Buildings	Structures, Dams and Reservoirs, Canals, Sewerage Plants and Refuse areas and Science and Technology Structures
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6.2.5 Strategies for Implementation Guidelines

Settlements in the Northern Cape are generally structured through the application of general standards and regulations pertaining to street widths, building guidelines in terms of setbacks and height, erf dimensions and minimum densities. All these standards and regulations serve an important purpose in regulating effective development within the local areas. These regulations however do not always take cognisance of the site specific requirements to create liveable environments. In order to have a thorough understanding of the environment and its processes and function the Northern Cape PSDF promote a process based analysis of a site to ensure that consideration is given to the desirability and scale of the development. The following provincial strategies relating to implementation guidelines should be adopted within the local and district municipalities.

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
C6.1.4(a) Ensure that development scale and design is determined by the carrying capacity of the environment, including the following: • Biophysical characteristics • Sensitivity of natural habitats • Aesthetics • Availability of natural	Support process based decision making throughout all developments.	Utilise all the relevant background information to allow informed decision making that will support sustainable development.

resources

- Site suitability
- Density and scale

C6.1.4(b)

All spheres of government, especially municipalities, must provide quality spatial data and interpretation to land managers to assist in decision making and adaptive management and make regional natural resources information and knowledge widely available or accessible (i.e. the SPISYS)

Expand the local and district database to support effective management and decision making.

Continued upgrading and expansion of local data base for informed decision making on local and district level.

6.2.6 Regulating the Development of Industrial Areas

The Northern Cape PSDF recognises the key challenges within the province to unlock the opportunities presented by the availability of natural resources, with industrial activities that have the potential to stimulate economic diversification and development in the province. The future industrial development however needs to be effectively managed in terms of codes and standards for energy efficiency, reduction of release of Green House Gas emissions and pollution, reduction of electricity consumption, development of renewable energy resources, ensure sustainable industrial development, cluster industrial development in close proximity to the product resource within the defined development corridors, more effective utilisation of water, close to major transport linkages and bulk infrastructure.

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
C7.4(a) Prepare a provincial industrial development strategy.	Establish infrastructure for industrial development that include harvesting and processing of provincial resources.	Support effective industrial development that will support the local economy.
C7.4(c) Prepare, as part of the municipal SDF's, a more detailed climate-neutral strategy for each municipality.	Explore alternative energy resources and effective management of industrial development to limit the effect on the environment.	Support development of alternative energy within accessible areas.
Gamagara Corridor	Support the Gamagara mining corridor through the provision of adequate supporting infrastructure.	Support the corridor through planning and co-ordination of infrastructure projects

6.2.7 Ensuring the development of efficient Surface Infrastructure

The development of an effective, competitive and responsive infrastructure network as indicated in the Northern Cape PSDF is imperative for the ongoing economic development within the province, district and local municipal areas. Due to the vast areas within the province the effective development and use of transport linkages also play an important role in the support of local development and to provide effective linkages to markets. It is vitally important to provide the correct form of infrastructure to support development. The provision of bulk infrastructure does not only support economic development, but also housing development in these areas. The key challenge in Pixley is not only to provide adequate bulk infrastructure in the towns and smaller settlements, but also in the rural hinterland of Pixley Ka Seme.

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
Transport		
C8.4.1(c) Maintain road, built and bulk infrastructure development and integrate into the infrastructure planning activities throughout the province.	Provide adequate road and rail transport routes throughout the district municipality.	Support the continued maintenance and upgrade of the main road corridors and connecting routes in Pixley.
C8.4.1(d) Improve the levels of mobility, infrastructure development and synergies in the transport planning activities	Improved mobility and links in rural areas.	Support more public transport opportunities to improve mobility and links in rural areas and between different urban areas to improve economic connectivity.
C8.4.1(g) Upgrade of rest stops along primary roads to cater for trucks and private motor vehicles.	Development along the identified main transport corridors.	Aid the development of supporting infrastructure and tourist facilities along main transport corridors to support economic growth in the areas. Provide truck stop facilities for Douglas, Hopetown and Colesberg where a cargo hub is planned.
	Promote good public transport	Manage taxi/ bus industry properly for effective service delivery
Water		

C8.4.2(a) Implement and continually improve a comprehensive water plan and strategy.	Develop a comprehensive water plan to ensure adequate water supply and reticulation.	Focus on areas with water shortage for water infrastructure development.
C8.4.2(f) Implement innovative water conservation measures. The following innovated water conservation measures shall be mandatory in all new residential, commercial and community projects;	Ensure reliable and adequate water resources from bulk infrastructure.	Implement water wise initiatives to ensure sustainable use of water as it is a very scarce resource in Pixley.
	Protect all water resources	Ensure optimal water usage
		Find alternative water sources – recycling of sewerage water
		Ensure clean water delivery
Waste Water Treatment	Provide all households with sanitation	Bulk infrastructure to be sufficient
		Ongoing maintenance and upgrade of purification works
Energy		
C8.2.3 Promote the development of a	Identify areas prone to the development of renewable energy schemes.	Utilise the wind, sun and water within Pixley as resources for the development of effective

renewable energy supply scheme.		alternative energy resources.
	Supply all households with electricity	Free basic electricity
		Eskom to focus on rural disadvantaged groups
	The development of alternative energy resources within the Pixley region	Support renewable energy projects including solar/hydro and wind within the dedicated regions
		Support the Renewable energy hub identified in Pixley Ka Seme District municipal area
Solid Waste management		
	Provide all households with waste removal	Legalise waste disposal sites within the district for better management of these sites
		Promote refuse recycling to limit the potential impact of the volumes of waste
Telecommunication		
C8.3.4.	Improvement of telecommunication infrastructure.	Place telecommunication infrastructure where it will be most effective but still consider the impact on the different environments.
Telecommunication development to be regulated and placed in such a way that it will limit the potential impact on the cultural, historical and aesthetical environment.		

