

Nketoana Spatial Development Framework
(Nketoana SDF)
2009-2010

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SECTION 1: INTRODUCTION

In the year 2000, the Municipal Systems Act (Act 32 of 2000) was promulgated. It gave rise to the compilation of Integrated Development Plans (IDPs) for municipalities across the Republic of South Africa. These IDPs were proposed in order to guide and promote development in municipalities. One of the main aspects of IDPs is the Integrated Spatial Development Framework. This can be defined simply as a plan that seeks to maximise the potential spatial usage of an area while taking into consideration its development limitations.

The purpose of this assignment is to review the existing Spatial Development Framework of Nketoana Local Municipality as it was last reviewed during the 2007-2008 review cycle.

1.1 Methodology

The basic information that was used is the 2008 Spatial Development Framework. Public participation is one major aspect of planning nowadays. It is important that a plan reflects the views of the people and the community of Nketoana.

1.2 The Study Area

Nketoana Local Municipality (5598km²) is located in the Eastern Free State. It falls under the Thabo Mofutsanyane District. This municipality is one of the 20 local municipalities found in the Free State Province. The main towns include Reitz; Lindley; Petrus Steyn and Arlington with the Petsana; Ntha; Mamfubedu and Leratswana as their respective townships. 98.8 % of the municipal area is rural and it is mainly used for agricultural purposes. It is indicated in Maps 1, 2, and 3.

1.3 Purpose of the SDF

The purpose of the Spatial Development Framework is:

- To inform the decision making processes within the public sector
- To advise the private sector on approved spatial development direction in order to make long term investment decisions

1.4 Structure of the SDF

The SDF is discussed broadly under an urban SDF, rural SDF and overarching

concepts of environment and tourism. The Urban SDF is broken down into corridors, residential and economic nodes, urban edges, natural and service systems and spatial integration.

1.5 Level of Detail

The purpose of this SDF is to guide development within Nketoana Local Municipality. It is crucial to note that this SDF is reviewed based on the information that was present in the 2007 review cycle. Not all relevant information is included in this SDF because the municipality

1.6 Objectives of the SDF

The objectives of the SDF are to guide spatial development to ensure safe, vibrant, liveable communities. Furthermore, the aim of the guided development is also to safe cost of the provision of services and infrastructure by the establishment of urban edges, rural centres and development corridors.

SECTION 2: NKETOANA IN THE REGION

2.1. National Spatial Development Perspective

The NSDP 2006 is a set of principles and mechanisms for guiding infrastructure investment and development decisions. It is also a shared understanding of the national economic space via the description of the spatial manifestations of the predominant social, economic and environmental trends. Furthermore, it represents an interpretation of the spatial realities in South Africa and the implications imbedded therein from a governmental intervention perspective.

The following are NSDP principles:

- Sustained, inclusive and rapid economic growth is essential for further achievement of other policy objectives.
- The Constitution of South Africa binds the government to the provision of basic services to all citizens.

- Government spending on fixed investment, should focus on localities of economic growth and/or potential.
- In the effort to address past and current social inequalities the focus should be people-driven not place-driven.
- To address the spatial distortions created by Apartheid planning, settlements and economic development opportunities should be focussed on activity corridors and nodes adjacent to or linking to the main growth centres.

2.2. Revised Free State Provincial Growth and Development Strategy (FSGDS)

The revised Free State Provincial Growth and Development Strategy aims to serve as a common strategic vision, as well as a blueprint for future strategies and development plans in the Free State Province. It analysed economic development opportunities within the social context, in line with the National Spatial Development Framework. A further goal is to provide the framework for public and private

sector investment, indicating areas of opportunities and development priorities. Underlying the FSGDS are the following (*quoted from the document*):

- The need to effectively use scarce resources within the Province, whilst addressing the real causes of development challenges.
- The need to accelerate service delivery based on a common provincial development agenda as the basis for provincial strategic direction.
- The need to identify investment opportunities and provide an environment of certainty critical for private-sector investment.
- The need to promote intergovernmental coordination between the three spheres of government.
- The need to facilitate the implementation of the People's Contract within the Province.
- The need to provide a common vision as the basis for common action amongst all stakeholders, both inside and outside government.

- The need to provide a framework for budgets, implementation, performance management and spatial development.

In regard to Development Potential, the settlements of Nketoana Local Municipality are seen to have limited development potential. In relation to Development Needs the settlements of Nketoana Local Municipality have limited development needs.

The four identified key provincial priorities are:

- Economic development, employment and investment.
- Human and social development.
- Justice, crime prevention and security.
- Stable and well-managed governance and administrative structures.

2.3. Thabo Mofutsanyane District SDF

According to Thabo Mofutsanyane's Spatial Strategic Guidelines the following are to be incorporated within the strategies of the municipality:

- Formalize informal areas for urban development.

- Rural development should be classed in 2 groups (tribal land users and farm workers) and the active participation by tribal and farm communities should be encouraged.
- Focus should be on implementation of plans (LDOs, IDPs) and not only on planning.
- Before building houses or allocating housing subsidies, serviced land should be made available. This will lead to more effective and sustainable housing development.
- The estimated population density on erven should be taken into consideration when services are provided.
- Protect jobs on farms by providing incentives for rural development to discourage urbanisation.
- Commonages must be managed well with support and guidance by municipalities. Clear guidelines must be set out

for the use of the commonage and the users should receive training before they can make use of the commonage.

- Maintenance of the existing road network should be priority.
- HIV/AIDS impacts on land development in various ways and should be taken into account in all strategies. Cemeteries should be carefully planned. The district municipality can take leading role with regard to burials.
- Identify suitable land for waste management on a regional basis.
- Promote Spatial Development Zone.

SECTION 3: SECTORAL ALIGNMENT PROPOSALS

3.1. Integrated Development Plan

The projects that were identified for implementation during the 2009/2010 financial year are indicated in Table 3.1. It reflects the IDP's project list, as per Annexure I of the 2009/2010 IDP.

Table 3.1. GENERAL IDP PROJECTS FOR 2009/2010

Project Number	Description	Beneficiaries	Amount	Income	TMDM Funding	MIG	Other	Priority
1.1	Establish SMME Hub in Reitz	All wards	300 000	100 000			200 000	1 1
1.2	Establish Youth Advisory Centre in Petrus Steyn	Ward 1,2	300 000	300 000				1 1
1.3	Profiling local businesses on Nketoana web site	All wards	20 000	20 000				1 1
1.4	Promote Nketoana as a tourism destination by developing a tourism brochure	All wards	150 000		75 000		75 000	2 2
1.5	Alignment of Procurement policy	All wards	5 000	5 000				1 1
1.6	Develop an LED Strategy	All wards	200 000				200 000	1 1
1.7	Establish a Local Economic Forum	All wards	20 000	20 000				1 1
1.8	Encourage investment in		10 000	10 000				1 1

	capital projects	All wards						
1.9	Popularize the municipal Indigent Policy with an awareness campaign	All wards	10 000	10 000				1 1
1.10	Food parcels	All wards	50 000	5 000			45 000	2 1
1.11	Establish food gardens on sites for own use	All wards	10 000	10 000				1 1
1.12	Establish communal food gardens for marketing	All wards	600 000		100 000		500 000	1 1
1.13	Establish a tourism and information centre and market point for handcraft and needlework	All wards	300 000	100 000			200 000	2 1
1.14	Co-source Internal Audit function	All wards	425 000	425 000				1 1

Table 3.2. FINANCE IDP PROJECTS FOR 2009/2010

Project Number	Description	Beneficiaries	Amount	Income	TMDM Funding	MIG	Other	Priority
2.1	Erecting Carports at Reitz municipal buildings	Councilors, Visitors and staff members at Head Office	375 000	25 000			350 000	1 5
2.2	Capacity building of suppliers on database		50 000				50 000	2 1
2.3	To secure the council's properties and officials	All wards	1 500 000	800 000			1 500000	1 5
2.4	Clean Audit report	All wards	90 000	20 000			70 000	1 1
2.5	Obtain/Replace ICT equipment and software		2 585 000	235 000			2 350000	2 3

Table 3.3. CORPORATE SERVICES IDP PROJECTS FOR 2009/2010

Project Number	Description	Beneficiaries	Amount	Income	TMDM Funding	MIG	Other	Priority
3.1	Training the staff on scarce skills - Electrical, Water operations, Roads & Civil Works, Mechanical, Finance, IT, Waste Management, Horticulture, Property Value		550 000	50 000			500 000	1 2
3.2	System to manage Performance	All wards	190 000	110 000			80 000	1 2
3.3	User Friendly administrative building	All wards	90 000	90 000				2 3
3.4	Procurement of furniture	Staff members	210 000	210 000				3 1
3.5	Provision of office space	Staff members	320 000	320 000				2 5
3.6	Critical Skills Development	All wards	125 000	125 000				1 1
3.7	Community awareness campaign	All wards	210 000	35 000			175 000	1 1
3.8	Provide security at public facilities	All wards	520 000	520 000				1 1
3.9	Establish training facility	Reitz	300 000	50 000			250 000	1 1

Table 3.4. COMMUNITY SERVICES IDP PROJECTS FOR 2009/2010

Project Number	Description	Beneficiaries	Amount	Income	TMDM Funding	MIG	Other	Priority
4.1	Obtain a vehicle to handle skip bins	All wards	1 200 000	120 000	200 000	1 000 000		1 1
4.2	Provide skip bins on strategic places in all wards and provide refuse bins to all households	All wards	800 000	800 000				1 1
4.3	Provide efficient traffic control and safety in Nketoana by upgrade equipment	All wards	410 000	410 000				1 1
4.4	Obtain land and establish a new cemetery in Petrus Steyn, Arlingotn, Ntha	Wards 1,2	1 100 000	100 000	500 000	500 000		1 1
4.5	Upgrading of equipment to render an efficient service regarding Disaster Management	All wards	3 590 000	390 000	3 200 000			2 1
4.6	Establish and develop a taxi rank per town	All wards	1 150 000	350 000	800 000			3 1
4.7	Build new swimming pool in Petrus Steyn	Ward 1,2	820 000	220 000		600 000		3 1
4.9	Obtain and develop new	All wards						1 1

	residential sites in Nketoana to eradicate the backlog		10 270 000	270 000			10 000	
4.10	Provide a healthy environment by establishing parks and planting trees in Nketoana to create a greening effect	All wards	110 000	10 000			100 000	2 3
4.11	To legalize all landfill sites	All wards	105 000	105 000				2 1
4.12	To close down and rehabilitate the identified landfill sites that reached their capacity	All wards	215 000	215 000				1 1
4.13	To close down and rehabilitate the landfill site in Reitz and Arlington and establish a new site according to legal requirements	Wards 5,6,7,8,and 9	6 100 000	100 000	6 000 000			2 1
4.13	Upgrading recreational facilities in all areas	All wards	1 300 000	1 300 000				2 1
4.14	To provide public toilet facilities in all areas	All wards	300 000		300 000			1 1

Table 3.5. PUBLIC WORKS & TECHNICAL SERVICES IDP PROJECTS FOR 2009/2010

Project Number	Description	Beneficiaries	Amount	Income	TMDM Funding	MIG	Other	Priority
5.1	Water and Sewerage pump maintenance contract	All wards	150 000	150 000				1 1
5.2	Provide all households with a water meter	All wards	2 550 000	550 000		2 000 000		1 1
5.3	Obtain water telemetry equipment in all areas	All wards	620 000	120 000		500 000		2 1
5.4	Upgrade reticulation networks in all areas	All wards	4 000 000	300 000		3 700 000		1 1
5.5	Upgrade pipeline between Reitz and Petrus Steyn to a 400mm pipeline	Wards 1, 2	6 100 000	100 000		6 000 000		1 1
5.6	Upgrade bulk water supply in all areas	All wards	109 000000			350 000		1 1
5.7	Create and develop storm water systems in all areas	All wards	17 200 000	1 200 000		16 000000		2 1
5.8	To surface, repair and maintain all roads in the urban areas of Nketoana, by paving, tar or gravel.	All wards	51 700 000	800 000		9 500 000	41 400000	1 1
5.9	Obtain a cherry picker vehicle for maintenance of street lights in Reitz	Ward 6,7,8,9	342 000	342 000				2 1

5.10	Provide electricity connection to new developed sites	All wards	2 950 000	450 000			2 500000	1	1
5.11	Street lights/High mast lights in all areas	All wards	1 900 000		1 900 000			1	1

SECTION 4: SITUATIONAL ANALYSIS

The Free State is one of nine South African Provinces and it is the most central in the country. It covers 10.6% of the country and covers 129464 km². It is known for its wide horizons, blue skies, mountains and goldfields. Its population is about 2.7 million. The Free State Province has five district municipalities.

