SOCIAL IMPACT ASSESSMENT

SIMS MIXED USE RESIDENTIAL DEVELOPMENT

KATHU
NORTHERN CAPE PROVINCE

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By

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EXECUTIVE SUMMARY

INTRODUCTION AND LOCATION

Tony Barbour Environmental Consulting and Research was appointed by EnviroAfrica Environmental Consulting to undertake a Social Impact Assessment (SIA) as part of the Environmental Impact Assessment (EIA) process for the proposed SIMS Mixed Use Development and associated infrastructure located in Kathu in the Northern Cape Province. This report contains the findings of the SIA undertaken as part of the EIA process.

PROJECT DESCRIPTION

The Sishen Iron Ore Company (Pty) Ltd is investigating the potential of developing a mixed use and housing development and associated infrastructure on Portion 1 and the Remainder of the Farm Sims No. 462. The property is located to the west of the town of Kathu, adjacent to the Kathu Village Mall, and east of Mapoteng. Approximately 1 439 properties are proposed to be developed. This includes 538 single residential properties, 851 group housing properties, 4 properties for the development of flats, 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use The proposed activity will also include the construction of internal roads, and associated services infrastructure. The total area of the site (both properties) is approximately 168.9ha. The R380 bisects the development site. The area proposed for development is located within the urban edge of Kathu and has therefore been identified as suitable for infill development.

APPROACH TO STUDY

The approach to the study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (Barbour, 2007). In this regard the study involved:

- Review of demographic data from the 2011 Census Survey and other sources;
- Review of relevant planning and policy frameworks for the area;
- Review of information from field interviews and comments from key I&APs;
- Review of information from similar studies.

SUMMARY OF KEY FINDNGS

The summary of key findings is divided into:

- Assessment of compatibility with relevant policy and planning context ("planning fit");
- Assessment of social issues associated with the construction phase;
- Assessment of social issues associated with the operational phase;
- Assessment of the "no development" alternative.

Three layout alternatives and the no-development alternative were identified in the Scoping Report and Plan of Study (EnviroAfrica, March 2015). During the Scoping Phase Alternative 1 and 2 were found to be unsuitable due to the impact on biophysical environment. The SIA assess Alternative 3 (the preferred alternative) and the no-

development option. The assessment and impact ratings therefore apply to Alternative 3.

POLICY AND PLANNING FIT

For the purposes of the meeting the objectives of the SIA the following policy and planning documents were reviewed:

- Northern Cape Provincial Growth and Development Strategy (2011);
- Northern Cape Provincial Spatial Development Framework (2011);
- John Taolo Gaetsewe District Municipality Integrated Development Plan (2014-2016);
- Gamagara Local Municipality Integrated Development Plan (2012-2017); and
- Gamagara Spatial Development Plan (2011).

Based on the findings of the review the proposed SIMS Mixed Use Development supports a number of the provincial and local level policy and planning objectives. Of specific relevance to the study a key spatial development objective of the Gamagara SDF is to manage land use and settlement expansion in Kathu and Seshen and amalgamate the two towns into a single Regional Node. The proposed SIMS Mixed Use Development supports this vision and the spatial objective of integrating Kathu and Sesheng. The development is also located within the Kathu Urban Edge. The area has therefore been identified a suitable for infill development. The proposed SIMS Mixed Use Development is therefore in keeping with and supports the relevant land use policies and plans for the site and surrounds.

CONSTRUCTION PHASE IMPACTS

The key social issues associated with the construction phase include:

Potential positive impacts

- Creation of employment and business opportunities

Employment

The total number of employment opportunities created by the residential component of the development would be ~ 1 907 over the first five years and ~ 891 for the final three years. The total number of employment opportunities over the total eight year period will therefore be in the region of 2 800. Of this total ~ 1 120 (40%) would be available to low skilled workers, ~ 1 120 (40%) to semi-skilled workers and 560 (20%) to skilled workers.

In addition to the residential components the proposed development will also include the development of six commercial properties, twenty nine open space properties, six sites for places of worship, two sites for education and two properties for municipal use. The establishment of each of these components will also create employment opportunities over and above the estimated ~ 2 800 employment opportunities created by the residential component. The majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the community. This would represent a significant opportunity for the local building sector and members of the local community.

Wage bill

The total wage bill over the assumed eight year construction phase for the residential component is estimated to be in the region of R 1.4 billion (2016 rand values). Of this total ~ R 298 million (20%) would be earned by low skilled workers, R 498 (33%) million by semi-skilled workers, and R 705 million (47%) by skilled workers. Low and semi-skilled workers would therefore earn ~ R 796 million (2016 rand values)(53%) of the total wage bill over the assumed eight year construction phase. The employment opportunities associated with the establishment of the components associated with the proposed development will generate additional wage incomes.

As indicated above, the majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the local community. A significant portion of the total wage bill will therefore be earned by HD members from the local area. The majority of the wage bill will be spent in the local economy and will create significant opportunities for local businesses in Kathu and surrounding towns. This benefit will extend over the assumed 8 year construction phase.

Business opportunities

Based on the information provided by the proponent the capital expenditure associated with residential component of the development would be ~ R2.6 billion (2016 rand values). This total does not include the costs associated with the development of the six commercial properties, twenty nine open space properties, six sites for places of worship, two sites for education and two properties for municipal use. At this stage in the project it is not possible to indicate what the capital expenditure costs associated with these components would be. However, when these costs are included the total capital expenditure associated with the fully developed SIMS Mixed Use Development is likely to be in the region of R 3 billion (2016 rand values). The majority of work during the construction phase is likely to be undertaken by local contractors and builders. The majority of the building materials associated with the construction phase will be sourced from locally based suppliers. The proposed development will therefore represent a significant positive benefit for the local construction and building sector in the GLM and surrounding areas.

Potential negative impacts

- Impacts associated with the presence of construction workers on site;
- Security and safety impacts associated with the presence of construction workers;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

The significance of the majority of all of the negative impacts with mitigation was assessed to be of low significance. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. In addition, given that the majority of construction workers are likely to be locally based, the potential risk at a community level posed by construction workers to local family structures and social networks is regarded as low negative significance. However, the impact on individuals who are directly impacted on by construction workers (i.e. contract HIV/ AIDS) would be of high negative significance.

Table 1 summarises the significance of the impacts associated with the construction phase.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of business and employment opportunities	Medium (Positive impact)	High (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole)	Low (Negative impact for community as a whole)
Threat to safety and security	Medium (Negative impact)	Low (Negative impact)
Impact of construction related activities (dust, noise, safety etc.)	Medium (Negative impact)	Low (Negative impact)

OPERATIONAL PHASE IMPACTS

The key social issues associated with the operational phase include:

Potential positive impacts
- Provision of housing, community facilities and public spaces
- Creation of employment and business opportunities
- Broaden the rates base

Provision of housing, community facilities and public spaces

Despite the recent down turn in the mining sector and associated retrenchments, Sishen Iron Ore have indicated that the future expansion of mining activities in the area will create the need for additional housing. The aim of the SIMS Mixed Used Development is to ensure that adequate accommodation is avaible in Kathu for employees and contractors when the need arises. The company is also committed to maximising the opportunity for employees to become homeowners as opposed to renting. To achieve this houses will be made available to employees at ~ 30% below cost. Approximately 972 (70%) of the 1 389 units will be made available for employees to purchase at discounted costs. The remaining 417 (30%), will be made available to employees and contractors to rent. The creation of an opportunity for Sishen Iron Ore employees to become homeowners represents a significant socio-economic benefit.

The provision of housing and community facilities by Sishen Iron Ore also represents a long term investment in the well-being of its employees and the community of Kathu as a whole. This represents a significant socio-economic benefit for the employees, the town of Kathu and the GLM. The provision of affordable housing and rental stock in Kathu also ensures that workers do not have to commute over long distances in order to access thier place of work. This represents a postive social benefit for both the workers and thier families.