C8.4.4 (b) Develop telecommunication facilities in remote areas of the Northern Cape in accordance with the prioritisation guidelines put forward	Identify the areas with the greatest need for access to telecommunication.	Improve the access to effective telecommunication in remote rural areas of Pixley to future support economic development and growth and well as human needs development.
		Provide alternative forms of communication to communities affected by the SKA region

6.2.8 Sustainable use of capital resources

The sustainable use of capital resources within the Northern Cape is a key aim of the Northern Cape PSDF. The aim should be to use these resources in such a way that they unlock meaningful and lasting benefits for the people, the province and the environment. It is also important for investment in social infrastructure to address disparities of the past and to provide more people access to basic social services for improved living environments.

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
C9.1.3(b) Effectively plan and manage areas where large scale resource user projects are implemented. Serve as a strategy to facilitate integrated land management, land reform and social equity and the implementation of Land Care programme.	Effectively indicate areas where large scale resources are existing	Support the future development of the agricultural hubs and the Orange River corridors.

Economic Development	Promote local economic development (LED)	Support sustainable alternative energy projects
		Add value to agricultural and mining products
		Up the level of education
		Improve income disparities through provision of more opportunities
		Address infrastructure and housing backlogs
Health Services	Ensure even distribution of health services for the district	Curb alcohol abuse
		Replace ineffective mobile clinics with satellite clinics at strategic points
		Train local people as medical staff
Education	Make education facilities more accessible	Ensure 24 hours emergency services
		Take education to remote areas
		Supply more tertiary institutions in Pixley district
		Improve transport for rural learners
		Adult education programs
Community Services	Oversee adequate and accessible community facilities throughout the region	Apprenticeship training
		Support multi functional facilities

		Secure viable community services in remote areas
		Secure equipped libraries in disadvantaged communities
		Secure adequate recreational facilities for the youth
		Oversee expansion of cemeteries
Safety and security	Visible policing for the whole district	Youth development programs
		Curb domestic violence by continued education and support
		Poverty relief programs
		Create more employment opportunities
Settlements	Support integrated settlements	Support development potential of identified local nodes
		Enhance medium potential growth opportunities
		Encourage densification to optimize infrastructure
		Ensure optimal land use planning and management

6.2.9 Planning for responsible Tourism

Tourism is identified as one of the major catalysts for economic growth in the Northern Cape area, as it is capable of mobilising and rejuvenating many other sectors of the economy through this incentive. The PSDF therefore supports the promotion and development of the Northern Cape as a global competitive resource and destination, which should be supported on district and local municipal levels. Effective tourism development should also be supported and developed on suitable private land to further enhance this industry.

Northern Cape PSDF		Pixley Ka Seme
Provincial Strategy	Objective	Strategy
C9.2.3(b) Prepare a tourist strategy for macro tourism regions.	Develop tourism resources in the District in an effective way	Prepare a District tourism strategy (enhancing the Karoo character of the region) to support the development of effective tourism endeavours in Pixley.
C9.2.3.(c) Encourage tourism related development in the designated tourism corridors and adjacent to national parks and provincial nature reserves.	Focal points for tourism development	Utilise the existing natural and environmental tourism resources within Pixley to develop the tourism industry in the region.
	Enhance tourism through the region	Support sustainable game farming and meat processing
		Limit impact of 4x4 routes
		Limit negative visual impacts on the Karoo landscape

6.3 Regional Proposals

The Pixley Ka Seme District Spatial Development Framework (SDF) provides the spatial framework in which the planning and development of the region should be done. In light of the identified opportunities and constraints and the objectives and strategies that formed part of the analysis process various regional proposals were made under the following three main categories:

- ***Bio Physical Environment;***
- ***Socio economic;***
- ***Built Environment.***

PIXLEY KA SEME REGIONAL PROPOSALS	
Bio-Physical Environment	PROPOSALS
Proposed Bio-regions in Pixley Ka Seme	KALAHARI: • Promote Game Farming, hunting and tourism initiatives in this region. • Promote the implementation of responsible veld management systems in all agricultural areas (extensive agricultural areas, grazing areas and game farming areas) to improve the carrying capacity and conservation of the areas. • Support the Gamagarra Industrial corridor initiative within Pixley. • Branding of agricultural products that are produced in the region.
	ORANGE RIVER CORRIDOR: • Protect Orange River as an important River corridor that not only supports regional

sustainable development in rural and urban areas, but also forms an important Provincial and National resource.