Nketoana Local Municipality is located in the Thaba Mofutsanyana District Municipality, as indicated in Maps 1,2 and 3. Thabo Mofutsanyana is an important tourist destination due to the Drakensberg and Maluti mountains, Golden Gate Highland Park, trout fishing, the annual cherry festival at Ficksburg, the Basutho Cultural Village and Khoisan rock paintings. This district has 26.8% of the Province's population and it contributes to 11.7% of the GDP in the Province. Thabo Mofutsanyana has the highest percentage (33.6%) of children (0 – 14 years), as well as females (53.6%) in the Province. There are a very high percentage of people in Thaba Mofutsanyana in the informal labour force (25%), which also represents the micro-entrepreneurial sector being very strong and needing support. However, this district also has the highest proportion of people that lives in poverty (68%) in the Province and it also showed a 21% increase in its poverty rate from 1996 to 2004.

4.1. Socio Economic Analysis

4.1.1. Demographic analysis

The demographic analysis will provide a background of who the Spatial Development Framework is to serve.

4.1.1.1. Population

The population of Nketoana totals at 62 363, that is spread over about 12 310 households. The majority population group is of African origin at 93%. The highest population density is found in the Reitz/Petsana area. The population density is illustrated in Map 5.

4.1.1.2. Gender Distribution

The gender is distributed via 46% males and 54% females.

4.1.1.3. Age Distribution

The majority of the population, that is 22 607 people, that is 36%, is between 15 and 34 years of age. Future development must take into account that there is 24% of the population, that is 14 974 people, in the age group 5 to 14 years. The population in the age group 35 to 64 years accounts for another 24%, with 14 900 people.

4.1.1.4. Labour Sector

The municipality has an employment rate of 62%. The population is employed predominantly in the agricultural sector at 45%, where the private households industry contributes 19% to the labour force. There are 10 898 employed people, 8 689 unemployed people and 20 015 economically inactive people.

The elementary sector employs the majority of the people at 41%, followed by the 21% employed in the plant / machine operations sector.

4.1.1.5. Income Distribution

Approximately 72% of the population (44 634 people) has no monthly income. Thereafter, 25% of the population earns between R1 and R1 600 per month.

In regard to the annual household income, about 26% of the households earn no income, whereas 59% earn between R1 and R19200 per year. This portrays the low level of funds available for basic needs attainment by the residents.

4.1.1.6. Job creation and local economic development

Nketoana has a high rate of unemployment and the economy is basically dependent on agriculture, with the towns being the agricultural sector's service centers. The problems in the agricultural sector led to lay-offs of farm workers that moved to the towns and added to the unemployed sector of society. Many people try to be economically active in the informal sector, but proper trading spaces and facilities must be provided to optimise their ventures. They should also receive entrepreneurial training.

The area will have to diversify its economic base in order to lessen its over-dependency on agriculture. The processing of agricultural products is one such possibility to add value to the agricultural resources and products in the area. Furthermore, there is a tremendous human resource base that must be trained and re-trained and allocated to suitable projects. The Department of Social Development can assist the community through job creation and self-sustainability programmes.

There is a notable outflow of cash due to the CBDs offering limited services and products. Re-investment and business development to capture the cash is important to create jobs and a push factor for the economic multiplier effect.

The Municipality is committed to structure its rates and services favourable to attract investment in local industries. Local communities and unions should get involved with these initiatives.

Due to its location and various assets tourism can be developed more vigorously.

4.1.2. Urban Environments

The urban environments of Nketoana Local Municipality are herewith discussed.

4.1.2.1. Land use and settlement pattern

The land use and settlement pattern of Nketoana Local Municipality are herewith discussed in Table 4.1.

Table 4.1. Land use and settlement pattern

	Reitz/Petsana	Petrus Steyn / Mamfubedu	Arlington / Leratswana	Lindley / Ntha
Residential	Reitz has 1 300 erven, with 1245 occupied by single dwelling units and 55 flats. Another 183 erven are vacant. Petsana has 605 residential erven, all surveyed and occupied. There is no additional land available for expansion	Petrus Steyn has 506 erven, with 332 occupied by single dwelling units. Another 172 erven are vacant. The averages residential erf is 2000 m ² . Mamfubedu has 3200 residential	Arlington has 110 occupied residential erven and 38 that is vacant. Leratswana has 1099 occupied residential erven, with no vacant erven. There	Lindley has 481 occupied residential erven and 30 vacant erven. Ntha has 2621 occupied residential erven.

	and 500 households have settled informally as backyard dwellers and are awaiting the allocation of sites. Only 80% of dwellings are formally built.	erven. The average residential erf is 300 m ² .	is an urgent need for additional erven. The Municipality is busy with Township Establishment for 400 erven east of Leratswana, across the R707 road to Senekal. Transnet had 50 residential units on its land that is in individual title ownership. It is located outside the Arlington Municipal area, south of the existing railway line between Bethlehem and Steynsrus.	
Trade & Services	<p>In the centre of Reitz is a well-developed CBD, with various retail business and related services, like agricultural suppliers, wholesalers, retailers, general dealers, hairdressers, funeral homes, pharmacies, bakeries, financial and professional service providers.</p> <p>Petsana predominantly has informal businesses, like spaza shops, vegetable stands, backyard repair shops, panel beaters, builders, car washes, welders and so forth.</p>	<p>Petrus Steyn has a CBD hosting with various businesses like, the Co-operation, a supermarket, 20 retail shops and general dealers, 2 liquor stores, a hotel, 2 hairdressing salons, 3 financial institutions, 2 doctor's practices, a pharmacy, an estate agent and 2 funeral homes.</p> <p>Mamfubedu has 31 formal businesses, located at the town's entrance. There are also numerous informal businesses on residential erven, like taverns, 2 funeral homes, fuel depots and spaza shops.</p>	<p>Business is very limited in Arlington-Leratswana.</p> <p>Arlington's CBD is adjacent the major roads of the R707 to Senekal and the S/213 between Bethlehem and Kroonstad.</p> <p>Leratswana's business node has some community facilities and shops and adjacent to the S/1000 road.</p>	<p>Lindley has a linear CBD, along the north-south main road, hosting about 23 businesses.</p> <p>Ntha has a need for a business node, as there are currently only fragmented shops.</p>
Industrial Areas	Reitz-Petsana has 2 industrial areas, located north thereof. It locates numerous light and heavy industries, mostly linked to the agricultural sector.	Northwest of Petrus Steyn, nest to the railway station, is grain silos. It is owned by Vrystaat kooperasie Beperk and has a 102 000 metric ton storage capacity. From May to	There is no industrial area for Arlington-Leratswana.	<p>There is no formal industrial area in Lindley.</p> <p>Ntha has a couple of light industrial sites, located along the main</p>

	<p>Due to its land availability and sufficient water, Reitz-Petsana has the ability to become Nketoana's industrial hub.</p>	<p>August, about 25 000 tons of maize are stored and from December to February 35 000 tons.</p> <p>There is an under-utilised industrial area with railway line and external road access.</p> <p>The majority of the industrial functions is located in Petrus Steyn itself and includes a warehouse, engineering works, mill and bakery, 2 potato washing industries, a fuel depot and various light industrial workshops.</p>		connector road.
Education	<p>Reitz-Petsana has 4 primary schools, 2 secondary schools, 1 combined school and a Christian Academy.</p> <p>In Reitz there is a satellite District Office of the Department of Education.</p> <p>There is also 1 boarding school and some crèches.</p>	<p>Petrus Steyn has 1 primary school (400 learners), 1 secondary school (1117 learners) and 2 crèches.</p> <p>Mamfubedu has 2 primary schools (1 085 and 1 371 learners), 1 secondary school (1 024 learners) and 4 crèches.</p>	<p>There is 1 primary school and 1 secondary school in Leratswana, as well as 2 crèches.</p>	<p>In Lindley and Ntha there are primary and secondary schools, as well as several crèches and day care facilities.</p>
Health Services	<p>Reitz-Petsana boasts a fully equipped provincial hospital with 2 wards and 65 beds. It operates 24 hours a day.</p> <p>There is a municipal clinic in Petsana, a community clinic in Reitz, trauma centre and a step-down facility.</p>	<p>Petrus Steyn as 1 clinic and a mobile clinic services the rural areas.</p> <p>Health facilities in Reitz and Bethlehem are used for more advanced medical treatment and emergencies. All units render home-based services, with volunteers trained by the Provincial Department of Health.</p>	<p>There is 1 clinic in Leratswana.</p> <p>Health facilities in Reitz and Bethlehem are used for more advanced medical treatment and emergencies.</p>	<p>There is a clinic in Lindley, but it is not satisfactory to the community, due to a lack of nursing staff and doctors. Furthermore, "Bato Pele Principles" are not practices by staff.</p>
Welfare Services	<p>The following social welfare services are available, under guidance of the</p>	<p>Welfare organisations are available in Petrus Steyn and Mamfubedu.</p>	<p>Welfare services are rendered by Kinderlike</p>	<p>Welfare services are rendered by Kinderlike Maatskaplike Dienste</p>

	<p>Department of Social Welfare:</p> <ul style="list-style-type: none"> • Social workers from Kinderlike Maatskaplike Dienste (KMD). • Social workers from the Department of Social Welfare that provide weekly or bi-weekly visits, • Two development workers – stationed in Bethlehem. • Pension applications done every Tuesday. • Service centre for the aged. • Four registered crèches in Petsana. • Five job creation projects. • Two old age homes namely Sisters of St Paul and Huis Sorgvry. • A number of home-based care groups. • Women's groups. • Various facilities and projects. 	<p>Welfare services are rendered by Kinderlike Maatskaplike Dienste (KMD). Social workers from the provincial department, from the Bethlehem office, render service once a week.</p> <p>There are 2 old age homes and a Centre for disabled people.</p>	<p>Maatskaplike Dienste (KMD). Social workers from the provincial department, from the Bethlehem office, render service once a week.</p>	<p>(KMD). Social workers from the provincial department, from the Bethlehem office, render service once a week.</p> <p>There is 1 old age home.</p>
Churches	Numerous churches represent the denominational spectrum are available.	Numerous churches represent the denominational spectrum are available.	All denominations are represented.	There are several churches of all denominations.
Government	Government and semi-government functions located in Reitz-Petsana are Magistrate's Office, South African Police Service, Provincial Traffic, Public Works and Roads, Agriculture, and the Regional Education Department.	<p>Government functions located in Petrus Steyn is Magistrate's Office, and the South African Police Service.</p> <p>The Municipal offices are located in Petrus Steyn.</p>		
Sports, Recreation, Conservation and Tourism	The Piet Geyer Sport Park is situated in Reitz and the Petsana Sports Grounds in Petsana. These grounds provide various sport facilities, like soccer, rugby, tennis, netball, volley ball, basketball, cricket, athletics and swimming. The Petsana Sports	<p>There is a privately owned sports grounds northeast of Petrus Steyn. In Petrus Steyn soccer, rugby, golf, horse riding, bowls, tennis, netball, basketball, squash, athletics, badminton and jukskei are on offer. In Mamfubedu soccer, volleyball,</p>	<p>Arlington has 1 sport facility.</p> <p>Leratswana only has a soccer field, in poor condition.</p> <p>Arlington hosts the Agri-Tourist Route at Wisp-Will</p>	<p>Lindley has a functional multi-purpose sport facility close to the Vals River, north of the town.</p> <p>Ntha has an allocated sport site, but it is not developed. There are also various undeveloped parks.</p>