The proposed development will also provide six sites for worship, two schools, two commuinity facilties and public open spaces, including sports fields. Sishen Iron Ore are therefore committed to provinding more than just accommodation, they are also committed to providing the community with the facilities required to create a suburb that caters for the needs of it's residents. Establishing schools, places of worship, open

spaces and shops within easy access to residential areas enhance the quality of the area and the overall well-being of the communities that live there. This represents a postive social benefit for the members of the community that will will be accommodated in the residential component of the SIMS Mixed Use Development. In addition, the SIMS Mixed Use Development will assit to address the historical, spatial planning legacies assocaited with Apartheid planning by facilitating and supporting the integration of Kathu and Seshen.

Employment
The operational phase is estimated to create in the region of 800-1 000 employment opportunities. These opportunities are linked to the two schools, six commercial units and residential component. The majority of these opportunities will benefit HD members of the community. A percentage of the wage bill earned by these workers will be spent in the local economy which, in turn, will benefit local companies and businesses in Kathu. The operational phase of the proposed SIMS Mixed Use Development will therefore create significant socio-economic benefits and opportunities for the local community and GLM economy.

Business
The operational phase will create opportunities for local businesses, such as local maintenance and building companies, garden services and security companies, petrol stations, shops and restaurants etc. and create opportunities for new businesses to develop. Local estate agencies in the area and legal firms will also benefit from the sale and re-sale of properties associated with the new development

Rates base
The rates generated by the residential component of the proposed SIMS Mixed Used Development would be in the region of R 7 million (2015 rand values) per annum. In addition the proposed development will also generate revenue for the GLM from the consumption of water and electricity. However, it should be noted that the lower income households may find it difficult to pay municipal rates and the costs associated with electricity and water. This may become an issue.

Potential negative impacts
Based on the findings of the SIA there are likely to be no significant social impacts associated with the proposed SIMS Mixed Used Development that would have a bearing on the assessment process and approval of the project.

The significance of the impacts associated with the operational phase are summarised in Table 2.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Provision of housing, community facilities and public spaces	High (Negative impact)[1]	High (Positive impact)
Employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Broaden the rates base	Medium (Negative impact)[2]	Medium (Positive impact)

[1] Assumes that development does not proceed and potential benefit is forgone

NO-DEVELOPMENT OPTION

The no-development alternative would result in a lost opportunity for Sishen Iron Ore to provide quality, affordable accommodation for its employees and to create a well-planned new development that includes the establishment of schools, places of worship, public open spaces, sports fields and shops. The no-development option will also result in a lost opportunity for Sishen Iron Ore employees to purchase houses at a significantly discounted price. The employment and business opportunities associated with the construction and operational phase will also be forgone, as would the rates and taxes generated for the GLM. The no-development option is therefore not supported. However, the recommendations listed in the SIA should be implemented.

CONCLUSION AND RECOMMENDATIONS

The findings of the SIA indicate that Alternative 3 of the proposed SIMS Mixed Use Development is located inside the Kathu Urban Edge. The proposed development therefore complies with and is supported by the local land use planning proposals for the area. The construction and operational phase of the proposed development will create a number of positive socio-economic benefits for the local community and the area as a whole. The development will also provide quality, affordable accommodation for the employees of Sishen Iron Ore and create a well-planned new development that includes the establishment of schools, places of worship, public open spaces and sports fields and shops. In addiiton, the development will assit to address the historical, spatial planning legacies assocaited with Apartheid planning by facilitating and supporting the integration of Kathu and Seshen. The establishment of Alternative 3 of the proposed SIMS Mixed Use Development is therefore supported by the findings of the SIA.

IMPACT STATEMENT

The findings of the SIA indicate that Alternative 3 of the proposed SIMS Mixed Use Development complies with and is supported by the local land use planning proposals for the site. The findings of the SIA also indicate that the socio-economic benefits associated with the proposed development outweigh the negative impacts. All of the negative impacts can also be effectively mitigated.

It is therefore recommended that Alternative 3 of the proposed SIMS Mixed Use Development be supported, subject to the implementation of the recommended enhancement and mitigation measures contained in the SIA report.

[2] Assumes that development does not proceed and potential benefit is forgone

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ACRONYMS

DEA	Department of Environmental Affairs (National)
GDP	Gross Domestic Product
GLA	Gross Lettable Area
GVA	Gross Value Added
EIA	Environmental Impact Assessment
GLM	Gamagara Local Municipality
HD	Historically Disadvantaged
IDP	Integrated Development Plan
JTGDM	John Taolo Gaetsewe District Municipality
LED	Local Economic Development
PSDF	Provincial Spatial Development Framework
SDF	Spatial Development Framework
SIA	Social Impact Assessment

SECTION 1: INTRODUCTION

1.1 INTRODUCTION

Tony Barbour Environmental Consulting and Research was appointed by EnviroAfrica Environmental Consulting to undertake a Social Impact Assessment (SIA) as part of the Environmental Impact Assessment (EIA) process for the proposed SIMS Mixed Use Development and associated infrastructure located in Kathu in the Northern Cape Province.

The property is located to the west of the town of Kathu, adjacent to the Kathu Village Mall and east of Mapoteng (Figure 1.1). Approximately 1 439 properties are proposed to be developed. This includes 538 single residential properties, 851 group housing properties, 4 properties for the development of flats, 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use. The development is located within the urban edge of Kathu, and has therefore been identified as suitable for infill development. This report contains the findings of the SIA undertaken as part of the EIA process.

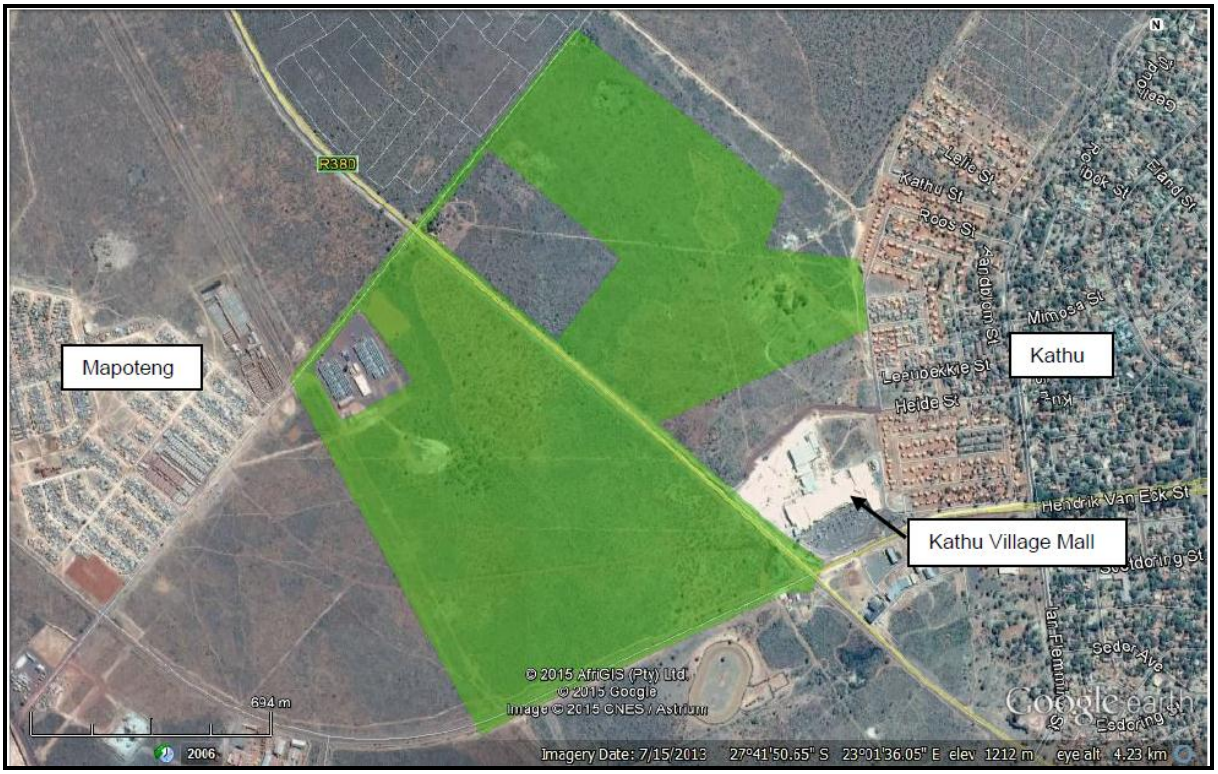


Figure 1.1: Location SIMS Mixed Use Development

1.2 TERMS OF REFERENCE

The terms of reference for the SIA require:

- A description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed facility.
- A description and assessment of the potential social issues associated with the proposed facility.
- Identification of enhancement and mitigation aimed at maximizing opportunities and avoiding and or reducing negative impacts.