- Promote tourism along the river - with due consideration to the irrigation farming and mining in the area.
- Support sustainable development around the Vanderkloof and the Gariep Dams to utilise the opportunities of tourism and agricultural development without jeopardising the sensitive nature of the areas.
- Tourism Corridors along Orange River and Orange River Gariep Dam links.
- Promote tourism linkages with adjoining municipalities and countries to strengthen the corridor and bio- regional connections.
- Implement an effective water management plan for the area to ensure optimal use and conservation of water as a very scarce resource in this arid region.
- Investigate the implementation of an Orange River Authority, under protection of the Department of Water Affairs, to coordinate and effectively manage the river across the different municipalities and regions. This will provide a combined approach with regards to infrastructure, tourism and agriculture.
- Develop a Precinct SDF for the Orange River corridor.
- Branding of agricultural products produced in the region.
- Support and extend the Agri Hub along the river interface.

	KAROO • Promote the development of astro-tourism around the SKA project. • Implementing the SPC's in the regions to ensure effective management of the area. • Promote the implementation of responsible veld management systems in all agricultural areas (extensive agricultural areas, grazing areas and game farming areas) to improve the carrying capacity and conservation of the areas. • Support Game farming with potential for branching into meat and biltong production. • Towns close to the Karoo production areas must focus on adding value to the agricultural products to create more job opportunities and minimise the carbon footprint of the production process. • Promote "Free range Pixley Karoo lamb" as a unique branding of the area. • Support wool washing and processing in the area to add value to the local products and to create more job opportunities in the region. • Investigate the development of a satellite tertiary institution campus in De Aar. • Focus development on the development nodes of Colesberg, De Aar and Gariep Dam – focus development of social and economic amenities in and around these areas to support sustainable growth.
The following proposals are applicable to all three regions	
Socio Economic Environment	○ Support increased co-operation and communication between the District and Local municipalities to ensure effective planning and links between the different areas - this should be

	done through cross funding, public/ private partnerships, capacity building and networking. Use technology for the distribution of information between the different levels of government.
	○ Establish an effective connection network between the different towns within the municipalities as well as between the municipalities within the Pixley Ka Seme District.
	○ Development corridors - N1, N10, N8, N12, and Orange River corridor for irrigation – provide special attention and detail to support economic activities including potential industrial activities along these routes to capitalise on the links that the routes provide with markets.
	○ Optimise the opportunities along the N1, N8, N10 and N12 to stimulate economic growth in the region through potential development of transport related businesses along these corridors.
	○ Develop Tourism Strategy for the region.
	○ Tourism nodes at Vanderkloof, Douglas, Hopetown and Carnavon should be supported and included in a district tourism plan.
	○ Create opportunities for education in the service trade industry (for example School of skills to train people in mechanics, plumbing, electrician, environmental protection and hospitality) to support the local economy with a trained local labour force.
	○ Identification of sustainable areas for small upcoming farmers.
	○ Identify strategic sites for truck and bus stops along the major routes to better serve the people travelling through the region and allow for additional economic opportunities.
	○ Support intensive tourist related development such as tourist facilities and accommodation along major routes.

	○ Fracking should only be permitted within the district if the necessary environmental authorisation and land use rights are obtained as is required by the relevant legislation. As part of the Environmental Impact Assessment issues surrounding impact and use of groundwater, geohydrological impact, visual impact and traffic impact should be addressed through various specialist studies to indicate the potential impacts on the environment and to identify potential mitigation measures for rehabilitation. An Environmental Fund should be created as part of the future management and rehabilitation of the site.
Built Environment	○ Support the potential opportunities presented by the identification of a renewable energy hub in the region to utilise the climate as an alternative resource for the generation of power, income and an economic growth stimulant.
	○ Effective management of water through waste water recycling plants.
	○ Refuse recycling in major towns by locals to collect and separate to limit landfill. Develop district refuse processing and storing system. Educate community not to dump rubbish in open spaces or near tourist attractions.
	○ Development in the rural areas should be measured against the potential visual impact on the rural landscape character and vistas. Implement design guidelines for rural area in the scheme regulations to protect the visual assets of the different bio-regions.
	○ Rainwater harvesting.
	○ Utilise solar energy in combination with pivot irrigation systems by mounting of the solar panels on the pivot system – this will not only provide power directly to the pivot but also allow for the generation of additional power.
	○ Curb the uncontrolled spread of towns - support densification and restructuring in towns as well as effective utilisation of existing infrastructure and services. Expedite building of subsidized

	housing and curb political interference with delivery by implementing alternative delivery mechanisms.
	○ Support access to new technology within existing social infrastructure (computer rooms in all libraries, especially in the previously disadvantaged and poor communities)
	○ Build a database of expertise at municipal level and make use of such expertise e.g. maintenance. Develop software to address mismatch of properties. Educate landowners to pay taxes or to contribute in kind e.g. planting of trees/ landscaping, keeping town entrances clean and by collecting rubbish
	○ Appoint service providers to compile/ update municipal Spatial Development Frameworks (SDF's)

6.3.1 Interaction between Siyancuma and Siyathemba local municipalities

A further need identified was for the relationship and possible better integration between the Siyancuma and Siyathemba local municipalities in the northern part of the Pixley district. The proposals are based on projects already earmarked in the LED Plans and IDP's of both regions:

1. Enhancing natural assets to attract tourism:
 - ✚ Develop tourist facilities including resorts and golf courses at Die Bos and at the Confluence of the Orange and Vaal Rivers.
 - ✚ Promote Tourist trails/ routes of existing tourist, cultural and heritage resources.
2. Promote Solar Energy Projects (Solar Corridor):
 - ✚ On Municipal Commonage and along the N10 route as part of the Provincial Solar Corridor.
3. Promote agriculture and fisheries:
 - ✚ Promote Aqua culture across municipal boundaries along the Orange River;
 - ✚ Promote the bottling of water.
4. Joint provision of civil services, housing and risk management services:
 - ✚ Provide housing and services through a joint initiative between District Municipality and local municipalities;
 - ✚ Establish joint disaster management facilities and structures for floods and fires with particular nodes at Douglas and Prieska.
5. Build relations between races and particularly regarding the management of the municipalities and also between agriculture and the municipalities.
6. Promote agricultural training through establishing an institution based in Prieska with a satellite in Douglas. Encourage people to farm and manage a farm as a business.
7. Promote the mining of semi precious stones and local beneficiation thereof (Gamagara Mining Corridor):
 - ✚ Enhance and rejuvenate Tiger eye and Slash Stone mining and Polishing;
 - ✚ Enhance the quarrying of building sand.
8. Promote the manufacturing of Solar panels within the boundaries of the two municipalities.
9. Promote the manufacturing of irrigation equipment within the municipal boundaries and secure commercial irrigation rights (lobby with Department of Water Affairs).
10. Enhance the N8 development corridor for Trade and Tourism.
 - ✚ Promote a regional fruit and vegetable market.

6.4 Public Private Partnerships

Public private partnerships will be made up of the District Municipality, provincial departments and the private sector.

The District Municipality assumes the host role and go out on tender to ensure the implementation of the proposed projects. The provincial departments will provide capital and resources required to implement and maintain the proposed cross boarder projects. The private sector will provide skills, capital and resources. The following departments and private sector spheres should be involved:

No	Joint Projects	Relevant Departments	Private Sector
1	Joint provision of civil services, housing and Risk management services	Human settlements Water Affairs Agriculture Nature Conservation Disaster Management	Private Developers Engineering Companies Emergency and risk associations Fire Fighting Associations
2	Natural assets as tourist attractions	Environmental Affairs Tourism Trade and Industry Arts & Culture Sport & Recreation	Tour Operators Private Developers Heritage Associations
3	Race relations re management of the municipalities and agriculture and municipality.	Culture	Orania Social Organization International partnership Universities Business Schools
4	Solar and Alternative Energy Projects	Energy & Mineral	
5	Manufacture Solar panels	Energy	Private power Providers
6	Agriculture and Fisheries	Agriculture and fisheries Water affairs	Agricultural Associations
7	Promote agricultural training	Education	Further and Higher Education
8	Enhance N8 development corridor for Trade and Tourism (regional fruit and vegetable market)	Agriculture Tourism Trade & Industry	Agricultural Associations
9	Manufacture irrigation equipment	Water Affairs Trade & Industry	Agricultural Associations Private Industry
10	Mining of semi precious stones (Tiger eye & Slash Stone) & Building Sand and local beneficiation & link to Gamagara Mining Corridor).	Minerals	Mine houses

6.4.1 Links with Gamagara Corridor

Possible joint or linked projects should include:

-  **Mining**
-  **Agriculture**
-  **Alternative energy**
-  **Infrastructure**

The two municipalities may have to revise the urban hierarchies to benefit from the Gamagara Corridor. The status of Prieska, Douglas and Griekwastad should then be revised.

6.5 Projects

All objectives and strategies have to culminate in projects to give effect to those objectives and strategies. Current and planned projects for the Pixley region were gathered and prioritized. A list of prioritizing categories was compiled according to the Standard Priority Matrix to score projects and these categories are as follows:

- 1) Spatial fundamentals:
 - SF 1: Regional importance and advantage;
 - SF 2: Economic development and diversification;
 - SF 3: Provision of bulk infrastructure and appropriate service levels inclusive of internal infrastructure services as well as improved linkages and accessibility and maintenance of the road infrastructure;
 - SF 4: Effective and efficient administration and financial management;
 - SF 5: Protection of environmentally sensitive areas, nature reserves, archaeology and environmental sustainability;
 - SF 6: Actively address spatial fragmentation (urban and rural).
- 2) Benefit to the community.
- 3) Alignment with the PSDF, DSDF and LM SDF.

The scoring method is structured from low to high with the Odd-Even-Odd number method (Low 1/3/5 – Medium 6/8/10 - High 11/13/15).

Low			Medium			High		
Low Low	Low Medium	Low High	Medium Low	Medium Medium	Medium High	High Low	High Medium	High High
1	3	5	6	8	10	11	13	15
	Maintaining status quo			Ensure a moderate improvement			Enable the Municipality to fulfill its mandate	

The SKA project at Carnarvon scored top priority according to this method and is therefore a huge asset to the region. The Land Care projects are in second place to be followed by bulk water supply projects (funded by DWA), transport projects, housing projects as well as the provision of community facilities. From a spatial perspective detailed planning is proposed for the following projects:

- ✚ Detailed planning for the main route corridors especially the N1 corridor linking the Western Cape with Gauteng via Kimberley;
- ✚ Detailed planning for the Orange River corridor stretching through the Pixley Ka Seme district and it would be advisable to extend this study to include also the adjoining sections of the river;
- ✚ An integrated tourism plan for the Pixley Ka Seme district to coordinate all tourism and tourism related issues within the district.