	<p>Grounds needs to be upgraded.</p> <p>A 9-hole golf course is next to the Vrede Road outside Reitz.</p> <p>Recreation services are provided in the form of a caravan park, various parks and open spaces and also the “Bietjie-Water” holiday resort on the Warden Road, 8 km from Reitz.</p> <p>Tourist attractions are flower farms, bird farms, 2 lion farms and various national monuments. Tourist events are the Bieliemielie (maize) festival in summer, the annual motorbike festival and VKB rugby week. There are 3 guesthouses, 1 hotel, 1 guest lodge and 1 caravan park and 1 holiday resort. There is a game park within Reitz, with black wildebeest, zebras, ostriches, and so forth. There are also annual stud auctions.</p>	<p>karate, boxing, softball, table tennis and pool are practiced, regardless of the lack of formal facilities.</p> <p>Various festivals are held annually, like the Sunflower Festival. There is a hotel, numerous guesthouses, 3 game farms and the renowned Kruispad missionary church available to tourists. There are also flower, nut and bird farms and the annual stud auctions that attract visitors to the area.</p>	<p>Game Lodge and has many other game farms as tourist attractions, especially for hunting.</p> <p>There are walking trails and annual stud auctions.</p>	<p>The Vals River runs next to Lindley-Ntha and subsequently various riverside, as well as wetland areas, exist in the area that are of ecological sensitivity and requires proper conservation management.</p> <p>Lindley is the birthplace of Dr Danie Craven. It also has an annual festival called Kuierfees. It has 1 holiday resort, 3 B&Bs and 1 guest farm. There is also the Yeomanny Koppies and graves, famous due to its Anglo-Boer War heritage. The Piekniekdraai resort has great potential and should be developed. In Ntha is a historic Dutch Reformed Church.</p>
Emergency Services	<p>An ambulance service assists Reitz, its district and Petrus Steyn. The local call centre is at Reitz, but it is slow and inadequate.</p> <p>The municipality has a fire brigade service, linked to the traffic department and ambulance service; it services the entire Nketoana.</p>	<p>Qualified paramedical personnel, in conjunction with an ambulance service from Reitz are utilised. The call centre was moved to Bloemfontein, but sometimes there are no answer and long waiting periods for the ambulance.</p> <p>The road conditions in Mamfubedu hamper emergency service delivery.</p> <p>The municipality has a fire brigade service and focus on the municipal</p>	<p>Ambulances from Senekal are dispatched from the Bloemfontein call centre.</p> <p>Fire fighting services are rendered from Reitz.</p>	<p>Lindley has an ambulance station, with the call centre in Bloemfontein that is not functioning well.</p> <p>There is a bakkie with a fire fighter.</p>

		area within a 5 km radius. Outside this radius, farmers receive fire hydrants and similar equipment.		
Safety & Security	The SAPS has a Community Service Centre in Reitz and Community Policing Forum.	The SAPS has a local police station in Petrus Steyn and a community policing structure as support.	The SAPS has a Community Service Centre in Arlington and Community Policing Forum.	The SAPS has a Community Service Centre in Lindley and Community Policing Forum.
Cemeteries	There is sufficient cemetery space in Reitz, but Petsana has a newly established cemetery. There are 4 cemeteries that are fully utilised and closed. Due to the high death rate, future cemetery areas need to be identified promptly.	There is sufficient cemetery space, in a good condition, 1 in Petrus Steyn, 1 in Mamfubedu that needs to be maintained, fenced and upgraded and another east of the town. There are 2 cemeteries that are fully utilised and closed.	The existing cemeteries are insufficient and a new cemetery is planned on Huguenot Farm. Ablution facilities must be built at the existing cemeteries. There are 2 cemeteries that are fully utilised and closed.	The Lindley cemetery is almost on full capacity. A new site must be identified or the Ntha cemetery expanded. There are 3 cemeteries that are fully utilised and closed. The Ntha cemetery is sufficient in the short term, but must be properly maintained and upgraded. The community requested ablution facilities at the existing cemeteries.
Other community facilities	Reitz-Petsana each has a community hall and libraries.	Petrus Steyn accommodates the post office and Telkom offices. There is a library in Petrus Steyn and another in Mamfubedu. Mamfubedu also has a community hall.	Arlington-Leratswana each has a conveniently located community hall. There is a post office in Arlington. The library is housed by the primary school.	Lindley and Ntha each have a community hall and libraries. There is a post office in Lindley. The town hall in Lindley is a historic sand stone building that needs upgrading.

4.1.2.2. Transportation Infrastructure

The transportation infrastructure of Nketoana Local Municipality is herewith discussed in Table 4.2.

Table 4.2. Transportation Infrastructure

	Reitz/Petsana	Petrus Steyn / Mamfubedu	Arlington / Leratswana	Lindley / Ntha
Roads	<p>A variety of road networks links Reitz-Petsana with the surrounding area and other urban centers.</p> <p>The provincial road R26 links Reitz with Bethlehem to the southwest and with Frankfort to the northeast.</p> <p>The provincial road R57 links Reitz with Petrus Steyn to the north and Kestell to the south.</p> <p>Reitz is linked to Vrede with the secondary road S/589 and Warden with S/74.</p>	<p>The provincial road R57 between Reitz and Heilbron are also the main access to Petrus Steyn.</p> <p>Petrus Steyn is linked to Lindley and Frankfort with the road R707 and to Edenville with the secondary road S/66.</p>	<p>The provincial road P40/1 between Lindley and Senekal are also the main access to Arlington.</p> <p>Arlington-Leratswana is developed in a linear form and must receive careful future planning.</p>	<p>The R707 between Arlington and Petrus Steyn is the main road link and separates Lindley and Ntha.</p> <p>The P19/1 links Lindley with Steynsrus and Bethlehem and the S/192 links Lindley with Reitz.</p>
Rail	<p>The Reitz-Petsana station services the main railway line linking Gauteng and the Eastern Free State, used predominantly for the transportation of goods, especially agricultural goods. The station is situated next to the industrial area.</p>	<p>The railway station is accessible from both Petrus Steyn and Mamfubedu and has access to the industrial area. It is situated on the line linking Heilbron and Lindley. The line is mainly used for goods transportation, especially to and from the grain silos. The railway station buildings are worn down and vandalized.</p>	<p>The railway line, that links Bethlehem and Steynsrus, runs through Arlington and was responsible for the establishment of Arlington and still poses economic developmental potential.</p>	<p>The railway line between Arlington and Petrus Steyn runs just south of Lindley.</p> <p>The station is dormant, but should be re-opened and upgraded to promote economic development.</p>
Air	<p>There is no airport, but there is an airstrip north of the Reitz-Petsana urban area. It is principally used by crop-sprayers. The runway is not tarred.</p>	<p>There are no airfields or landing strips.</p>	<p>There are no airfields or landing strips.</p>	<p>There is an informal landing strip.</p>

Public Transport	People from Petsana that works in Reitz walk there, due to the close proximity. Alternatively, there is taxi's servicing Petsana.	Taxis provide the predominant public transportation to especially the people of Mamfubedu.	Taxis provide the predominant public transportation. The taxi rank needs proper development and upgrading.	There is a need for a proper taxi rank.
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4.1.2.2. Engineering Infrastructure

The engineering infrastructure of Nketoana Local Municipality is herewith discussed in Table 4.3.

Table 4.3. Engineering Infrastructure

		Reitz/Petsana	Petrus Steyn / Mamfubedu	Arlington / Leratswana	Lindley / Ntha
Water	Bulk Supply	<p>Municipal water is sourced from the Liebenbergsvlei River. The water is purified at the works located on the farm "Geluk" and has a capacity of 80 litres per second.</p> <p>Reitz has two 3.5 mega-litre reservoirs and a 0.75 mega-litre pressure tower.</p> <p>Petsana has a 2 mega-litre and a 1.6 mega-litre reservoir and a 75-kilolitre pressure tower.</p>	<p>Municipal water is sourced from the Kalkoen Spruit via the Middelpunt Dam, as well as 3 boreholes. The boreholes decrease output in the dry months, resulting in water shortages. The capacity of the Middelpunt Dam has reached its peak.</p> <p>The water is purified at the works alongside the bulk supply line and has a capacity of 10 litres per second. The new bulk water supply line from Reitz to Petrus Steyn has a capacity of 17 litres per second.</p> <p>There are 2 storage reservoirs with a capacity of 0.8 mega-litres.</p>	<p>Raw water is pumped from 2 boreholes on the farms Port Arlington and Sckietkop, totaling 141 912 kilolitre annually.</p> <p>The supply is not adequate and needs attention.</p> <p>The existing storage dam is heavily silted and that perpetuates the water shortage problems. Reservoirs are not adequate in the provision of water during dry seasons, as the dam itself runs dry.</p> <p>A water purification plant has been completed and a pressure tower built in Leratswana.</p>	<p>The Vals River supplies water to Lindley-Ntha.</p> <p>This is however inadequate and a raw bulk water line should be constructed from Liebenbergsvlei.</p> <p>There is a mega-litre reservoir and a new 435 mega-litre out-stream storage dam.</p> <p>There are 2 storage dams from where the purification works are fed.</p> <p>A bulk water supply pipeline from Petrus Steyn to Lindley is proposed.</p> <p>The purification works are to</p>