1.3 PROJECT DESCRIPTION

The Sishen Iron Ore Company (Pty) Ltd (Sishen Iron Ore) is investigating the potential of developing a mixed use and housing development and associated infrastructure on Portion 1 and the Remainder of the Farm Sims No. 462. The property is located to the west of the town of Kathu, adjacent to the Kathu Village Mall, and east of Mapoteng. Approximately 1439 properties are proposed to be developed. This includes 538 single residential properties, 851 group housing properties, 4 properties for the development of flats, 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use The proposed activity will also include the construction of internal roads, and associated services infrastructure. The total area of the site (both properties) is approximately 168.9ha. The R380 bisects the development site.

As indicated above, the area proposed for development is located within the urban edge of Kathu and has therefore been identified as suitable for infill development.

Sishen Iron Ore are committed to providing quality, affordable housing for its staff and has developed 1 793 houses over the last 5 years (Jimmy Walker, pers. comm). Mr Walker also indicated that due to accommodation shortages and the high property prices and rental costs in Kathu in recent years many employees have been forced to commute on a daily basis from towns in the area, including as far afield as Kuruman. Kuruman is located ~ 50 km north east of Kathu. Despite the recent down turn in the mining sector and the associated retrenchments, Sishen Iron Ore have indicated that the future expansion of mining activities in the area will create the need for additional housing. The aim of the SIMS Mixed Used Development is to ensure that adequate accommodation is avaible in Kathu for employees and contractors when the need arises.

The need for formal housing in the Kathu and surrounding towns is highlighted by the rapid growth of the area between the 2001 and 2011 census years. The in-migration over this period resulted in a growth 211% of in the number of households. Based on the 2011 census data informal households made up 24.4% of the total households in Gamagara. The Gamagara Integrated Human Settlement Sector Plan (GIHSSP) indicates that 98% of the informal settlements were found to be in the urban areas. The GIHSSP also found that 9.5% of the total households were backyard shacks which grew by 797% in the past ten years. The Integrated Human Settlement Sector Plan identified a housing backlog of 2 590 houses (Gamagara Integrated Development Plan, 2015-2017).

1.4 ALTERNATIVES

Three layout alternatives and the no-development alternative were identified in the Scoping Report and Plan of Study (EnviroAfrica, March 2015). During the Scoping Phase Alternative 1 and 2 were found to be unsuitable due to the impact on biophysical environment. The SIA assesses Alternative 3 (the preferred alternative) and the no-development option.

Alternative 1: Alternative 1 is the first concept layout proposed (Figure 1.2). This layout included 1275 properties, which included:

- 1227 residential properties
- 6 Institutional Zone II properties (Worship)
- 3 Institutional Zone I property (Education)
- 7 Business sites (Commercial)
- 24 Public Open Spaces (Parks)
- 2 Authority Zones (Municipal use)
- Public Streets (Transport Zone II)

This alternative was considered a viable option as it provides a sufficient number of housing opportunities, as well as sites for commercial, education, worship, public open space and municipal use. However, this site is not preferred as it did not take the location of sensitive areas, such as the wetland to the north of the site, and botanical sensitive (Camel thorn Trees (*Acacia erioloba*)) into consideration.

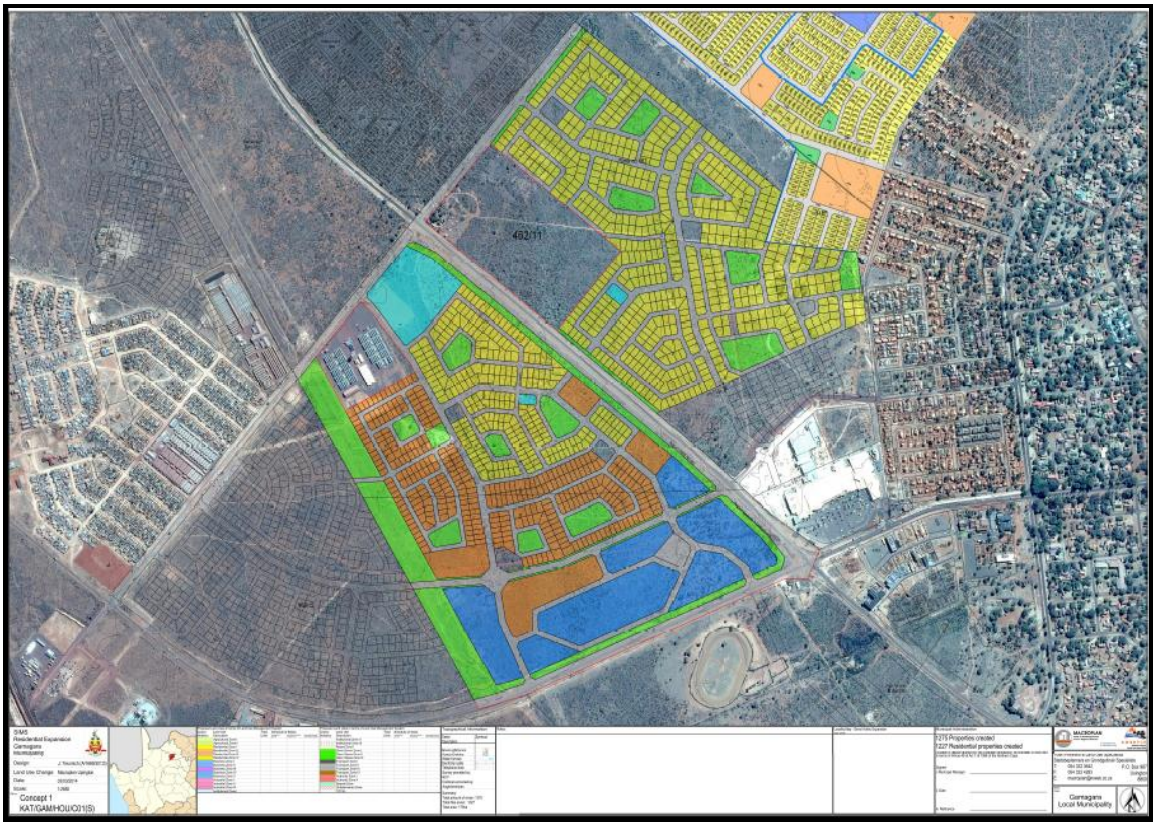


Figure 1.2: Alternative 1 SIMS Mixed Use Development

Alternative 2: Alternative 2 is the second concept layout proposed (Figure 1.3). This layout included 1751 properties, which included:

- 1692 residential properties
- 7 Institutional Zone II properties (Worship)
- 2 Institutional Zone I property (Education)
- 13 Business sites (Commercial)
- 32 Public Open Spaces (Parks)
- Public Streets (Transport Zone II)

This alternative was also considered a viable option, and as with Alternative 2 above, it provides a sufficient number of housing opportunities. This layout, however, provides more Residential Zone II housing, and therefore more housing opportunities, than Alternative 1. It also provides more commercial properties than Alternative 1, but the properties are significantly smaller. However, it is not preferred, as this layout (as well as Alternative 1) did not take any of the sensitive areas (wetlands and botanical features) into account.