A focussed drive and negotiations are currently underway by Pixley Ka Seme District Municipality with a range of roleplayers to secure much needed job creation projects as well as inflow of investment capital into the region e.g. national route corridors, aqua projects, but these projects are still at inception with details to follow in due course as it may either compromise the competitive edge of aspirant investors. It will therefore be necessary to include and revise project priorities once these projects become a reality.

It is suggested that Council adopt the same Standard Priority Matrix for all of its projects as budgeted for to standardize priorities within the region and level the playing fields regarding all projects.

Project list			Scoring										Project Timeframe					Responsible Department	Funds		Total Score	Rating
			Spatial Fundamentals						Alignment			Benefits to the Communi- ty										
Project Number	Project Name (SDF & DWA)	Description	SF 1	SF 2	SF 3	SF 4	SF 5	SF 6	PSDF	DSDF	LM SDF								Amount/ Project Budget	Source		
1	SKA, Meerkat and KAT Array telescope projects near Carnarvon	New global techonology telescope projects	15	13	15	15	13	8	15	15	15	15	X	X	X	X	X	Department of Science and Technology	1,2b Euros	KAT 7 & Meerkat funded by SA government. SKA funded by 10 countries	139	1
2	Implement Land Care projects: Beeshock, Vosterdam, Strydenburg	Agriculture	15	15	11	10	11	15	15	15	15	15				X	X	Dept. of Agriculture	R	Government	137	2
3	Orange River, Colesberg BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R152,6m	Government	136	3
4	Noupoort BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R130m	Government	136	3
5	Thembelihle BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R54,7m	Government	136	3
6	Niekerkshoop BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R13,1m	Government	136	3
7	Renosterberg BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R16m	Government	136	3
8	Van Wyksvlei BWS	Infrastruct ure	15	15	15	13	5	13	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R33,7m	Government	136	3
9	De Aar borehole development	Infrastruct ure	13	13	15	13	5	11	15	15	15	15	X	X	X	X	X	Dept. Water Affairs	R42,6m	Government	134	4
10	Construction new hospital De Aar	Health Service	15	15	13	11	5	15	15	15	15	15				X	X	Department of Health	R150m	Government	134	4

11	Building of Housing units in Kareeberg LM, Siyncuma LM, Umsobomvu LM, Emthanjeni LM, Renosterberg LM, Thembelihle LM	New houses	15	13	13	13	5	15	15	15	15	15	X X	Department Local Government & Housing	R7,2m, R4,2m, R5,4m, R5,9m, R13,1m, R22,2m	Government	134	4
12	Bucket eradication	Infrastructure	11	11	15	13	5	15	15	15	15	15	X X	Dept. Local Government & Housing	R6,5m	Government	130	5
13	Upgrade of economic roads	Infrastructure	13	13	15	10	8	11	15	15	15	15	X	Dept. Transport, Roads & Public Works	R8m	Government	130	5
14	Railway line between Douglas and Belmont	New railway line	13	13	15	10	8	11	15	15	15	15	X X X	Department of Economic Affairs	R35m	Government	130	5
15	Construction of new Schools: Douglas & Schmidtsdrift (Bathaping)	Education facilities	13	11	13	13	5	13	15	15	15	15	X X	Department of Education	R7,7m	Government	128	6
16	Building of clinics in Douglas and Philipstown	Health Service	13	11	13	13	5	13	15	15	15	15	X X	Department of Health	R2,6m	Government	128	6
17	Building of clinics at Noupoort, Petrusville, Prieska	Health Service	13	11	13	13	5	13	15	15	15	15	X X	Department of Health	R1,4m each	Government	128	6
18	New sports facility for Petrusville	Sport & recreation	13	8	13	13	5	13	15	15	15	15	X	Dept. of Sports, Arts & Culture	R3,2m	Government	125	7
19	Precint Plan for Orange River Corridor PLANNED	Policy Plan	15	15	8	11	8	8	15	15	15	15	X X	DRDLR	R1m	Government	125	7
20	Regional Tourism Plan PLANNED	Policy Plan	15	15	6	11	8	8	15	15	15	15	X X	Provincial Government	R0,5m	Provincial	123	8
21	National Route Corridor Plans	Policy Plans	15	15	6	11	8	8	15	15	15	15	X X	DM & Provincial Government	R0,5m per Corridor	District & Provincial	123	8

	PLANNED														plan			
22	Bulk Water Supply V/d Kloof-Vosburg PLANNED	Infrastruct ure													Dept. Water Affairs		Government	8
23	Bulk Water Supply Gariepdam to Norvalspont PLANNED	Infrastruct ure													Dept. Water Affairs		Government	8
24	Pixley Ka Seme BWS FS PLANNED	Infrastruct ure													Dept. Water Affairs		Government	8

6.6 Implementation, monitoring, evaluation and review

The SDF is compiled for the next 5 years therefore caters on an ongoing basis for spatial changes and development within the Pixley region. The IDP together with the SDF sets the objectives and targets for development and the SDF provides a spatial framework for Council to respond to development while the IDP is the vehicle whereby spatial projects get linked and implemented via Council's prioritized budget. The Pixley Ka Seme Council forms part of a whole team of players and do not control development on their own. The SDF will be monitored against the objectives & strategies as set out, but also economic, social and environmental impacts as per projects identified. Renewable energy holds the key to a large impact on the economy of the Pixley region and therefore the well being of its residents. The development corridors as identified (especially the N1 corridor) in particular will need special attention and close monitoring to guarantee their success. The SDF should therefore be reviewed every 5 years in line with the IDP cycle while implementation plans must be revised annually. Lastly the SDF proposals are linked to the land use management schemes whereby it gets implemented in practise.