				There is a need for a new pressure tower and the upgrading of the water purification works.	be upgraded for R28 000 000.
	Internal Network	There are 996 individual connections metered in Reitz and 30 in Petsana. Petsana has 3575 individual connections that are not metered. The small and old pipes in Reitz results in problematic water reticulation.	There are 579 individual connections metered in Petrus Steyn and 4 in Mamfubedu. Mamfubedu has 2391 individual connections that are not metered.	There are 79 individual connections metered in Arlington and 167 in Leratswana. Leratswana has 1212 individual connections that are not metered and Arlington has 2.	There are 372 individual connections metered in Lindley and 195 in Ntha. Ntha has 2423 individual connections that are not metered. A comprehensive pipe network is located in every street that facilitates the ability of every house to connect.
Sanitation	Bulk sewerage	The sewerage treatment works has a capacity of 70 litres / second.	All Petrus Steyn's and Mamfubedu's sewerage effluent is serviced by a system that handles all sewerage and treatment is provided in local oxidation ponds. These ponds are located unhealthily close to the residential area of Mamfubedu.	There are now bulk waterborne sewerage network and no treatment works. However, recently a new oxidation pond system has been developed for Arlington-Leratswana.	Lindley-Ntha each has an inadequate oxidation pond system.
	Internal Network	Waterborne services are available for 1217 erven from Reitz and 1350 erven from Petsana. There are 40 erven serviced by septic tanks and 2666 erven services by the bucket system in Petsana. There are also 60 erven without any sanitation.	Waterborne services are available for 232 erven from Petrus Steyn and 346 erven from Mamfubedu. There are 160 erven serviced by septic tanks and 2757 erven service by the bucket system in Mamfubedu. Upgrading of the sewerage system is dependent on the upgrading of the water services.	There are 72 erven with septic tanks in Arlington and 20 in Leratswana. Leratswana also has 90 erven with Pit or VIPs, 1030 erven using the bucket system and 320 erven without sanitation.	Waterborne services are available for 357 erven from Lindley. There are 150 erven serviced by septic tanks and 3598 erven service by the bucket system in Ntha, that is serviced by a night soil removal system. Upgrading of the sewerage system is dependent on the upgrading of the water

					services.
Electricity	Bulk Supply	Reitz receives their electricity from the Municipality directly and Petsana via the Municipality distribution substation from Eskom. The distribution system is operating at full capacity. There are problems with exiting low-voltage and dangerous overhead lines.	Petrus Steyn receives their electricity from the Municipality directly and Mamfubedu directly from Eskom. The Eskom high-tension network consists of 11 Kv overhead open and bundle conductor cables on wooden poles.	Eskom directly provides electricity to Arlington-Leratswana.	The municipality provides adequate electricity to Lindley-Ntha.
	Internal Network	There are 1217 individual connections in Reitz and 2735 in Petsana. The Municipality maintains streetlights in Reitz-Petsana. High mast lights are planned for Petsana.	There are 504 individual connections in Petrus Steyn and 3447 in Mamfubedu.	The transformers require upgrading and the distribution network in Arlington has capacity limitations. There are 100 individual connections in Arlington and 995 in Leratswana. In Leratswana there is 19 erven that has access to network only and 300 erven with no access to electricity. Arlington has 2 connections that are network only. There is a need for high mast streetlights in Leratswana, as well as conventional streetlights for Ward 6.	There are 372 individual connections in Lindley and 2441 in Ntha. Problems that are experienced are the pre-paid meters that malfunction due to rain and lightning and the Eskom substation in Lindey need to be upgraded. There is a need for high mast streetlights or conventional streetlights in Ntha; for security purposes.
Roads and Storm water	Internal streets	There are 66 km tarred streets in Reitz and 8 km in Petsana. There are 3 km gravel streets in Reitz and 60 km in Petsana. There are 0.5 km unsurfaced streets in Reitz and 15 km in Petsana.	There are 43.8 km streets in Petrus Steyn-Mamfubedu, 17.35 km are graveled, 8.8 tarred and 17.65 km unsurfaced. A taxi and bus ring road system within Mamfubedu has been	There are 3 km tarred streets in Arlington-Leratswana, but it is in a very poor condition. There is a tremendous need for street upgrading, especially in Leratswana.	All the main roads in Lindley are tarred, but in poor condition. The Lindley-Ntha connector road of 2.5 km is paved. There is only 1 km of tarred roads in

		<p>Eighteen (18 km of the tarred roads need to be reconstructed and 30 km need to be resealed. Two (2) km of internal tarred roads are required in Petsana to link the old extension to the new extensions 2, 3 and 4. In the new extensions streets have to be built.</p> <p>The gravel roads in Petsana needs to be graded, as they are not well maintained and in a bad condition.</p> <p>In Petsana 6 km street surface are to be paved as part of a project to provide bus routes to all towns.</p>	<p>identified. In Mamfubedu 6 km street surface are to be paved as part of a project to provide bus routes to all towns.</p>	<p>In Leratswana 6 km street surface are to be paved as part of a project to provide bus routes to all towns.</p>	<p>Ntha. There is thus a tremendous need for tarring and upgrading or roads in Ntha, especially the ones utilised by the taxis.</p> <p>A road crossing from Ntha to Lindley over the R707 between Arlington and Petrus Steyn is required for safety purposes.</p> <p>In Ntha 6 km street surface are to be paved as part of a project to provide bus routes to all towns.</p>
	Storm water	<p>The underground storm water system in Reitz cover 70% and 30% are covered by an open channel system. In Petsana 95% is covered by an open channel system. It is reported that 70% of the systems do not function optimally.</p> <p>Problems experienced in Reitz are duo to the steep slopes and in Petsana bad road conditions results in 50% of Petsana not having proper storm water drainage. The lack of graveled streets in Petsana Extensions 2, 3 and 4 results in no storm water drainage in that area.</p>	<p>The storm water system in Petrus Steyn is based on open channels with pipes underneath the roads at certain intersections. Erosion has damaged some of the channels and needs to be upgraded.</p> <p>In Mamfubedu 20% of the road network is covered by an open channel system with concrete dips across streets. Erosion is damage the system in high traffic areas and should be upgraded.</p>	<p>There is no proper storm water drainage system or channels. Erosion, aided by the steep slopes, is experienced.</p>	<p>An open channel system covers small portion of streets.</p>
Waste Disposal		<p>An inadequate waste disposal site is located west of Reitz. Various alternatives are being investigated.</p>	<p>West of Petrus Steyn – Mamfubedu are 2 gravel burrow pits that are currently used for waste disposal. It is not fenced</p>	<p>There is an adequate waste disposal site for Arlington-Leratswana, but encroachment from Leratswana is a problem.</p>	<p>There is an adequate waste disposal site for Lindley-Ntha for the next 5 years, but alternative sites should be</p>

		A need has been identified at the ward meetings, for more frequent removals and the need for dust bins per site. Skip bins must be placed at strategic places to stop uncontrolled dumping.	and suffers from weak soil conditions. An alternative site should be identified, that meets the required standards. A need has been identified at the ward meetings, for more frequent removals and the need for dust bins per site. Skip bins must be placed at strategic places to stop uncontrolled dumping.	Organised refuse removal is done in Arlington-Leratswana.	investigated for future expansion. Organised refuse removal is done in Lindley-Ntha. Skip bins must be placed at strategic places to stop uncontrolled dumping.
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4.1.2.4. Housing

Housing provision is the role of the Provincial Department of Local Government and Housing. The Nketoana Municipality manages the application for housing subsidies. Table 4.4 indicates the government housing situations in Nketoana.

Table 4.4. Government Housing situation

Area	Previously built	Presently allocated	Applied / Approved	Completed	People on waiting list for sites	Number of sites under development
Petsana	1489	500	500	214	3367	1401
Mamfubedu	1100	300	289	164	2500	1000
Ntha	0	200	183	0	1318	1000
Leratswana	600	200	200	74	609	0

The beneficiaries are not happy with the quality of the government housing. The Municipality should assist the beneficiaries to ensure that they only sign the relevant documentation after they are happy with the housing unit they are to receive. There are also insufficient sites and that should be addressed by the purchase of land from private owners.

4.1.2.4.1. Reitz-Petsana

Reitz has ample open residential erven to accommodate growth in the medium and high-income housing markets.

There is a housing backlog in Petsana of 2500 units. Petsana has no additional land available for extension. However, additional land of 220 ha, south of Petsana has been identified for development and will provide space for the next 8 to 10 years.

There are 1100 formal houses in Reitz and 3670 in Petsana. There are 1370 informal houses on formal erven, 535 informal houses on unplanned areas and 564 backyard dwellers in Petsana. There is 1 backyard dweller in Reitz.

4.1.2.4.2. Petrus Steyn-Mamfubedu

Petrus Steyn has ample open residential erven to accommodate growth in the medium and high-income housing markets.

There is a housing back lock in Mamfubedu of 2200 units.

There are 223 formal houses in Petrus Steyn and 2067 in Mamfubedu. There are 1110 informal houses on formal erven and 1925 backyard dwellers in Mamfubedu.

4.1.2.4.3. Arlington-Leratswana

Arlington has ample open residential erven to accommodate growth in the medium and high-income housing markets. The Transnet houses that have been transformed into individual titles add to the available housing stock.

There is a housing back lock in Leratswana of 613 units.

There are 110 formal houses in Arlington and 1099 in Leratswana. There are 563 informal houses on formal erven and 50 backyard dwellers in Leratswana.

4.1.2.4.4. Lindley-Ntha

There are 357 formal houses in Lindley and 2260 in Ntha. There are 702 informal houses on formal erven, 20 informal houses on unplanned areas and 1837 backyard dwellers in Ntha.

There is a housing back log in Ntha of 1600 units. There is ample land to the south of Ntha that will be able to accommodate future expansion.

4.1.3. Rural Environments

The rural environments of Nketoana Local Municipality are herewith discussed.

4.1.3.1. Activities

The rural areas of the Nketoana Municipality is seen as extremely fertile agricultural land, a fact that is based on the high gross income per hectare and the above-average production capacity in regard to Free State statistics. Agriculture is the economic base of the districts of Lindley and Petrus Steyn, due to its high contribution to the GGP (Gross Geographic Product) of Nketoana. Furthermore, the district of Reitz provides the home base of the Free State Agricultural Co-operative and also boasts a very progressive, productive, stable and viable agricultural economy. Unfavourable market prices, profit levels and product pricing vs. production costs places considerable strain on the economic functioning of the agricultural sector.

Maize, wheat and potatoes are the key agricultural products in Nketoana, with sunflower, grain, sorghum, hay, soya and dry beans also in production. The grain silos east of Reitz has a storage capacity of 100 000 tons. Furthermore, there is also cultivation of apples and vegetables for Woolworth's South Africa undertaken in the Municipality. Sheep and cattle farming are also large-scale operations in the area. There are also 2 rose farms close to Petrus Steyn that send their roses to the Johannesburg market. The roses are produced year-round, with the exception of July, when they are pruned. Close to Lindley is a flower farm, which mostly produces Inca Lilies and greens. There is also a pecan nut farm and bird breeding farm. Around Arlington cattle plays a big economic role. The Whispering Willows stud farm for Simmentalers and the Wood View stud farm for Aberdeen Angus cattle are very important for the agricultural prestige and economy of the area. Sheep are also produced for abattoirs in Gauteng and KwaZulu-Natal. The Current Rural Land Use is illustrated in Map 7.

4.1.3.2. Infrastructure

The rural infrastructure of Nketoana Local Municipality is herewith discussed, as illustrated in Map 6. Farm workers are taking housing in the towns, which adds to the pressure on the infrastructure in the towns.

4.1.3.2.1. Water

Farmers take responsibility for providing water to the farms, their houses and the houses of their employees. They however need to bring the water closer to their employees' houses. The former Rural Council established a subsidy scheme that provides R500 per household for storage tanks and led to a well-established water distribution system. However, the problems experienced in the agricultural sector do pose service delivery problems.

4.1.3.2.2. Sanitation

The current backlog in Nketoana Municipal rural area is 2000 toilets. The former Rural Council provided a subsidy of R1000 per toilet structure, assisted by DWAF (Department of Water Affairs), but has been suspended due to an amalgamation process. The District Municipality is tasked to continue the programme.

4.1.3.2.3. Electricity

Eskom provides ample connection points and bulk network in the rural areas. However, where a farm worker's house is situated more than 200 meter from a connection point it is tremendously costly to provide and cannot be covered by the basic subsidy of R3000 provided by Eskom and the District Municipality. Alternative methods, such as solar panels or generators, must be investigated.

4.1.3.2.4. Roads

The roads in the rural areas are in a bad condition and deteriorate with every use, as maintenance is not carried out, due to the high financial cost thereof. Insufficient maintenance or bad maintenance procedures damaged roads to the extent that many roads have to be rebuilt entirely. Surveys should be made of all roads to determine an upgrading and maintenance schedule.

4.1.3.2. Social Services

The rural social services of Nketoana Local Municipality are herewith discussed.

4.1.3.2.1. Education

Even though the amount of schools is sufficient, numerous problems are experienced, such as:

- High travel distances to the schools;
- Lack of transport forces learners to walk to school;
- Shortage of teachers, especially well trained and competent teachers;
- Most schools only provide education up to Grade 7;
- Many of the school boards do not function optimally as the parents are not skilled in organisational management.