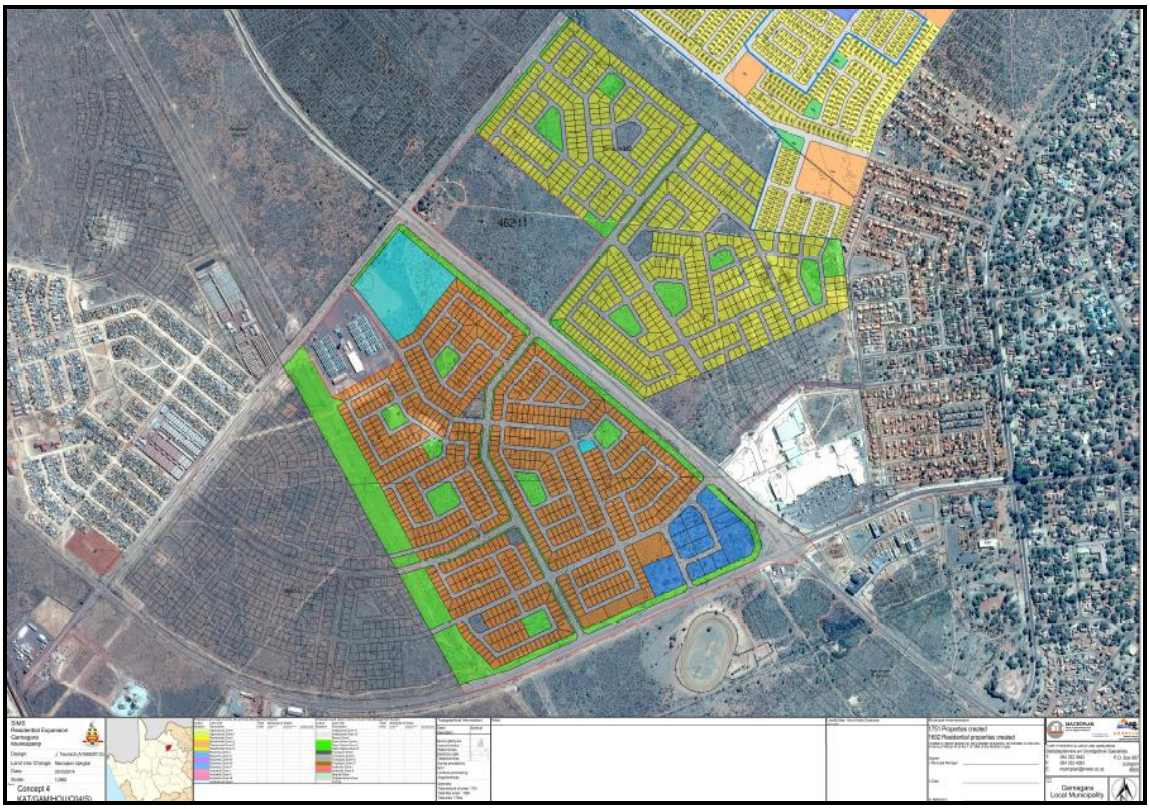


Figure 1.3: Alternative 2 SIMS Mixed Use Development

Alternative 3 (preferred alternative): Alternative 3 is the final concept layout proposed during the Scoping Phase (Figure 1.4). This layout included 1439 erven, which included:

- 1393 residential properties (538 single homes, 851 group housing, and 4 flats).
- 6 Institutional II (Worship) property
- 2 Institutional I (Education) property

- 6 Business properties (Commercial)
- 29 Open Space I (Park) properties
- 2 Authority Zones (Municipal use)
- Public Streets (Transport Zone II)

This alternative was also considered as a viable option, and is the Applicants preferred layout. Although it does not provide as many housing opportunities as Alternatives 2, it still provides sufficient housing opportunities and conforms more to the mixed-use development envisaged. It has importantly taken the sensitive natural features such as wetlands and the sensitive botanical areas into consideration when it has come to the placement of open spaces and roads. Final placement of the buildings on the Residential I and II properties will be done taking any Camel thorn trees into account, to avoid damaging or having to remove them.

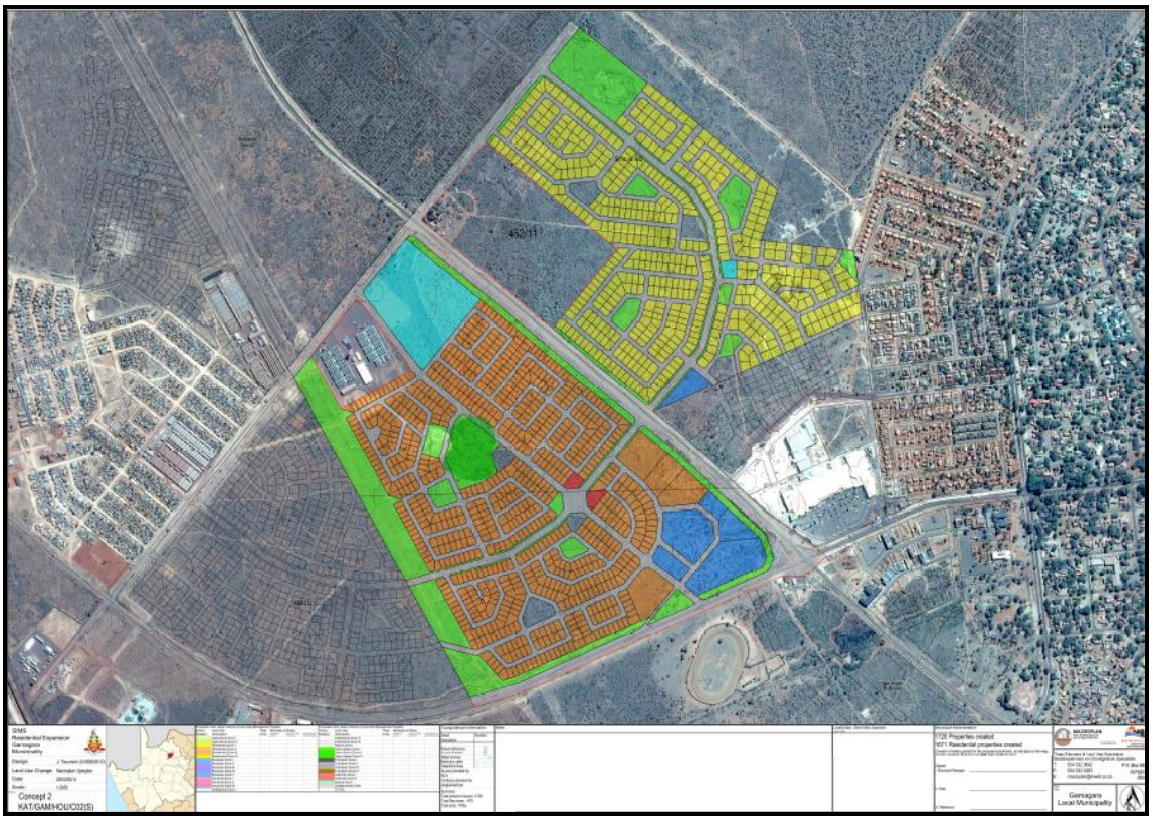


Figure 1.4: Alternative 3 SIMS Mixed Use Development

No-Development Alternative
This is the option of not developing the proposed residential development. Currently no Agricultural activities are taking place on this site although it is zoned as Agricultural Zone I. Although the no-go development might result in no potential negative environmental impacts, the direct and indirect socio-economic benefits of not constructing the residential development will not be realised. The need for additional housing opportunities in Kathu will not be realised.

1.5 OVERVIEW OF THE SITE AND SURROUNDING LAND USES

The development of Kathu, "the town under the trees", is linked to the iron ore mining activities first started by Iscor. The town was allocated municipal status in July 1979. The municipality originally consisted of 2 towns, namely Sesheng and Kathu. Sesheng is located to the west of Kathu and was initially planned as a high density residential area for migrant mine workers and consists largely of group housing units that were owned by the mine. In accordance with government policy the hostels, group homes are being converted to single flat units for mine employees. The larger residential housing component of Sesheng is located nearer to Kathu in the form of single residential houses (Ext. 5). The urban area of Mapoteng is located between Kathu to the east and Sesheng to the west. The old Kathu Central Business District (CBD) is located ~ 3 km to the east of the site.

The proposed development site is bisected by the R 380, which links the town of Dibeng to the north-west, with Kathu. The section of the site located to the north of the R 380 is earmarked for the development of middle income housing units and will consist largely of single residential units (Photograph 1.1). This section of the site abuts onto an existing residential area of Kathu that is located to the north of the Kathu Village Mall (Photograph 1.2 and 1.3). A mixed use business and light industrial area is located in the area to the south of the Village Mall (Photograph 1.4).