6.7 Conclusion

The Pixley Ka Seme District Spatial Development Framework (SDF) is an important planning document/ tool for the development of the Pixley region in a sustainbale and integrated way to stimulate spatial and economic growth and in doing so give affect to the Provincial and District Municipality's vision and mission.

PIXLEY KA SEME SPATIAL DEVELOPMENT FRAMEWORK

★ SKA SOUTH AFRICA

- Renewable Energy Corridor
- Hydro Power Stations
- Gamagara Corridor
- Astronomy reserve
- Dams
- Green Energy Hub
- Uranium Belt
- Roads / Railways 40m buffer area
- Potential Intensive Irrigation Agriculture
- Development Corridor Linkages
- Renewable Energy Linkages
- CBA corridor linkages
- Development Corridors

SETTLEMENT INVESTMENT PRIORITY INDEX

- Low Development / High Need
- High Development / High Need
- High Development / Low Need
- Transitional

LEGEND:

- Towns & Settlements
- Local Municipal Boundary
- District Boundary
- Provincial Boundary
- National Roads
- Main Roads
- Trunk Roads
- Rivers
- Railway lines
- Air strips

BIO REGIONS:

- 1 Karoo
- 2 Orange River Corridor
- 3 Kalahari



PIXLEY KA SEME
Spatial Development
Framework
April 2014

Base Data Source: Rumboli & SA Topo Cadastral
Scale at A0 - 1:600,000

0 15 30 60 Kilometers

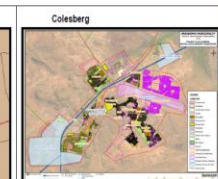
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SPATIAL PLANNING CATEGORIES (SPC's)	KEY	DESCRIPTION
Core	A.a.4	Nature Reserves
Buffer	B.a.1	Non Statutory Conservation Areas
	B.b.1	Freshwater Ecosystem Priority Areas
	B.b.2	Rivers & Riverbeds
Agricultural Areas	C.a.2	Extensive Livestock Farming
	C.b.1	Cultivated Areas
Urban Related Areas	D	Towns & Settlements
Surface Infrastructure	F	Roads
		Railways

URBAN CENTRES:

- De Aar (Enthangeni Municipality);
- Colesberg (Umsobomvu Municipality);
- Victoria West (Ubantu Municipality);
- Hopetown (Thembelihle Municipality);
- Camatvon (Kareeberg Municipality);
- Prieska (Siyathemba Municipality);
- Douglas (Siyancuma Municipality);
- Petrusville (Renosterberg Municipality)

MAIN DEVELOPMENT NODES:



Addendums

Addendum A

Legislative alignment of the Pixley Ka Seme

References

Legislative alignment of the Pixley Ka Seme District SDF

Policy & Spatial planning documents	
NATIONAL SPHERE	
The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)	Objective: To define parallel powers of national, provincial and local with regard to planning and development; To establish the principle of co-operative and delegated management and control on national, provincial and local level; To ensure, in terms of Section 153 that municipal planning is cogniscent of nature and the objectives of local government, as well as fundamental rights in the constitution, are met as well as fundamental rights in the constitution. Spatial guidelines: Provision of services to communities in a sustainable manner; Promotion of social and economic development and to structure and manage administration, spending and planning accordingly; Promotion of safe and healthy environments; Participation in national and provincial development programs.
Municipal Systems Act, 2000 (Act 32 of 2000) (Amended in 2003)	Objective: To provide mechanisms for municipalities to progressively uplift communities socially and economically and offer universal access to quality services that are affordable. Spatial guidelines:

	Integrated Development Plans must be drafted with the Spatial Development Framework as one of the key components; The Spatial Development Framework must highlight the development priorities and objectives of geographical areas within the municipality and indicate how development strategies can be co-ordinated. Objective: An approved Integrated Development Plan will be the main planning instrument that accompanies all planning and development. Therefore the Spatial Development Framework will obtain statutory status (Section 30) that will replace other plans as described in the Physical Planning Act, Act 125 of 1991. The municipal Integrated Development Plan must be reviewed every five years. The spatial development framework will: - Set objectives that will express the desired spatial shape of the municipality; - Contain strategies and policies on to reach the objectives including the desired land use patterns, the direction where growth can happen as well as strategic assistance where new development can happen; - Contain a set of land use guidelines; - Contain the capital investment framework for development programs; - Incorporate a strategic evaluation of the environmental impact of land within the municipality; - Identify land development programs and projects; - Be in line with the spatial development frameworks of neighbouring municipalities; - Visually illustrate the desired spatial form inclusive of where: - public and private infrastructure must happen; - the desired and also unacceptable use of land in an area are indicated; - the urban edge is demarcated; - areas are indicated where strategic intervention is necessary; - Indicate where priority spending areas are.
National Spatial Development	Objective:

Framework - NSDF (2006).	To serve as an instrument to co-ordinate government action and to line up with social, economic and environmental objectives to achieve that. Therefore the NSDF supplies the basis to maximise the overhead social and economic impact of government spending by interpreting the strategic direction, policy co-ordination and summarize government actions in an all in one spatial reference framework. The eventual objective is to provide basic services and alleviate poverty and address unequal and ineffective spatial patterns as well as the additional burden it places on poor people. Spatial guidelines: The national SDF's normative principles include the following: ▪ Government spending on fixed investment must be prioritized within areas with economic growth and potential; ▪ Efforts to adjust the past and present social inequalities must rather focus on people than places; ▪ Settlement and economic growth opportunities must be channelled within activity corridors and nodes that are linked to main growth points; ▪ Future city and regional development in the province must follow and change the present pattern of resource spending to ensure sustainable environments for the future.
National Environmental Management Act for Biodiversity, 2004 (Act 10 of 2004)	Objective: Integrate bio-diversity conservation, including genetic, specie and eco system diversity with land use planning, because more than 1 million are found in South Africa, one of only 3 countries in the world with the largest biodiversity count. Spatial guidelines: ▪ Integrate conservation and development nationally and bioregional wise; ▪ Generate bioregional plans; ▪ Listed endangered eco systems categorized as critical biodiversity areas and protected eco systems will be reflected in Spatial Development Frameworks and Integrated Development Plans as well as conservation documents.
National Environmental Management Act for Protected Areas, 2003	Objective: Make provision for the protection and conservation of ecologically viable areas that represent the biodiversity, natural landscape and coast line.

(Act 57 of 2003)	Spatial guidelines: • Create a register for all national, provincial and local conservation areas; • Manage conservation areas according to national norms and standards.
Spatial Planning and Land Use Management Act, 2013, (Act 16 of 2013) (SPLUMA)	Objective: To establish a legal policy framework to make it possible for local governments to compile policy, plans and strategies for land use and development to address spatial, economic, social and environmental issues; To ensure a uniform management of land use. Spatial guidelines: Promote the following principles: ▪ Environmentally friendly; ▪ Equality, ▪ Effectiveness; ▪ Integration; ▪ Fair and excellent control; Confirm the role of a spatial development framework in the application of land use management systems.
National Heritage Act, 1999 (Act 25 of 1999)	Objective: To protect and preserve national heritage resources, by: ▪ establishing an integrated and interactive management system for national heritage sources; ▪ empowering communities to conserve heritage sources for future generations; ▪ the lay down of general principles regarding heritage sources; ▪ the establishment of the South African Heritage Resources Agency and Board (SAHRA). Spatial guidelines: The grading of Heritage Sources by the municipal council when the council becomes a heritage authority in terms of the

	act. There are three categories: - Grade I: Heritage sources of national priority; - Grade II: Heritage sources of provincial and regional priority; - Grade III: Other heritage sources. The council can: -declare special heritage planning areas; -protect heritage sources for periods longer than six months; -go into a heritage agreement with regard to a heritage source for longer than six months; -issue a no development instruction. According to Section 30(5) of the act, an inventory of heritage sources in the area under control of the municipality must be compiled and submitted to the relevant provincial heritage authority during the compilation of the spatial development framework. According to Section 31(1) of the act the municipality must during the revision of the town planning scheme or the compilation or revision of the spatial plan, or on the initiative of the provincial heritage authority, investigate the need to earmark heritage areas to be conserved.
National Environmental Management Act, 1998 (Act 107 of 1998) (promulgated in January 1999) (NEMA)	Objective: The act provides a framework and guidelines that is applicable to all decisions that impact on the environment. Spatial guidelines: ▪ Development must be sustainable; ▪ Disturbance of eco systems must be avoided, minimalized or repaired; ▪ Respect cultural heritage sites; ▪ Refuse and wastage must be avoided;

	▪ Responsible use of non-renewable sources; ▪ Development and use of non-renewable sources should not exceed specific limits; ▪ Any activity whether it be mining, planning or business that impacts on the natural environment must comply with the National Environmental Management Act principles.
Environmental Conservation Act, 1989 (Act 73 of 1989) (ECA)	Objective: To enable national, provincial and local government to consider development applications according to policy taken up in the act. Spatial guidelines: ▪ Protect the environment; ▪ Control environmental pollution; ▪ Identify restricted development areas; ▪ Fines for trespassers; ▪ The act was replaced by the Environmental Management Act, No 107 of 1998, but key sections 21, 22 en 29 has have been retained. The sections identify the activities that will have a significant impact on the environment and where beforehand adherence to environmental impact assessment is compulsory by means of extent reports and environmental evaluation reports.
National Environmental Management: Refuse Act, 2008 (Act 59 of 2008)	Objective: To protect health and the environment by means of the implementation of measures to prevent pollution and ecological degradation and to ensure sustainable development; To make provision for the institutional and planning issues, national norms and standards, specific refuse management mechanisms, licensing and control and remedy of contaminated land.
National Forest Act,	Objective:

1998 (Act 84 of 1998)	To ensure the sustainable management and development of forests and the benefit of that to all; To establish measures for the protection of specific forests and trees; To promote sustainable use of forests and community forests; Government forests include plantations controlled and managed by government for research and commercial aims as well as areas for the protection of animals and plants, water catchment areas and for the prevention of land erosion and sand movements as well as the protection of indigenous forests (Fuggle, 1996: 704). Spatial guidelines: ▪ To demarcate forest areas by means of ministerial proclamations; ▪ To manage protected deforested areas; ▪ To ensure access to government forests for recreation, education and cultural activities; ▪ To supply support for community forests.
National Water Act, 1998 (Act 36 of 1998)	Objective: To ensure that the water sources for the residents of South Africa are protected, used, developed, conserved and controlled. Spatial guidelines: ▪ To provide basic human water needs now and also in the future; ▪ To provide equal access to water; ▪ To address the results of race and sex discrimination; ▪ To promote effective sustainable and beneficial use of water to the advantage of the public; ▪ Facilitation of social and economic development; ▪ Supply in the growing demand for water; ▪ To protect aquatic and associated eco systems and their biological diversity; ▪ Reduction and prevention of pollution and degrading of water sources; ▪ Management of floods and droughts.