The above-mentioned issues led to many learners being taken out of the schools, resulting in many school closures. The learners are placed in urban schools and hostels and that further perpetuates depopulation of rural areas.

Another problem is that the residents in the rural areas are illiterate and that has a negative impact on the economy and on the ability of the parents to assist and guide their children. Establishment of adult learnership programmes in the rural areas is of the utmost importance.

4.1.3.2.2. Health

Health facilities are located in the urban central and travelling to these facilities is problematic due to the expense and time constraints it represents. Some private doctors are part of a programme where they offer their services at various central locations like shops. The residents support this costly programme, more than the free clinics and the reasons are attributed to the following:

- Sub-standard service provided at the government clinics;
- A lack of trust in the government medical personnel;
- Insufficient medical equipment and medical personnel;
- A general negative attitude towards government personnel.

There is also a system of mobile clinics that visits the rural areas, but it is not functioning optimally, because:

- The service focuses on family planning and the distribution of contraceptives;
- The experience a lack of medication;
- Irregular visitation schedule due to financial constraints, insufficient vehicles and the health workers are unmotivated and overloaded.

The predominant diseases experienced in the rural areas are HIV-AIDS, TB and cancer. Education programmes needs to be expanded to focus on these 3 killer diseases. Furthermore, more staff should be employed with the utmost urgency.

4.1.3.2.3. Safety and Security

Farm murders, stock theft, vehicle theft and the starting of veldt fires are serious crimes being committed in the rural areas. The SA Police Service, SA National Defense Force and the farm-watch systems service the rural areas, however available personnel, lack of vehicles and funding hampers the proper functioning thereof.

In Reitz and Lindley each there are a proper fire fighting service and in Arlington and Petrus Steyn there are a small unit each, but that is very limited in regard to capacity and equipment. Firefighting equipment has been distributed throughout the region and is run by the various District Farmers Unions.

4.1.3.3. Housing

The current government housing subsidy schemes only caters for people that will receive full title of their properties. Therefore, farm workers are excluded from the benefit of this scheme. There is a tendency now that farmers provide their workers with property in the nearest town to enable them to own their own site and house and thus receive the benefit of ownership under the subsidy scheme of government. The elderly and disabled people are especially discriminated against by this situation and must rely on the goodwill of farm owners. Their needs should be addressed and planned for.

4.2. Enviro-Spatial Analysis

The enviro-spatial analysis of Nketoana Local Municipality is herewith discussed.

4.2.1. Environmental Potential Atlas (Enpat)

A database for the Nketoana Local Municipality was prepared and at macro level the following are indicated:

- Land use analysis;
- Soil depth and clay content; and
- Soil potential and vegetation.

The database was compiled with satellite and other sources of information in order to assist decision-makers regarding rural development, especially agricultural development and potential. This database also assists the District Municipality to analyse its region holistically.

4.2.1.1. Land Cover

Land uses and the ecological sensitivity thereof has been analysed and is illustrated in Map 8 and Table 4.5. The following conclusions can be presented:

- The dominant land uses are commercial cultivated land (65%) and grassland (44%).
- The land is predominantly of low ecological sensitivity (55).
- A mere 2% of the land is used for urban areas.

Table 4.5. Ecological sensitivity against land cover / use

Land Cover / Use	Ecological Sensitivity (ha)		Percentage
	Low	High	
			0.004
Built-up land: commercial	21		0.039
Built-up land: industrial	218		0.119
Built-up land: residential	668		54.272
Cultivated land: commercial	304 548		0.135
Exotic plantations	757		44.726
Grassland		250 980	0.046
Thicket and bush		257	0.120
Water		672	0.540
Wetland		3031	
Subtotal	306 211	254 939	
TOTAL	561150		100%

4.2.1.2. Soil Depth and Clay Content

Soil depth and the clay content of the soil have been analysed and are illustrated in Map 12 and Tables 4.6. and 4.7. The following conclusions can be presented:

The clay content of the area is low and therefore does not pose a problem to the development of the area.

The majority (73%) of the soil depth is between 450mm and 750mm and thus sufficient for agricultural production.

Table 4.6. Clay content

Clay Content	Total Hectares	Percentage
<15%	333 407	59.41%
15%-35%	161 680	28.81%
>35%	66 063	11.77%
Total	561 150	100%

Table 4.7. Soil depth

Soil Depth	Total Hectares	Percentage
<450mm	150 962	26.90%
450-750mm	410 188	73.10%
Total	561 150	100%

4.2.1.3. Soil Potential and Vegetation

The majority of the soil (88%) is deemed suitable for arable agriculture, as indicated in Table 4.8 and illustrated in Maps 9 and 10.

Table 4.8. Soil potential

Soil Potential	Total Hectares	Percentage
No dominant class	66 615	11.87%
Soils not suitable for arable agriculture; suitable for forestry or grazing where climate permits.	467	0.08%
Soils of intermediate suitability for arable agriculture where climate permits	45	0.01%
Soils of poor suitability for arable agriculture where climate permits.	494 024	88.04%
Total	561 150	100%

The vegetation, based on the Acocks classification is categorised as sandy veldt (Cymbopogon-Themeda Veldt) at 91% and are indicated in Table 4.9.

Table 4.9. Acocks Classification

Acocks	Total Hectares	Percentage
Cymbogon-Thembeda Veld (Sandy)	510 879	91.04%
Highland Sourveld to Cymbopogon – Themeda Veld Transition (Eastern Free State Highveld)	4 665	0.83%
Themeda Veld to Cymbopogon – Themeda Transition (Patchy)	32 936	5.87%
Transitional Cymbopogon – Themeda Veld	12 669	2.26%
Total	597 781	100%

4.2.2. Topography and drainage

The Nketoana local municipal area are characterised by slightly undulating plains and hills and falls within the Vaal River drainage region. There are a couple of small farm dams in the area. The rivers in the area are the Vals River (in the west), the Liebenbergsvlei / Nketoana River in the centre and the Tikwe River. There are a number of small dams on farms. It is illustrated in Map 4.

4.2.3. Climate and Geology

The predominant rainfall is 350-500 mm per annum, but an area south of Reitz falls in the 500-650mm zone.

The average daily maximum temperature is 27°C in summer and 16.5°C in winter. The average daily minimum temperature is 13°C in summer and -2°C in winter.

Nketoana local municipality is located on the Tarkastad and Adelaide geological formation. The geology is illustrated in Map 11.

4.2.4. Mining activity

There are no formal mining activities; however there are informal small-scale mining of gravel, clay and building sand in the areas of Reitz, Petrus Steyn and Arlington.

4.2.5. Geotechnical assessment

The Council of Geoscience has conducted geological surveys in the various urban areas and this information will be linked to the SDF in order to determine problems in regard to proposed land uses. No information was however available for Reitz-Petsana.

4.2.5.1. Arlington-Leratswana and Lindley-Ntha

During 1997 an extended phase 1 engineering geological investigation was conducted for each Arlington-Leratswana and Lindley-Ntha in order to determine the influence of geology, relief and soil conditions on future urban development; as basis for drafting municipal structure plans. As a result provisional development zoning maps was compiled to indicate suitable developmental areas and areas with potentially unfavourable conditions. As a result of the study, the need for more detailed phase 2 and 3 engineering geological investigations of specific sites before development was indicated.

Arlington-Leratswana and Lindley-Ntha is underlain by the Adelaide and Tarkastad Formation with mudstones and sandstones. It forms part of the Beaufort Group within the Karoo Supergroup, with post Karoo dolerite intrusions.

It can thus be concluded that excavations will be problematic due to the presence of sandstone, mudstone and dolerite outcrop. The presence of expansive colluvial soils necessitates modified normal rafts, reinforced split construction or founding on unweathered bedrock. Alternative the complete removal of potentially collapsible soils, and replacement or removal and recompactation may be required.

The suspected dispersive soils also necessitate the installation of an effective storm water drainage system and erosion protection measures.

4.2.5.2. Petrus Steyn-Mamfubedu

During 1993 a structure plan level engineering geological investigation was conducted in order to determine the influence of geology, relief and soil conditions on future urban development. A back actor and mobile small diameter auger drills was used to determine soil conditions. Soil samples were taken of each soil horizon for laboratory tests, in order to determine soil profiles.

The area is underlain by Karoo Sediments consisting of interbedded sandstone, mudstone and shale. Local koppies are formed by dolerite sheets and dykes.

SECTION 5: SPATIAL DEVELOPMENT FRAMEWORK

In this section the actual spatial development framework will be discussed. It must be read in conjunction with the Map 13 (SDF of Reitz-Petsana), Map 14 (SDF of Lindley-Ntha) and Map 15 (SDF of Arlington-Leratswana).

5.1. Structuring Elements

Key developmental opportunities and constraints that have bearing on the spatial structuring of Nketoana Local Municipality are indicated in Table 5.1.

Table 5.1. Developmental opportunities and constraints

Opportunities	Constraints
<ul style="list-style-type: none"> • Good and accessible transportation network; • Reitz serve its hinterland as a well established and functioning service centre; • The social infrastructure in the urban areas is efficient; • Agri-processing adds value to the agricultural sector; • Sufficient vacant erven available for development in the main towns; • Broad base of tourism opportunities exist; • Ample natural resource base; and • Expansion abilities within the agricultural sector. 	<ul style="list-style-type: none"> • Inefficient infill and densification; • Infrastructure problems in certain areas; • High unemployment rate; • Poor maintenance of road infrastructure; • Decline in the agricultural sector; • Overgrazing; • Pollution and littering; • The land reform processes are dragging out; • Lack of public transport in certain areas; and • Ineffective service delivery in rural areas.

5.1.1. Key development issues

The Nketoana Local Municipality identified the following developmental priorities and issues:

- Service infrastructure;
- Service payment and asset protection;
- Land and housing;
- Primary health care;
- Education;
- Job creation and economic growth;
- Social services and welfare; and
- Safety and security.

During the ward meeting as part of the public participation process in the IDP review process, the communities of all towns identified the following needs, as indicated in Table 5.2. These needs are to form the bases for municipal planning and development for future planning of the municipality. All the review cycles of the IDP will be constructed around these priorities and the SDF will mirror the spatial application thereof.

Table 5.2. Community Needs

Identified Need	Wards
Roads and Storm water	All
Water – sufficient bulk supply	1, 2 & 5
Water – clean drinking water	5
Roads and storm water maintenance	All
Refuse removal	All
Illegal dumping	All
Skip bins on strategic places	All
Streetlights	All
High mast lights	All

Clinic upgrading, more doctors and nurses	All
Improved services at clinics Batho Pele principles	3 & 4
Recreation facilities, upgrading of stadiums	All
Ablution facilities at cemeteries	All

Each of these developmental priorities and issues are herewith further analysed and elaborated upon.

5.1.2. Service Infrastructure

The service infrastructure issues of the Nketoana Local Municipality are indicated in Table 5.3.

Table 5.3. Service infrastructure

Bulk infrastructure provision	<ul style="list-style-type: none"> • Should be provided, upgraded and maintained continuously. • Catalyst in effective service delivery to whole community.
Available funds	<ul style="list-style-type: none"> • The Municipality has insufficient funds for infrastructural development and maintenance.
Service payments	<ul style="list-style-type: none"> • Residents need to be educated in the need for paying for services rendered.
Imbalances in service	<ul style="list-style-type: none"> • Past transgressions need to be addressed. • Causes tension between communities. • Creates payment level problems.
Provision of basic services and Infrastructure	<ul style="list-style-type: none"> • Bring in line with constitutional rights of the citizens to water, sanitation and electricity.
Existing capacities	<ul style="list-style-type: none"> • Growth and expansion rates of urban areas rendered existing capacities insufficient.
Service standards	<ul style="list-style-type: none"> • Must meet RDP standards.
Old infrastructure	<ul style="list-style-type: none"> • High maintenance cost.
Maintenance of services	<ul style="list-style-type: none"> • An efficient maintenance schedule required to counter-act losses and breaks in service delivery.
Use of roads in rural areas	<ul style="list-style-type: none"> • An efficient maintenance schedule required matching usage.
Remote nature of rural areas	<ul style="list-style-type: none"> • Must meet RDP standards, but costly due to expansive nature thereof.
Pollution	<ul style="list-style-type: none"> • Creates potential health hazard.