Photograph 1.1: View of section of the site located to the north of R 380

Photograph 1.2: Residential area located to north of Kathu Village Mall

Photograph 1.3: Kathu Village Mall

Photograph 1.4: Business and industrail node locted to south of Kathu Village Mall

The section of the site located to the south of the R 380 is earmarked for the development of low to middle income households and will consist of group housing units and flats. The road linking Kathu to Mapoteng forms the southern boundary of the southern section of the development area (Photograph 1.5). A number of informal structures have been erected in the area located to the south of the development area. Some of these structures are located adjacent to the road linking Kathu to Mapoteng, while others are located to the east of Mapoteng (Photograph 1.6 and 1.7).

Photograph 1.5: View from road to Mapoteng looking north-west over development area

Photograph 1.6: Informal structures located to the south of the development site

Photograph 1.7: Informal structures located to east of Mapoteng

The low to middle income residential area of Mapoteng is located to the south west of the site and consists of both formal and informal structures, including backyard shacks (Photograph 1.8 and 1.9). There are also a number of hostel structures (Photograph 1.10).

Photograph 1.8: Mapoteng streetscape to the south west of development area

Photograph 1.9: Informal backyard structures in Mapoteng

Photograph 1.10: Hostels in Mapoteng

1.6 APPROACH TO STUDY

The approach to the SIA study is based on international best practice, as contained in the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) Guidelines for Social Impact Assessment (February 2007). These guidelines have been endorsed by the national Department of Environmental Affairs (DEA). The key activities in the SIA process embodied in the guidelines include:

- Describing and obtaining an understanding of the proposed intervention (type, scale, and location), the settlements, and communities likely to be affected by the proposed project;
- Collecting baseline data on the current social and economic environment;
- Identifying the key potential social issues associated with the proposed project. This requires a site visit to the area and consultation with affected individuals and communities. As part of the process a basic information document was prepared and made available to key interested and affected parties. The aim of the document was to inform the affected parties of the nature and activities associated with the construction and operation of the proposed development to enable them to better understand and comment on the potential social issues and impacts;
- Assessing and documenting the significance of social impacts associated with the proposed intervention; and,
- Identifying alternatives and mitigation measures.

In this regard the study involved:

- Review of demographic data from Census 2011 and other demographic sources;
- Review of relevant planning and policy frameworks for the area;
- Site specific information collected during site visits to the area and interviews with interested and affected parties; and,
- Identification and assessment of the social issues associated with the proposed project.

The identification of potential social issues associated with proposed facility is based on observations during the project site visit, review of relevant documentation, experience with similar projects and the general area. Annexure A contains a list of the secondary information reviewed and interviews conducted. Annexure B describes the assessment methodology used to assign significance ratings. Annexure C contains a copy of a Background Information Document that was made available to key stakeholders interviewed.

1.6.1 Definition of social impacts

Social impacts can be defined as "The consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society. These impacts are felt at various levels, including individual level, family or household level, community, organisation or society level. Some social impacts are felt by the body as a physical reality, while other social impacts are perceptual or emotional" (Vanclay, 2002).

When considering social impacts it is important to recognise that social change is a natural and on-going process (Burdge, 1995). However, it is also important to recognise and understand that policies, plans, programmes, and/or projects implemented by government departments and/or private institutions have the potential to influence and alter both the ***rate*** and ***direction*** of social change.

Many social impacts are not in themselves "impacts" but change process that may lead to social impacts (Vanclay, 2002). For example the influx of temporary construction workers is in itself not a social impact. However, their presence can result in range of social impacts, such as increase in antisocial behaviour. The approach adopted by Vanclay stresses the importance of understanding the processes that can result in social impacts. It is therefore critical for social assessment specialists to think through the complex causal mechanisms that produce social impacts. By following impact pathways, or causal chains, and specifically, by thinking about interactions that are likely to be caused, the full range of impacts can be identified (Vanclay, 2002).

An SIA should therefore enable the authorities, project proponents, individuals, communities, and organisations to understand and be in a position to identify and anticipate the potential social consequences of the implementation of a proposed policy, programme, plan, or project. The SIA process should alert communities and individuals to the proposed project and possible social impacts, while at the same time allowing them to assess the implications and identify potential alternatives. The assessment process should also alert proponents and planners to the likelihood and nature of social impacts and enable them to anticipate and predict these impacts in advance so that the findings and recommendations of the assessment are incorporated into and inform the planning and decision-making process.

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethic, religious, gender, and educational backgrounds etc. view the world. This is referred to as the "social construct of reality." The social construct of reality informs people's worldview and the way in which they react to changes.

1.6.2 Timing of social impacts

Social impacts vary in both time and space. In terms of timing, all projects and policies go through a series of phases, usually starting with initial planning, followed by implementation (construction), operation, and finally closure (decommissioning). The activities, and hence the type and duration of the social impacts associated with each of these phases are likely to differ. The SIA for the proposed SIMS Mixed Use Development focuses on the potential impacts associated with the construction and operational phase of the development.

1.7 ASSUMPTIONS AND LIMITATIONS

1.7.1 Assumptions

Assessment of alternatives
Three layout alternatives and the no-development alternative were identified in the Scoping Report and Plan of Study (EnviroAfrica, March 2015). Alternative 1 and 2 were found to be unsuitable due to the impact on biophysical environment. The SIA assess Alternative 3 (the preferred alternative) and the no-development option.

Fit with planning and policy requirements
Legislation and policies reflect societal norms and values. The legislative and policy context therefore plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. As such, if the findings of the study indicate that the proposed development in its current format does not conform to the spatial principles and guidelines contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported.

However, as indicated above, the site falls within the Kathu urban edge. The site has therefore been identified as suitable for development.

Financially feasible development
It is assumed that the proposed development is financially/ economically feasible. The SIA does not therefore assess the marketability of the proposed development, or make any predictions with regard to uptake of schooling and retail opportunities, etc.

1.7.2 Limitations

Demographic data

The information contained in some key policy and land use planning documents, such as Integrated Development Plans etc., may not contain data from the 2011 Census. However, where required this data has been up-dated with the relevant 2011 Census data.

1.8 SPECIALIST DETAILS

Tony Barbour, the author of this report, is an independent specialist with 24 years' experience in the field of environmental management. In terms of SIA experience Tony Barbour has undertaken in the region of 140 SIA's and is the author of the Guidelines for Social Impact Assessments for EIA's adopted by the Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape in 2007.

1.9 DECLARATION OF INDEPENDENCE

This confirms that Tony Barbour, the specialist consultant responsible for undertaking the study and preparing the Draft SIA Report, is independent and does not have any vested or financial interests in the proposed development being either approved or rejected.

1.10 REPORT STRUCTURE

The report is divided into five sections, namely:

- Section 1: Introduction
- Section 2: Summary of key policy and planning documents
- Section 3: Overview of the study area
- Section 4: Identification and assessment of key social issues
- Section 5: Summary of key findings and recommendations.

SECTION 2: POLICY AND PLANNING ENVIRONMENT

2.1 INTRODUCTION

Legislation and policy embody and reflect key societal norms, values and developmental goals. The legislative and policy context therefore plays an important role in identifying, assessing and evaluating the significance of potential social impacts associated with any given proposed development. An assessment of the "policy and planning fit[3]" of the proposed development therefore constitutes a key aspect of the Social Impact Assessment (SIA). In this regard, assessment of "planning fit" conforms to international best practice for conducting SIAs. Furthermore, it also constitutes a key reporting requirement in terms of the applicable Western Cape Department of Environmental Affairs and Development Planning's *Guidelines for Social Impact Assessment* (2007).

Section 2 provides an overview of the most significant policy documents of relevance to the proposed development, namely:

- Northern Cape Provincial Growth and Development Strategy (2011);
- Northern Cape Provincial Spatial Development Framework (201XX);
- John Taolo Gaetsewe District Municipality Integrated Development Plan (2014-2016);
- Gamagara Local Municipality Integrated Development Plan (2012-2017); and
- Gamagara Spatial Development Plan (2011).

2.2 PROVINCIAL POLICY AND PLANNING ENVIRONMENT

2.2.1 Northern Cape Provincial Growth and Development Strategy

The Northern Cape Provincial Growth and Development Strategy (NCPGDS) identifies poverty reduction as the most significant challenge facing the government and its partners. All other societal challenges that the province faces emanate predominantly from the effects of poverty. The NCPGDS notes that the only effective way to reduce poverty is through long-term sustainable economic growth and development. The sectors where economic growth and development can be promoted include:

- Agriculture and Agro-processing;
- Fishing and Mariculture;
- Mining and mineral processing;
- Transport;
- Manufacturing;
- Tourism.