Mountain Catchment Act, 1983 (Act 63 of 1983)	Objective: To regulate the conservation, use, management and control of land that falls within mountain catchment areas and related issues and to protect areas that are important with regards to water catchment. Spatial guidelines: ▪ To declare Mountain Catchment Areas and to prescribe management guidelines e.g. fire management.
The subdivision of Agricultural land, 1970 (Act 70 of 1970)	Objective: To prevent the subdivision and misuse of agricultural land. Spatial guidelines: ▪ Agricultural land must not be cut up, but retained as viable units.
Protection of Agricultural Sources Act, 1998 (Act 43 of 1998)	Objective: Protection of natural agricultural sources of South Africa by means of the preservation of the production potential of the land by restricting erosion and the weakening of water sources; The protection of vegetation and the prevention of weeds and alien vegetation (Fuggle 1996:198). Spatial guidelines: ▪ No uncultivated land will be cultivated without the written consent of the Minister of Agriculture. ▪ Land with a gradient steeper than 20% will not be cultivated without the written consent of the Minister of Agriculture. ▪ Cultivated land must be effectively protected against water and wind erosion; ▪ Vegetation in a marsh, swamp or water sponge or within a flood area of a water source or within 10m horizontal outside a flood area will not be utilized if such use will lead to the destruction or harm of agricultural sources.
Sustainable Use of Agricultural Sources Draft Bill	Objective: Will replace Act 70 of 1970 and Act 43 of 1998 and will promote land reform and food security.

	Spatial guidelines: ▪ High potential and unique agricultural land has to be protected.
Occupation security on land Draft Bill, 2010	Objective: To protect occupation rights of people who live and work on farms; To establish a land rights management committee. Spatial guidelines: ▪ Promote sustainable living for people living and working on farms; ▪ Settlement of farm workers on alternative land; ▪ Promote occupation security; • Promote rights in resettlement land; ▪ Support sustainable farming practices and production discipline.
PROVINCIAL SPHERE	
Northern Cape Planning & Development Act, 1998 (Act 7 of 1998)	Objective: To ensure that the use and allocation of the province's resources, both renewable and non-renewable, are informed by a set of integrated and coordinate policies, objectives, implementation strategies, programmes and projects. Spatial guidelines: ○ Provide for sustainable planning and sectoral policies, objectives and implementation strategies.
Northern Cape Growth and Development Strategy, 2004 - 2014	Objective: To guide growth and development within the Northern Cape province and serve as link between policy, departmental and provincial strategies as well as budgets.

	Spatial guidelines: • Promote growth, diversification and transformation of the provincial economy; • Establish links between planning projects and budgets; • Align provincial and local budgets; • To redistribute 30% of productive agricultural land to PDI's by 2015; • To conserve and protect 6,5% of valuable biodiversity by 2014; • To provide adequate infrastructure for economic growth and development by 2014.
Northern Cape Provincial and Resource Management Plan/ Provincial Spatial Development Framework (PSDF), July 2012	Objective: To guide and co-ordinate spatial developmental issues within the province by creating an development-friendly environment. Spatial guidelines: ▪ Apply sustainable principles to all spheres of land use management; ▪ Protect and utilise natural resources; ▪ Promote sustainable economic development; ▪ Create a favourable investment environment or the private sector; ▪ Reduce inequality and poverty; ▪ Manual for integrated land use planning regarding preparation of IDP's and SDF's; ▪ Provide for implementation of Spatial Planning Categories (SPC's); ▪ Align municipal functions to bioregional parameters;

	▪ Address existing and future desired spatial patterns; ▪ Provide the basis for policy formulation and decision making; ▪ Serve as cross-border integration framework.
Northern Cape Local Economic Development Strategy, 2011	Objective: Create a stable environment for economic growth and development in the province.
REGIONAL SPHERE	
Pixley Ka Seme District Growth and Development Strategy	Objective: To guide growth and development within the Pixley Ka Seme District. Spatial guidelines: • To provide housing for all by 2014; • To eradicate the bucket system; • To decrease the illiteracy rate by half by 2014.
Pixley Ka Seme District Municipality Spatial Development Framework, 9 November 2007	Objective: To guide spatial planning within the Pixley Ka Seme District area of jurisdiction Spatial guidelines: • Guidelines as prescribed for the district as well as the eight local municipalities.
District Municipality Strategic plan	Objective: To have a strategy plan in place for the District Municipality. Spatial guidelines:

	• Provision of basic services; • Governance and Public Participation; • Local Economic Development (LED).
District Municipality Key Performance Areas	Objective: Highlight areas of priority and see that they get addressed and implemented. Spatial guidelines: • Basic service delivery; • Institutional development; • Local economic development (LED); • Public Participation and good governance.

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