	<ul style="list-style-type: none"> • Harmful to the environmental. • Adverse effect on the economy.
Vandalism of assets	<ul style="list-style-type: none"> • Evident of a lapse in community values. • Absorb funding that could have been put to better use.

5.1.3. Land and Housing

The land and housing issues of the Nketoana Local Municipality are indicated in Table 5.4.

Table 5.4. Land and Housing

Availability of land	<ul style="list-style-type: none"> • Some areas have no expansion possibilities. • Additional land should be required for especially residential use and cemeteries.
Formal land development	<ul style="list-style-type: none"> • Should be coordinated. • Important for urban growth and development. • Guides proper infrastructure provision. • Ensure investor and citizen confidence.
Financial support	<ul style="list-style-type: none"> • Sufficient funds required for the purchase of additional land, land development and infrastructure provision.
Existing backlogs	<p>Due to:</p> <ul style="list-style-type: none"> • Former housing policies; • High in-migration; and • High cost.
Security of tenure	<ul style="list-style-type: none"> • Funds should be available for the registration of deeds in the names of residents.
Legislation	<ul style="list-style-type: none"> • Land reform legislation causes negative attitudes amongst farmers that result in the farm workers not gaining sufficient housing and other services.
Increasing need for cemeteries	<ul style="list-style-type: none"> • High HIV/AIDS mortality rates places mounting pressure on existing cemeteries.

5.1.4. Primary Health Care

The primary health care issues of the Nketoana Local Municipality are indicated in Table 5.5.

Table 5.5. Primary Health Care

Health care facilities	<ul style="list-style-type: none"> • Insufficient equipment. • Shortage of personnel.
Financial constraints	<ul style="list-style-type: none"> • Municipality totally dependent on the Provincial Government, as they lack own funding. • Shortage of funds from the Department of Health led to a downscaling of the frequency, standard and quality of health services.
Health conscious community	<ul style="list-style-type: none"> • Community not knowledgeable about the benefits of a clean and healthy environment and the problems of pollution. • Community not fully knowledgeable about hygiene, nutrition, first aid, home based care and the prevention and treatment of serious illnesses.
Commonage farming	<ul style="list-style-type: none"> • Could protect and facilitate the subsistence, economic and cultural needs of the community. • Ensure healthy environment.
Rise in diseases	<ul style="list-style-type: none"> • HIV-AIDS and TB (especially Extremely Drug Resistant TB) places great demand on health care.
Emergency services	<ul style="list-style-type: none"> • Cannot sufficiently treat the seriously ill and injured patients.
Mobile clinics	<ul style="list-style-type: none"> • Insufficient equipment, medicine and operational times. • Should function independent from the urban health services.

5.1.5. Education

The education issues of the Nketoana Local Municipality are indicated in Table 5.6.

Table 5.6. Education

Educational facilities and infrastructure	<ul style="list-style-type: none"> • Optimal learning hampered by bad conditions of facilities and lack of infrastructure.
Financial resources	<ul style="list-style-type: none"> • Lack of funding from Department of Education and training.
Discipline	<ul style="list-style-type: none"> • Lack of commitment and discipline from both educators and learners.
Community involvement	<ul style="list-style-type: none"> • Parents and the local community should be involved in education to ensure a conducive learning environment.
Living environment	<ul style="list-style-type: none"> • Facilities should be created to accommodate learners living alone or in backyard shacks, in order to create an environment conducive to learning and discipline.

5.1.6. Job creation and economic growth

The job creation and economic growth issues of the Nketoana Local Municipality are indicated in Table 5.7.

Table 5.7. Job creation and economic growth

Agriculture	The decline in the agricultural sector contributed to unemployment.
Local development projects	Should be established to contribute to the economy of the area and alleviate unemployment.
Available skills	Should be advanced to foster self-employment.
Capital outflow	Local expenditure in the area, as well as external investment, will contribute to the multiplier-effect in the community.
Industrial development	Must be established and enhanced to provide jobs and income in the community.
Emerging farmers and informal trade	Lead to self-sustainability.
Constraining legislation	Legislation controlling wages, land reform and land taxes led to the reduction in farm workers.
Tourism	Effective in the generation of income, jobs and economic growth.
LED strategy and product development	A LED strategy been established in specific sectors and aim to lead to product development.

5.1.7. Social services and welfare

The social services and welfare issues of the Nketoana Local Municipality are indicated in Table 5.8.

Table 5.8. Social services and welfare

Social awareness	The community's sensitivity should be enhanced regarding social problems and needs.
Vandalism	Community education and trust should be enhanced, as it uses up available funds for maintenance that could have been channeled to new projects.
Social structures	Should be fostered and emphasizes as it creates security amongst people and in communities.
Welfare facilities and services	The aged and frail should be well taken care off.
Social unity and communication	The community should be strong, with internal relationships, trust and communication.

5.1.8. Safety and security

The safety and security issues of the Nketoana Local Municipality are indicated in Table 5.9.

Table 5.9. Safety and security

Firefighting equipment	The prevalence of veldt fires, a potential disaster, demands sufficient and updated equipment that is optimally located.
Safe and crime free environment	Must be ensured to create liveable areas and vibrant communities.

5.1.9. Nketoana SDF Guiding Principles

Based on the national development principles, the following guiding principles were identified that is specific to Nketoana Local Municipality:

- The development of businesses, commerce and industries should be guided towards central locations to ensure urban integration.

- An attractive incentive scheme should be instituted to be a focus for investors.
- The existing businesses and commercial activities located within residential areas should be co-ordinated and controlled via municipal by-laws, the Town Planning Schemes and Integrated Spatial Framework.
- Development principles and standards should be equally applied in all the urban nodes.
- There should be effective management and control of in-migration and the illegal occupation of land.
- The various housing markets and available options should be integrated.
- Densification and infill planning should receive precedence to eradicate urban sprawl.
- The affordability of services and the maintenance thereof should be considered before implementation.

5.1.10. Development Strategies

The SDF is based on the IDP and the development priorities that were identified by the communities through a thorough public participation process.

Focusing on the stated community needs, subsequent development issues and priorities, the unified aspirations and local identity amongst all role-players are translated into the following vision of the Nketoana Municipality:

“To develop an integrated society which is economically sustainable and which will be provided with an affordable service which is up to standard and value for money.”

The development objectives are linked to development strategies and projects, as projected in Table 5.10.

Table 5.10. Nketoana Objectives and Strategies

Item	Responsibility	Issue	Objectives	Strategies
Local Economic Development	Office of the Municipal Manager LED	Economic development	<ul style="list-style-type: none"> • Reduce unemployment by 7.5%. • To strive for an economic growth rate of 4 – 5% per annum. • To reduce the number of households living in poverty by 5% per annum. 	<ul style="list-style-type: none"> • Identify and develop skills within the community. • Develop community driven cooperatives. • Create a conducive environment for businesses. • Identify and develop economic development landmarks. • Develop Reitz as an economic development hub for industrial development (manufacturing sector). • Create and develop groups for handcrafts, needlework and arts. • Ensure access and registration of people living in poverty for indigent benefits.
Basic Service delivery and infrastructure development	Public Works and Technical Services	Water	To ensure that all areas have sufficient and sustainable bulk water supply.	Improve the bulk water supply to Petrus Steyn. Lindley and Arlington.
		Electricity	To ensure that all areas provided by the municipality have access to electricity.	Provide individual connections.

		Sanitation	Eradicate buckets in all areas as means of sanitation.	<ul style="list-style-type: none"> • Develop and implement a sewer network and treatment system in Arlington. • Convert VIP toilets to water bourn system.
		Roads	To ensure that all roads are surfaced with tar, paving or gravel and maintained it to keep it in a good condition.	<ul style="list-style-type: none"> • Develop and implement a road management plan. • Source funding for the development of roads.
	Community Services	Refuse removal	To render an adequate refuse removal service to the community.	<ul style="list-style-type: none"> • Provide refuse bins to all households. • To provide skip bins on strategic places throughout all areas in Nketoana. • To ensure that the number of refuse removals is sufficient for the generated refuse per household. • Provision of equipment for effective and efficient refuse removal.
		Cemeteries	To have adequate and maintained cemeteries in all towns.	<ul style="list-style-type: none"> • Establish a new cemetery in Petrus Steyn. • Ensure that all cemeteries are fenced.
		Sports and recreation	To develop, upgrade and maintain sports and recreational facilities and ensure access to all members of communities.	<ul style="list-style-type: none"> • Establish and ensure a functional Sport Council. • Upgrading of sports facilities and ensuring of its security. • Development of parks in former

				disadvantages areas.
		Housing	To ensure access to applications of housing subsidies to provide shelter to all members of the community.	<ul style="list-style-type: none"> • Develop a housing demand database for each town. • Audit and verify existing waiting lists for allocation of sites.
		Urban planning	To ensure that coordinated, orderly and formal land development takes place and that illegal occupation is discouraged.	<ul style="list-style-type: none"> • Finalize township establishment in all towns.
		Ecological integrity and protection of biodiversity	To identify and develop new and existing environmental conservation areas or reserves.	<ul style="list-style-type: none"> • Identify environmental sensitive areas to be conserved. • Develop the identified conservation areas with community participation to be tourism orientated. • Promote greening (green belts) in all town areas to ensure effective urban greening by means of tree planting and landscaping to be maintained as open spaces in future. • Identify and develop heritage resources.
		Environmental Health	To manage negative impacts of development activities.	<ul style="list-style-type: none"> • Environmental Impact Studies applied in all development activities. • Monitor environmental risks in high risk areas.
			To promote compliance to	<ul style="list-style-type: none"> • Legislation regarding landfill sites

		environmental legislation	<p>being complied with throughout Nketoana.</p> <ul style="list-style-type: none"> • Develop and implement an Environmental Plan. • Ensure that all landfill sites are licensed. • Close down and rehabilitation of identified landfill sites. • Educate the community on waste recycling. • Establish and capacitate waste recycle initiatives in all areas.
	Environmental capacity building, awareness and empowerment.	To ensure that pollution (air, water, soil and noise) are minimized to acceptable national standards in order to preserve the environment and natural resources.	<ul style="list-style-type: none"> • Identify and implement measures to reduce existing air, water, soil and noise pollution incidents. • Engage into discussions with the industries to reduce pollution incidents. • Monitor the levels of pollution as agreed with the industries.
		Increase awareness through educating communities about environmental issues and how to preserve the environment.	<ul style="list-style-type: none"> • Engage ward committees to highlight waste dumping and lettering issues to the community. • Encourage the removal of alien plants and vegetation. • Support clean-up campaigns. • Create and support environmental conservancies. • Support celebration of

				<p>environment calendar days.</p> <ul style="list-style-type: none"> • Organise environmental management workshops for community leaders.
]Good governance	Corporate Services		Develop and establish good governance that is transparent and accountable.	<ul style="list-style-type: none"> • Improve on the opinion of the Auditor-General as declared in the Audit report. • Comply with all the legislation governing local government.
Municipal financial viability and management	Finance Financial management		To create a financially sustainable and accountable municipality.	<ul style="list-style-type: none"> • Improve on debt collection by recovering R45 million of R120 million. • Proper management of all assets. • Develop and implement internal controls. • Clear all errors as indicated on the 2006/2007 and 2007/2009 audit reports.
Municipal transformation and institutional development	Corporate Services		Develop a well skilled workforce that is better equipped to respond to community needs.	<ul style="list-style-type: none"> • Develop and implement skills development programs. • Invest in the replacement of old machinery and equipment. • Create a caring municipal workforce. • Ensure compliance with all labour relation legislation. • Develop a culture of discipline within the workforce.