However, the NCPGDS also notes that economic development in these sectors also requires:

- Creating opportunities for lifelong learning;

[3] Planning fit" can simply be described as the extent to which any relevant development satisfies the core criteria of appropriateness, need, and desirability, as defined or circumscribed by the relevant applicable legislation and policy documents at a given time.

- Improving the skills of the labour force to increase productivity; and
- Increasing accessibility to knowledge and information.

The achievement of these primary development objectives depends on the achievement of a number of related objectives that, at a macro-level, describe necessary conditions for growth and development. These are:

- Developing requisite levels of human and social capital;
- Improving the efficiency and effectiveness of governance and other development institutions; and
- Enhancing infrastructure for economic growth and social development.

2.2.2 Northern Cape Provincial Spatial Development Framework

The Northern Cape Provincial Spatial Development Framework (NCPSDF) responds and gives practical effect to the overarching objective stipulated in the Northern Cape PGDS, i.e. to ensure integration of development processes and, in particular, to facilitate sustainable development throughout the province. In doing so the PSDF notes that social and economic development is imperative in order to address the most significant challenge facing the Northern Cape, namely poverty, and, that the only effective means by which poverty can be reduced is long-term sustainable economic growth and development.

The PSDF was prepared in accordance with the principles of bioregional planning adapted to suit the requirements of the Northern Cape. The bioregional principles as applied in the PSDF are in compliance with the national and provincial legislation and policy that direct spatial planning in South Africa, including the Spatial Planning and Land-Use Management Bill (2011), the NSDP, and the NSSD.

The PSDF identifies a number of sustainable development principles that collectively aim to give effect to the vision and goals of the PSDF. These principles are relevant to the proposed development and include the following:

- Social Sustainability: This objective refers to the concept of need and addresses the following:
  a) Improve the quality of human life, including the elimination of poverty.
  c) Protect and promote human health through a healthy environment.
  d) Implement skills training and capacity enhancement for historically disadvantaged people.
- Economic Sustainability: This objective refers to the following:
  a) Ensure that new development promotes qualitative urban integration, affordable housing, and densification in a financially viable manner, without undermining existing property values.
  c) Promote employment creation.
- Biophysical Sustainability: The following principles will be incorporated into the planning and management of physical development:
  a) Minimise the use of the four generic resources, namely energy, water, land and materials.
  b) Maximise the re-use and/or recycling of resources.
  c) Use renewable resources in preference to non-renewable resources.
  d) Minimise air, land and water pollution.
  g) Minimise damage to sensitive landscapes, including scenic, cultural, and historical aspects.

- Technical Sustainability: A primary aim of the Northern Cape PSDF is to create a qualitative cultural environment, which is in harmony with the natural environment within which it is located. The following objectives apply in this regard:
  a) Construct durable, reliable and functional structures.
  b) Pursue quality in creating the built environment.

In order to give effect to the conceptual spatial vision for the province the NCPSDF identifies six spatial planning categories based upon UNESCO's biosphere reserve zoning model as advocated by the MaB Programme, namely:

- Core Conservation Areas (A);
- Natural Buffer Areas (B);
- Agricultural Areas (C);
- Urban Related Areas (D);
- Industrial Areas (E); and
- Surface Infrastructure Areas (F).

Table 2.1 lists the types of developments that can take place within each of these areas. The proposed development is located within the Kathu urban edge and would therefore be classified as an Urban Related Area (D).

Table 2.1: List of spatial planning categories

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

In terms of facilitating development with urban areas (spatial development category D), the PSDF notes that a key objective of the PSDF is to promote rehabilitation of existing settlements and to ensure that any future developments are sustainable (i.e. supportive of environmental integrity, human well-being and economic efficiency). Sustainable development of urban areas also requires taking into account natural and/or unique resources and land and prevention of urban sprawl, preference for strengthening and densification of existing nodes, and taking into consideration the cumulative impact of development. As indicated above, the proposed development is located within the urban edge and therefore supports the conditions and objectives set out in the PSDF.

The key spatial development objectives listed in the PSDF that are relevant to the proposed development include:

- Develop sustainable settlements that would promote the well-being of the people of the Northern Cape, i.e. where they can live with dignity and pride;
- End the apartheid structure of urban settlements;
- Prohibit further outward expansion of urban settlements that entrenches the current spatial apartheid pattern and results in urban sprawl[4];
- Use socio-economic gradients based on walking distance to create a higher level of integration than currently exists while remaining sensitive to community social norms and levels of living;
- Use walking distance as the primary measure of accessibility;
- Densify urban settlements, especially along main transport routes, at nodal interchanges etc.;
- Identify areas of highest accessibility that can be designed to maximise safe social and economic activity, especially for participants in the second economy;
- Cluster community facilities together with commercial, transport, informal sector and other activities so as to maximise their convenience, safety and social economic potential.

The SDF also notes that economic development opportunities are the key determinant in the settlement pattern of the province. The development patterns in the province are in turn linked to areas natural resources (water, suitable agricultural soil, mining resources, etc.) and infrastructure (roads, electricity, bulk engineering services, etc.). Over time, this has resulted in the evolution of distinct development regions and corridors. Kathu is located in the Gamagara Corridor, which is dominated by mining (Figure 2.1). The mining industry is served by two major rail lines, namely the Sishen-Saldanha (orex) line and the Hotazel-Sishen-Port Elizabeth Manganese line.

[4] The proposed development area is located within the Kathu Urban Edge and has therefore been identified as being suitable for urban development.

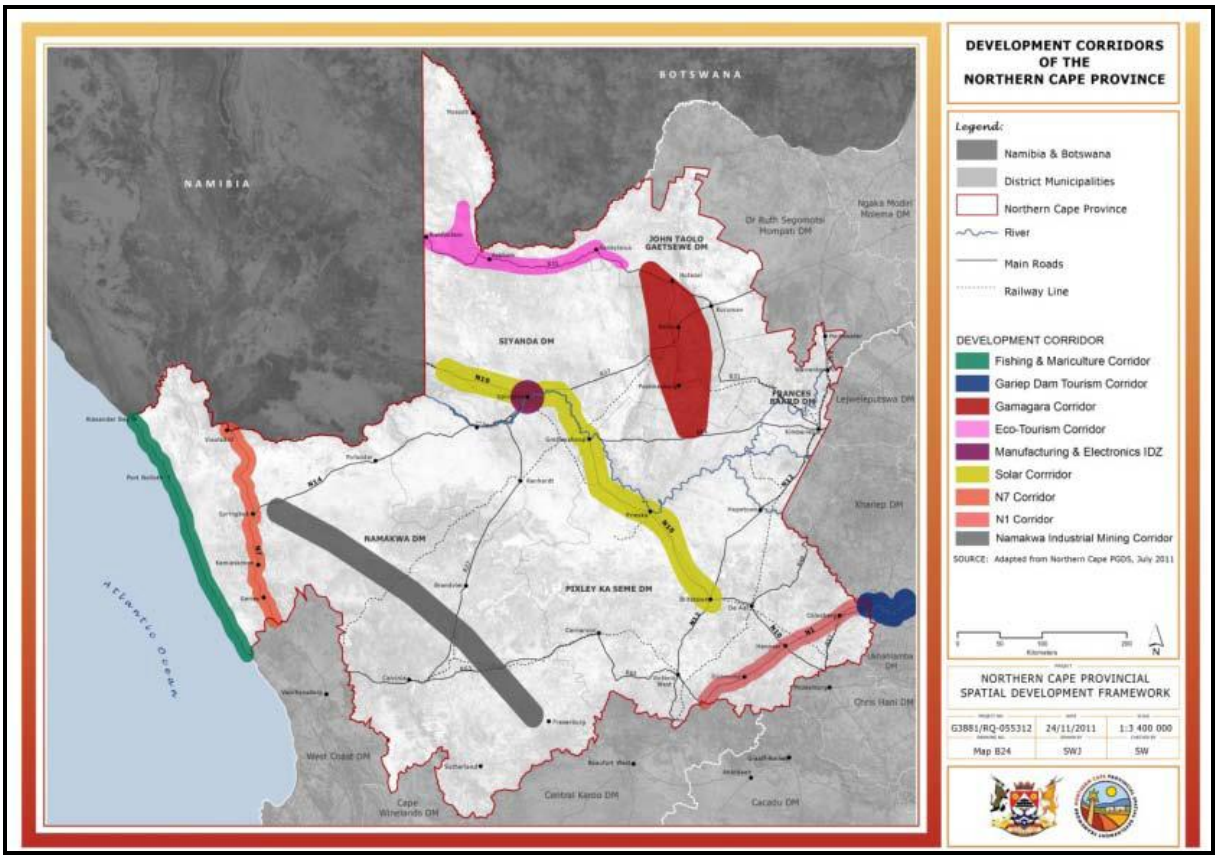


Figure 2.1: Development regions and corridors of the Northern Cape (Source: PGDS, July 2011).