5.2. Urban Spatial Development Framework

The SDF's for the urban areas will be discussed under specific spatial developmental issues for each community. The SDF's of Reitz-Petsana are illustrated in Figure 11; Petrus Steyn-Mamfubedu in Figure 12; Arlington-Leratswana in Figure 13 and Lindley-Ntha in Figure 14.

5.2.1. Corridors

Proposals related to corridors are indicated in Table 5.11.

Table 5.11. Corridors

Reitz-Petsana	A Primary Tourism Corridor has been identified on the Frankfort – Bethlehem Road and will focus on the development of tourism based commercial activities. It will extend along the main business road in Reitz.
Petrus Steyn-Mamfubedu	The development corridors are focused along the main entrance road to the Petrus Steyn CBD and the linkage road between Petrus Steyn and Mamfubedu.
Arlington–Leratswana	A future development corridor could be established and developed between Arlington and Leratswana in order to promote integration, especially economic integration.
Lindley-Ntha	A Tourism Corridor has been identified along the Petrus Steyn – Arlington road, with a Tourism Node at the Lindley entrance.

5.2.2. Residential Development

Proposals related to residential development are indicated in Table 5.12.

Table 5.12. Residential Development

Reitz-Petsana	<ul style="list-style-type: none"> • The high-income residential zone is in the west of Reitz between the main road and the western municipal boundary. • There is sufficient undeveloped erven. • The residents intend to develop across the municipal boundary in a western direction – it is currently agricultural smallholdings. It will be developed by private initiative. • The housing backlog is 2469 units. • The assigned area for expansion is in a southern, western and eastern direction. • Therefore, Reitz-Petsana will grow towards the southern and northern direction, with medium income housing to the west of the Kestell Road (R57) and the low-income area west thereof. This area will favour residential development, because: <ul style="list-style-type: none"> ○ The physical feature is favourable. ○ Drainage is towards the existing town, which makes it easy to service the new development. ○ It is subject to detail environmental and geotechnical studies. ○ The land agrees to the principles of sound development and economy. ○ It will lead to a more compact town. ○ Will link with existing infrastructure with ease. ○ Will link with existing main roads. ○ Close to the CBD, employment and social services. ○ There are a number of vacant stands in Reitz, to be used for densification. • Land needs to be purchased and formalised for low-income housing development. • Land with wetlands, environmental and legal restrictions are being investigated to determine the possibility of development therein.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • The high-income residential zone is in the north and east of Petrus Steyn. • There is sufficient undeveloped erven. It will be developed by private initiative. • Infill planning and development is proposed as the only logical path. • In future the community can develop southwards. • Medium income housing development will be promoted in the southwestern part of Petrus Steyn, mainly via densification.

	<ul style="list-style-type: none"> • Low-income housing development in Mamfubedu will follow a southern expansion and extension. • This area will favour residential development, because: <ul style="list-style-type: none"> ○ The land agrees to the principles of sound development and economy. ○ It will lead to a more compact town. ○ Will link with existing infrastructure with ease. ○ Will link with existing main roads. ○ Close to the CBD, employment and social services. ○ A new residential area has been proposed to the east of the Reitz-Heilbron road and to the south of the cemetery. • There is a low-income housing backlog of 3035 erven, therefore land should be secured, planned and developed accordingly.
Arlington–Leratswana	<ul style="list-style-type: none"> • There is a proposal for future extension on the privately owned farm Port Arlington 114. • The Transnet development can accommodate residential needs in the near future. • The existing housing backlog is 600 erven. • The low income and medium income extension is proposed to the west of Leratswana, next to road P40/1. Careful planning is required as it is next to the current sewerage works and there is an existing stream to the north. The flood lines should be adhered to. Only bulk water is available so far.
Lindley-Ntha	<ul style="list-style-type: none"> • Densification of the residential sites in Lindley is proposed for medium to low density residential extension, rather than the establishment of new extensions. • Short and medium term high-density extension of the residential area is proposed to the south and west of Ntha. This area is ideal for residential extension and will handle the need for 2559 erven. • Long term and medium term low-density extension of the residential area is proposed to the south of Ntha. • These proposals endorse current legislation and will encourage integration and a compact town.

5.2.3. Urban Edges

The establishment of urban edges, or alternatively called urban fringes, is in line with the development principles of the Development Facilitation Act that guides all development in the Republic of South Africa. The aim thereof is to ensure efficient use of land, infrastructure, services and other resources on the one hand and the combat of urban sprawl on the other hand.

Proposals related to urban edges are indicated in Table 5.13.

Table 5.13. Urban Edges

Reitz/Petsana	<ul style="list-style-type: none"> • Physical barriers like natural characteristics, roads, landing strips, industrial areas, etc. • Development to the north must be avoided as it will lead to urban sprawl and it has better use for agriculture. • Topography and slope renders the provision of services to the north and east costly. • There is land to the east available for future housing development.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • There is a shortage of land for further development. • Other limiting factors are the farming activities to the north and west of Petrus Steyn and Elandskop to the west of Petrus Steyn. • The earmarked urban edge will enable maximum use of land and infrastructure, before new land is identified and developed.
Arlington–Leratswana	<ul style="list-style-type: none"> • There is a natural urban edge on the western border and streams that flow around Arlington. • This will naturally restrict urban sprawl.
Lindley-Ntha	<ul style="list-style-type: none"> • The urban edge will ensure integration between Lindley and Ntha. • It will discourage urban sprawl. • It will include the land owned by Spoornet for future residential expansion.

5.2.4. Natural Systems: Open Space, Recreation and Urban Tourism

Proposals related to open space; recreation and urban tourism are indicated in Table 5.14.

Table 5.14. Open Space, Recreation and Tourism

Reitz-Petsana	<ul style="list-style-type: none"> • There are several areas of high environmental sensitivity in Reitz. • There is a low-lying area, with a small stream, in the centre of Reitz-Petsana with various sub-streams draining thereto, which creates a Green Belt. It has been reserved for recreation and tourism. The Reitz Golf Course is already located within this Belt. • This Green Belt hampers residential integration between Reitz and Petsana; however a focus on low intensity land uses, without permanent structures, will enable job creation activities within the tourism sector. It will also enable the development of social facilities, such as open spaces, that will further the goal of integration. • On the steep slopes of the hill north of Petsana passive open space is the aim. • The Frankfort – Bethlehem Road is an identified primary tourism corridor with a proposed tourism node at the Reitz – Petrus Steyn intersection.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • On account of the topography of Petrus Steyn – Mamfubedu, several areas are deemed environmentally sensitive. • The low-lying area along the Renoster River is a Green Belt between Petrus Steyn and Mamfubedu and is reserved for recreation purposes. The Petrus Steyn Golf Course is already situated within this area. • The Elandskop, west of Petrus Steyn, has steep slopes and passive open space is the aim. • Development of these areas should be done via the establishment of recreation facilities and urban greening and beautification projects. • The formal and existing park in the Green Belt should be maintained and upgraded. • A future Tourist Node is proposed along the Tourism Corridor that runs along the R57 road between Heilbron and Reitz.
Arlington–Leratswana	<ul style="list-style-type: none"> • There is an open space system based on the existing wetlands and streams that drains through the area. • The existing sports fields in Arlington and Leratswana are proposed. • The open space system also creates a physical restraint around Arlington. • A Tourism Commercial Node is proposed along the P40/1 road at the entrance to Arlington and Leratswana.
Lindley-Ntha	<ul style="list-style-type: none"> • Appropriate parks in Ntha have been identified for development for sport and recreation. • The existing sport terrain in Ntha should be enhanced and upgraded. It is centrally located in Ntha, regarding future extension and next to the collector road network of Ntha.

	<ul style="list-style-type: none"> • There are adequate sport and recreation facilities in Lindley. • The open space system is based on the riparian of the Vals River adjacent to the Lindley-Ntha area and the wetland that runs through the area towards the river. • The facilities next to the Vals River should be upgraded for tourism usage. • The blue gum trees should be cut down to use as communal gardens. • Overnight accommodation facilities should be established in the existing municipal caravan park. • A Tourism Corridor has been identified along the Petrus Steyn – Arlington road, with a Tourism Node at the Lindley entrance.
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5.2.5. Economic Growth Nodes

Proposals related to economic growth are indicated in Table 5.15.

Table 5.15. Economic growth nodes

Reitz-Petsana	<ul style="list-style-type: none"> • The residents of Petsana must walk and travel far to work. • The need for a CBD and light industrial node has subsequently been identified and a preliminary position has been identified in the centre of land to be purchased for the expansion of Petsana. • Additional land to the north of Reitz, between the railway line and the Frankfort Road, in order to expand the existing industrial area thereto.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • A CBD must be developed in Mamfubedu and the proposed area is along the main intersection adjacent to the sports field. This will also foster effective links to the employment opportunities in the industrial area. • The existing industrial area is proposed to expand between the railway line and Elandskop, northwest of Petrus Steyn. The possible extensions of the road between S512 to Lindley and S66 to Edenvale will enhance the accessibility of the industrial area to the workers from Mamfubedu. • The Petrus Steyn CBD contains the scope to densify, hence maximising the bulk infrastructure and use of vacant erven.

	<ul style="list-style-type: none"> • The extension of the CBD and the proposed development corridor to Mamfubedu should be encouraged.
Arlington–Leratswana	<ul style="list-style-type: none"> • The CBD has limited growth potential, thus no direction for development is proposed. • However, development should take place within the zoned business area. • An industrial area is proposed along the P40/1 road to Senekal.
Lindley-Ntha	<ul style="list-style-type: none"> • The existing CBD should be extended towards the proposed activity corridor. That will also foster integration. • Development of a large business site, next to the access to Ntha is proposed as a business node in Ntha. • Light industrial development is proposed southeast of the existing mills.

5.2.6. Service Systems

Proposals related to the service systems of road and cemeteries are discussed herewith.

5.2.6.1. Roads

Proposals related to roads are indicated in Table 5.16.

Table 5.16. Roads

Reitz-Petsana	<ul style="list-style-type: none"> • The roads in Reitz are in a reasonable good condition. • The roads in Petsana are in a very bad condition, therefore constant maintenance is essential. Furthermore, collector and development corridors must be upgraded.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • When the industrial development takes place as proposed, it must be made accessible from the medium and low cost residential areas. • A road link is proposed to connect between the S512 to Lindley and the S66 to Edenvale and that will make employment opportunities more accessible. It must be well planned, as it will pass through agricultural land. • The collector roads in Mamfubedu should be upgraded, especially for the use of public transportation. This will

	<p>further enhance community integration.</p> <ul style="list-style-type: none"> • A more direct route between Petrus Steyn CBD and Mamfubedu should be investigated.
Arlington–Leratswana	<ul style="list-style-type: none"> • Arlington is positioned at the intersection of the P40/1 road between Lindley and Senekal and the S213 between Bethlehem and Steynsrus, which is a secondary gravel road. The businesses in Arlington are developed in a linear fashion along the S213 and service the surrounding agricultural community. • Leratswana is linked to Arlington with one access road on P40/1. • The Transnet houses also gains access on P40/1. • If Arlington is to develop to the north, an additional access point to P40/1 should be considered. • There is adequate access to the S213. • There is only long distance taxi transport available, which operates from a central pick-up area next to the access road to P40/1 in Leratswana.
Lindley-Ntha	<ul style="list-style-type: none"> • The primary road between Arlington and Petrus Steyn runs through the Lindley-Ntha area. The Arlington road links with the Bethlehem – Kroonstad road close to Lindley. • There are 2 direct accesses to Lindley from the Arlington – Petrus Steyn road. • There is only 1 access to Ntha from a major road network. • There is a need for additional access to Ntha, due to the proposed future residential extension to the south of Ntha that is merely awaiting financing and development. • There is an informal short distance taxi rank in the Lindley CBD that has insufficient ablution and covering. • There is an informal short distance taxi rank along the access road to Lindley. The majority of the commuters have to cross the access road to Ntha. Ablution facilities should be provided.

5.2.6.2. Cemeteries

Proposals related to cemeteries are indicated in Table 5.17.

Table 5.17. Cemeteries

Reitz-Petsana	<ul style="list-style-type: none"> • A future cemetery was identified to the east of Petsana.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • The existing cemetery is sufficient. • It should be expanded east of the Reitz-Heilbron road in future.
Arlington–Leratswana	<ul style="list-style-type: none"> • The existing cemetery is sufficient in the short term, but an extension is proposed that will accommodate 200 people. • An additional site is identified for future development to the west of Leratswana, but it is in private ownership.
Lindley-Ntha	<ul style="list-style-type: none"> • The Lindley cemetery has almost reach full capacity. A new site should be identified. • The new Ntha cemetery has enough capacity for 5 years. • A site for a new cemetery has been identified to the south of Ntha and should be budgeted for. • The cemetery should be properly maintained and upgraded through fencing and tree planting.

5.2.7. Spatial Integration

Proposals related to spatial integration are indicated in Table 5.18.

Table 5.18. Spatial integration

Reitz-Petsana	<ul style="list-style-type: none"> • The Green Belt and railway line between Reitz and Petsana makes full integration extremely difficult. • The Green Belt should be used for low intensity land uses, such as tourism and recreational activities and its commercial applications. • Activities based on commerce and job creation should be extended towards the railway station that is accessible to both Reitz and Petsana. • Safe crossings over the railway line should be constructed following existing paths.
Petrus Steyn-Mamfubedu	<ul style="list-style-type: none"> • If the industrial development takes place, it should be made accessible from the medium and low-income residential areas. Therefore, a road is proposed between the S512 to Lindley and the S66 to Edenvale.
Arlington–Leratswana	<ul style="list-style-type: none"> • The Lindley - Senekal road (P40/1) and the streams that flow through the area provide a physical barrier to integration

	<p>of Arlington and Leratswana.</p> <ul style="list-style-type: none"> • Integration will be enhanced with future access roads between Arlington and Leratswana. • The residential development will contribute further to integration. • All land in Leratswana is optimally developed and therefore densification cannot be a developmental tool or aim. • The proposed residential development will hamper urban sprawl and an effective and functional urban structure will be created.
Lindley-Ntha	<ul style="list-style-type: none"> • The Petrus Steyn – Arlington road and the wetland provide a physical barrier to integration of Lindley and Ntha. • The proposed Development Corridor, which is also the existing access to Lindley and Ntha and creates the opportunity to integrate the communities. • No development should occur within the road restriction area of the Petrus Steyn – Arlington Road. • There is an existing pedestrian route between Ntha and the Lindley CBD. It should be upgraded to increase safe pedestrian crossing and for vehicle use. • The average erf is 2000m² in Lindley and thus could be ideally subdivided to ensure densification.

5.3. Rural Development Framework

Due to the prevalence of rural areas as dominant land cover in the Municipality at 99%, it has various development options that should be considered and that will be discussed accordingly.

5.3.1. Agriculture

As the predominance of the rural area is used for agriculture, it should be protected and promoted to establish itself as a strong and growing industry in the Municipal area.

The Department of Land Affairs has various land reform and agricultural projects, such as commonage, small-scale farming, LRAD and grazing.

In regard to the sub-regions, the following initiatives are suggested:

5.3.1.1. Reitz area

Additional land for a commonage for emerging farms can settle in order to pursue a life of farming activities, with the aid of the Department of Land Affairs.

The farm Boesmanskop (35 ha) was purchased and transferred on 3 April 1998 and the activities there include broilers, piggery and dairy farming, with the support from the Department of Agriculture.

The farm Thabora (187 ha) was purchased and transferred on 3 April 1998 and it is used for livestock farming and is managed by the Cattle and Stockowners Association. Overgrazing is a massive problem as there is 90 head of cattle, where the carrying capacity is only 5 ha per livestock unit (LSU) and thus on 37 head of cattle can be accommodated. This situation necessitates the purchase of additional land.

5.3.1.2. Petrus Steyn Area

The Department of Land Affairs is planning a commonage project within Petrus Steyn, but that was immobilized in 1999 on account of time constraints. Furthermore, the Municipality also made an application for a commonage and the following farms are to be purchased:

- Subdivisions 2 and 4 of the farms Nauderust No. 499, Lindley District;
- The farm Onzewoning No. 608, Lindley District; and
- The farm Plaas Susanna No. 612, Lindley District.

5.3.1.3. Arlington Area

The Department of Land Affairs, along with the Department of Agriculture, granted funds for the purchase of the Farm Trekkers Weë 919 (383 ha – commonage) located south of Leratswana. The proposed activities include small-scale farming and communal grazing.

Additional farmland must be purchased for residential extension and provision of tenure for future use.

5.3.1.4. Lindley

Therefore, the future Spatial Framework emphasises that land should be acquired for commonage purposes and the provision of tenure for future erven.

The area south of Ntha is used for informal commonage, but it is better suited for future residential extension. The farms Quaggafontein 116 (436 ha – commonage), Sweet Home 146 (184 ha – commonage) and Brandhoek 19 (490 ha – commonage) has been identified by the Municipality to be purchased with a grant from the Department of Land Affairs and with assistance from the Department of Agriculture. A tremendous need exist amongst the people of Ntha to have communal grazing and small scale farming opportunities available to them.

5.3.2. Roads

Roads that play an important function in the area in regard to the transportation of goods and service delivery has been place on an upgrading programme. The various activities that should commence are indicated in Table 5.19.

Table 5.19. Activities related to roads

Activity	Road
Tarring of:	<ul style="list-style-type: none"> • P9/2 between Petrus Steyn and Reitz (32.8 km) • Road S66 between Edenville and Petrus Steyn (48.03 km)
Inexpensive tar of:	<ul style="list-style-type: none"> • S74 between Reitz and Warden (37 km) – it is partially a gravel road, but it is important as it runs through a high production area.
Gravelling or stabilising with inexpensive tar:	<ul style="list-style-type: none"> • S49 between Petrus Steyn and Frankfort (20 km) • S204 between Edenville and Lindley (44.02 km) • S192 (28.8km) and S193 (30.9 km) between Lindley and Reitz • S65 between Bethlehem and Petrus Steyn where the first 15 km from both are tarred (39.8 km) • S1112 between the Mooigeleë grain silo and the junction of S65 (15.1 km) • S511 between S65 and P9/2 (9.3 km) • P9/2 between Reitz and Petrus Steyn (32.8 km)

	<ul style="list-style-type: none"> • S49 between Petrus Steyn and Frankfort from Petrus Steyn to the border or the Rural Council's jurisdiction area (20.2 km) • S514 between Petrus Steyn and Tweeling from the junction of S49 and Tweeling (41.5 km) • S589 from Reitz to the N3 junction (50.4 km) • S53 between the N3 junction and P60/2 junction (20.1 km) • S74 between Reitz and Warden (37.2 km) • S1421 between the P64/2 junction and the P18/9 junction (30.7 km) • S815 between Memel and P84/1 and S15 (44.1 km) • S814 between S815 junction and P84/1 and S15 (14.4 km) • S465 between P16/3 junction and the Rural Council's border (27.7 km) • S1043 (7.6 km) and S213 (12.5 km) between Arlington and P19/1 junction.
Grading of:	S589 between Reitz and Vrede (50 km). It is already tarred for 20 km from Vrede.

5.3.3. Rural Service Centre

Rural service centres are proposed at Rietpan and Siesannakop due to the fact that the Municipal area is rather expansive and the objective of these centres are:

- Provision of tenure to the rural inhabitants;
- Provision of higher order social and economic services;
- Promotion of public transport facilities; and
- Promotion of job creation.

5.4. Environmental Strategies

The natural area is mostly considered to be environmentally sensitive and there are some areas that should be considered as very sensitive indeed like all the areas along the streams, watercourses, rivers, dams, wetlands and outcrops.

There is one conservation area in Reitz, called the Riemland Conservancy, where the “Kalkoentjie” (a small bird) is only found. Guinea fowl is also protected within this Conservancy.

It is essential that an Environmental Management Framework be commissioned for the entire Municipal area. These will co-ordinate land use management and environmental management. Specific guidelines for the development of the very sensitive areas should be formulated and linked to land use management principles.

Table 5.20 indicates strategies, if implemented that would address environmental issues in the Municipality.

Table 5.20: Environmental strategies

Strategy	Key aspects
Promotion of Environmental Education	<ul style="list-style-type: none"> • Environmental awareness campaign. • Environmental education. • Environmental responsibility promotion. • Greening of environmental areas. • Creating of an ethically pleasing environment. • Availability of environmental information. • Preserving the heritage of the area and related cultural sites.
Promotion of Environmental Rehabilitation	<ul style="list-style-type: none"> • Ensure a healthy, clean and safe environment. • Improvement and rehabilitation of mining areas and activities. • Sensitive existing mining activities close to communities. • Preservation of heritage and cultural sites. • Promotion of the maintenance of parks and natural areas. • Ridges and outcrops to be protected from development.
Promotion of Environmental Sustainability	<ul style="list-style-type: none"> • Reduce all levels of pollution of the air, water, underground water, dust, etc. • Implementation of an effective waste management system. • Integrated environmental conservation, protection and development. • Access to the natural environment.

	<ul style="list-style-type: none"> • Eco-tourism. • Sensitive and sustainable land use planning. • Regulations to protect the environment. • Protection of valuable agricultural land. • Ensure that the watercourses, wetlands and rivers not be polluted. • No development allowed in the flood lines. • Red-date species to be protected. • Monitoring of pollution from the communities.
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Environmental guidelines are included in Annexure C.

5.5. Tourism Strategy

Tourists to visit the southern and eastern Municipalities of the Free State mostly travel through the area. This creates a flow of tourist and the related strategies are suggested:

- Tourists should be intercepted at urban areas, functioning as primary tourist nodes, through the provision of tourist related activities.
- Tourist activities existing in the area, like the flower farm and game farms, should be promoted.
- The linkage roads between the urban areas are identified Tourism Corridors. Along these corridors tourist-related businesses like arts and craft stalls and farm stalls should be established to tap into their economic power.
- The towns mostly form the Tourist Nodes and tourist development focal points for tourist accommodation, restaurants, and the selling of locally produced goods and arts and crafts.

The tourism planning strategies are thus based on corridors, networks, clusters, nodes and related opportunities. Key points of this strategy are indicated in Table 5.21.

Table 5.21: Key points of the tourism strategy

Key point	Explanation
Gateways and entry points	Where the municipality is entered from the surrounding areas, also the railway stations and airstrips.
Routes	Tourists use various routes to get to their destination or to explore and area.
Staging posts	Places where tourists stop to rest or to stay overnight.
Destinations	The tourism product. A cluster of attractions, superstructures, infrastructure and services.
Distribution points	The tourist travel to a destination during their travels and then within the destination itself. The distribution points within the destination are a critical link within the tourist experience as it serves as the major source of information, direction and focus.

SECTION 6: LIST OF REFERENCES

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