2.3 MUNICIPAL POLICY AND PLANNING ENVIRONMENT

2.3.1 John Taolo Gaetsewe District Municipality Integrated Development Plan

The vision outlined in the John Taolo Gaetsewe District Municipality (JTGDM) Integrated Development Plan (IDP) (2012-2016) is "Working together for a better life for all in the district". The Mission Statement associated with the vision is "Accelerating the implementation of integrated development initiatives and providing support to local municipalities"

The IDP lists nine development priorities and strategies. Of relevance to the proposed development is priority 1-5:

- Priority 1: Water and Sanitation;
- Priority 2: Roads and Transport;
- Priority 3: Local Economic Development (LED);
- Priority 4: Land Development and Reform; and
- Priority 5: Integrated Human Settlements.

The IDP also summarises the key aspects of the JTGDM SDF, which was review in 2011/12. The SDF identifies six development strategies. Of relevance to the proposed development are:

- Development Strategy 1**:** The continued expansion of the mining industry, but in such a way that its negative impacts are minimised and better managed, and its benefits shared by all; and
- Development Strategy 2**:** The rejuvenation and expansion of the economies of Kuruman and Kathu, but within a complimentary, polycentric network of settlements

The SDF also identifies measures aimed at strengthening or regenerating existing nodes. The proposed development has the potential to contribute to supporting a number of these measures, including:

- Focusing infrastructure investment and upgrading in nodal areas;
- Instituting town-planning legislation and zoning regulations that allow for, and incentivize greater mixing of land uses, higher densities and in-fill development, in nodal areas;
- Improving land use management, enforcement of building codes in nodal areas;
- Making special provision for attraction of young and creative people that could add to the liveliness of nodal areas, to these areas; and
- Making nodal areas more attractive through landscaping sidewalks and regular refuse removal.

In terms of the Gamagara LM the SDF notes that a key spatial development objective (Objective 11) is to manage land use and settlement expansion in Kathu and Seshen, and amalgamate the two towns into a single Regional Node. The proposed SIMS Mixed Use Development will contribute towards achieving this objective.

In terms of the Local Economic Development Strategy the key sectors in the area include, Mining, Agriculture, Manufacturing, Wholesale and retail trade, tourism, catering, and accommodation, Finance and business services and Community, social, and other personal services. However, the Mining sector is the only sector with a comparative advantage in the John Taolo Gaetsewe District. This means that this sector produces products in excess of the local demand; therefore, it exports a considerable share of its outputs to another region bringing income for the local economy.

The key local economic thrusts identified for the JTGDM are:

- Thrust 1: Institutional Development for Investor Readiness;
- Thrust 2: SMME Development;
- Thrust 3: Agricultural Sector Development;
- Thrust 4: Mining Sector Development; and
- Thrust 5: Industrial Development.

2.3.2 Gamagara Local Municipality Integrated Development Plan

The Gamagara IDP is informed by the following guiding policy documents:

- National Development Plan (vision 2030);
- The New Growth Path;
- National Key Performance Areas for Municipalities;

- Northern Cape Provincial Spatial Development Framework (2012);
- Northern Cape Provincial Growth and Development Strategy (2011);
- John Taolo Gaetsewe District Growth and Development Strategy; and
- The Gamagara Local Municipality Spatial Development Framework.

The vision of the GLM are presented in the IDP is "A prosperous community with a futuristic economy". The Mission statement is to "provide universal, sustainable services to the community in order to attain a safe and healthy environment, as well as socio-economic development by exploiting economic benefits and strengthening stakeholder relations Key Performance Areas (KPAs)".

The KPAs are linked to specific strategic objectives which also broken down into Key Focus Areas (KFAs). The following KPS and KFAs are relevant to the proposed development:

KPA 1: Basic service delivery and infrastructure investment. The strategic objective is to improve life for all through sustainable infrastructure investment and development. The relevant associated KFAs include:

- Planning and development;
- Basic services (water, sanitation, solid waste, electricity, etc.);
- Bulk services (water, sewerage, electricity, solid waste, etc.);
- Maintenance of municipal property and infrastructure; and
- Procurement and Contract management

KPA 5: Community Safety, Development and Sustainable Environment. The strategic objective is to facilitate the development of the community, pro-active identification, prevention, mitigation and management of environmental health, fire and disaster risks. The relevant KFAs include:

- Special programmes focusing on the vulnerable groups;
- Sustainable Human settlement.

KPA 6: Economic Growth and Development. The strategic objective is to create a conducive environment for economic development in the municipality. The relevant KFAs include:

- Enterprise development;
- Capacity building.

The IDP also lists 5 pillars that are important in the development of the Gamagara Local Municipality Strategic Framework. Of relevance to the proposed development are:

- Open Opportunity Society: A society in which every person is free, secure and equal, where everyone has the opportunity to improve the quality of his/her life and pursue her/his dreams, and in which every language and culture has equal respect and recognition;
- Redress: Addressing the imbalances of the past that has resulted in economic and spatial inequality in a sustainable manner that ensures that all benefit;
- Delivery: Ensuring that everyone has equal access to basic services and resources under the mandate of government and the constitution; and
- Economic Development: Creating an enabling environment for economic growth and promote economic development for the benefit of all.

2.3.3 Gamagara Local Municipality Spatial Development Framework

The Gamagara SDF provides the spatial vision of the municipality in accordance with the IDP. The SDF notes that Kathu is the largest urban centre within Gamagara Municipality. The town is still expanding, and is expected to persist in its growth, as the mining operations continue to expand and intensify. Kathu can therefore be viewed as the Primary Urban Node within the Gamagara Municipality and should be considered the preferred growth point in the area.

In terms of road links the N14 and R380 are the most important roads in the GLM. The N14 links Kathu as Primary Urban Node to Kuruman, which may be seen as the Primary Urban Node in the adjacent Ga-Segonyana Municipality towards the north. The N14 also links the town with Gauteng to the north east and Upington to the south west. The R380 links Kathu to Dibeng facilitating intra-municipal movement of goods and services. Further towards the north, the R380 provides an important inter-municipal link to Hotazel, which may be seen as the Primary Urban Node of the John Taolo Gaetsewe DMA.

Distribution of residential areas
Kathu was developed in the form of a garden city in the 1970's to accommodate the housing worker. During that time spatial planning was informed by Apartheid necessitating the development of a secondary town to the west, namely Sesheng. Kathu was designed in typical middle class suburban style with large residential plots, whilst hostels and 'kampongs' were viewed as suitable residences for the perceived lower class residing in Sesheng. Since 1994 the social boundaries between Sesheng and Kathu have become increasingly blurred. This has been largely due to market forces and the affordability residential plots of differing sizes.

The residential density in Sesheng is significantly higher than the density in Kathu. The SDF also notes that Sesheng has experienced extremely fast growth in the direction of the older parts of Kathu. This growth forms part of the integration objective aimed at previously segregated urban units. The trend is set to continue and is encouraged by public investment into this segment of the Kathu area. The proposed SIMS Mixed Use Development is designed to support the integration of Sesheng and Kathu.

Distribution of business areas
The largest concentration of business uses within the Gamagara Municipality is located within Kathu. The SDF identifies three business areas or nodes within Kathu (Figure 2.2). The first can be described as Kathu's original CBD, situated at the intersection of Ben Alberts Way and Hendrik van Eck Way. This business area continues to function despite the significant shift towards the south-west, where a large node is forming around the intersection of Hendrik van Eck Way and the R380. The recently developed Kathu Village Mall has played a significant role as catalyst for development in the area.

Figure 2.2: Location of business nodes

Distribution of industrial areas

Kathu, as the most active economic core within the municipality, has the largest industrial area of all the towns in GLM. The town's industrial area is situated to the south of the new CBD, adjacent to the R380 and Ian Fleming Way. There are still a number of vacant lots in the area.

Section 4 of the SDF addresses the issue of Forward Planning. The aim of the section is the section is to describe the desired spatial growth pattern in the GLM. In terms of Kathu's current and future road network the future development of the town is towards to the west (Figure 2.3). Likewise the bulk of future residential development is also to the west of the current CBD (Figure 3.4).

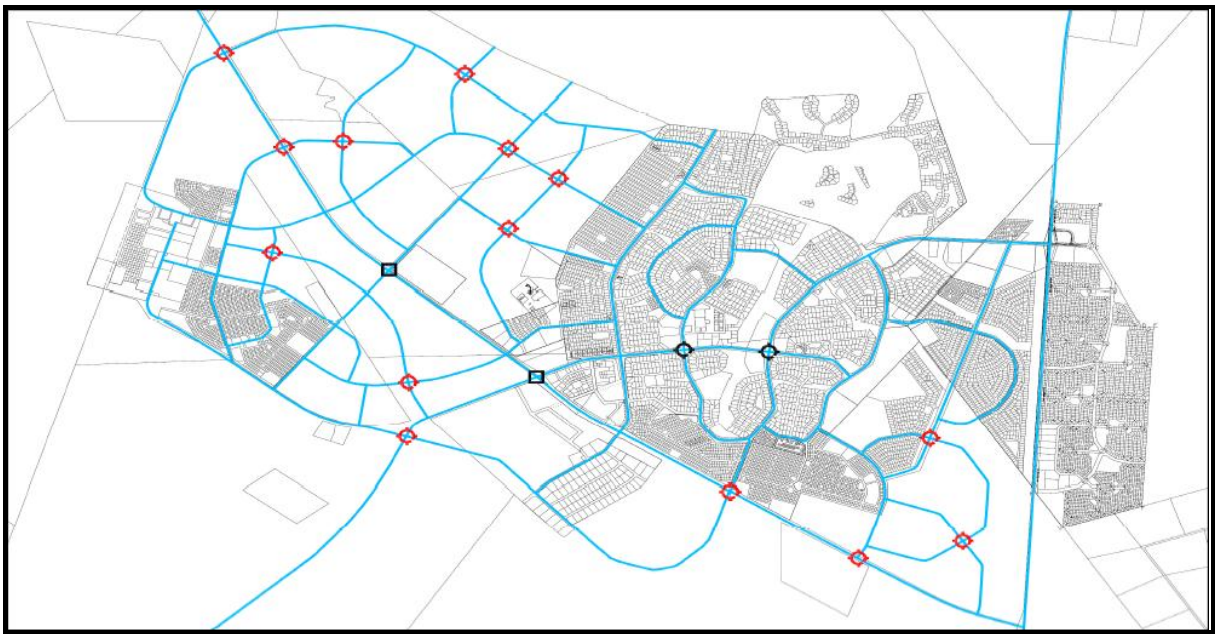


Figure 2.3: Current and future road network in Kathu

Urban edge and residential development

Urban edge

The SDF indicates that the urban edge can be defined as the urban growth boundary, which indicates the interface between urban and rural environments. In effect, the urban edge indicates the boundary beyond which urban growth should not be allowed. The urban edge has significance as it curbs the uncontrolled expansion of urban settlements into surrounding rural areas (urban sprawl). Figure 2.4 indicates the location of the current Kathu urban edge (red line).

Residential development

The SDF notes that the town is expected to experience significant growth over the next few years due to the expansion of the mining sector in the area. However, due to the decrease in the price of iron ore there is likely to be a delay in this future growth. The SDF also notes that expansion to the east has been relatively stagnant, due to the difficultly of providing services. The majority of the future growth of the town will take place towards the west, further enforcing the integration of Kathu and Sesheng as part of the spatial objectives in the area (Figure 2.4). The proposed SIMS Mixed Use Development supports this vision and the spatial objective of integrating Kathu and Sesheng.

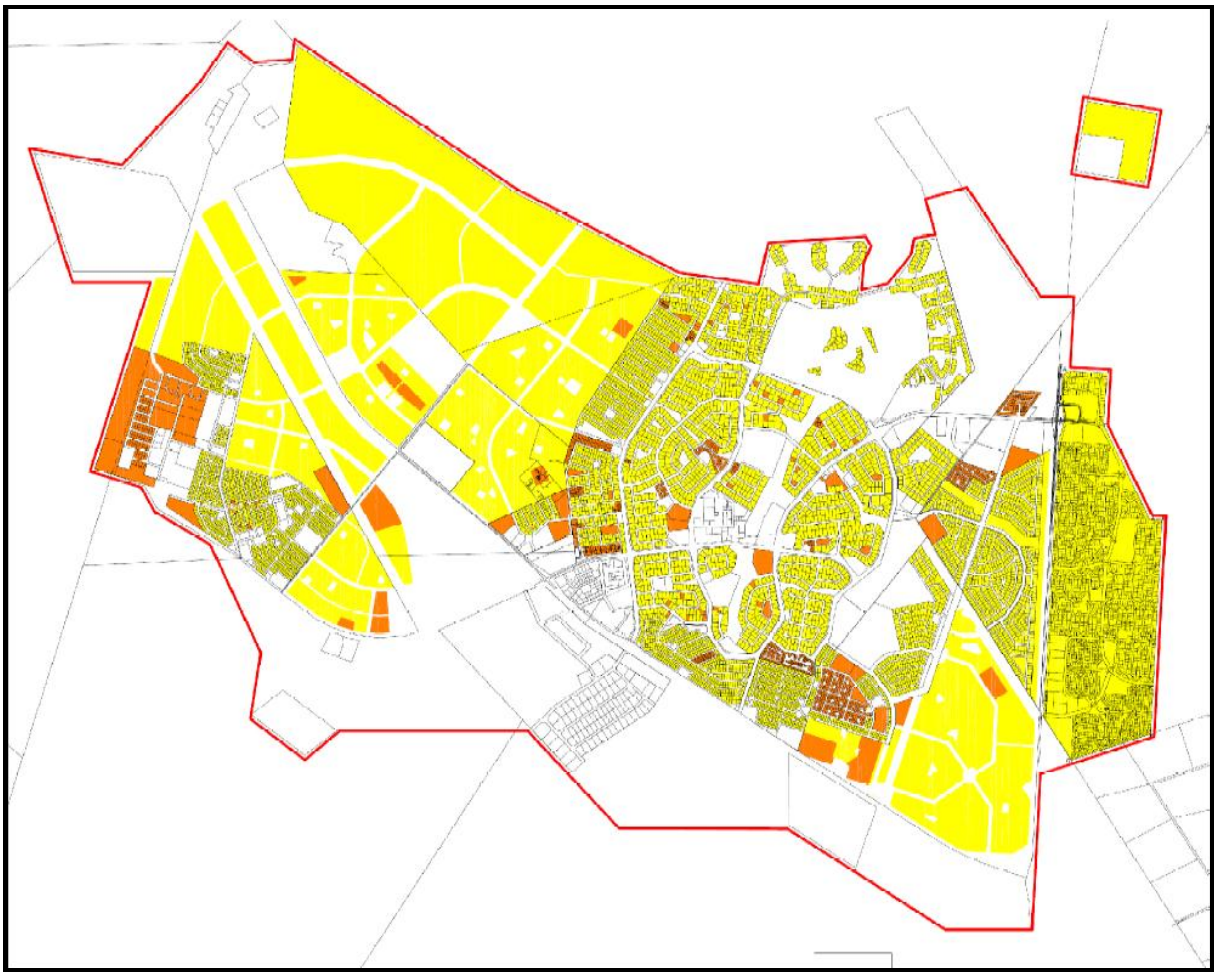


Figure 2.4: Current and future residential development of Kathu. Low densities indicated in yellow and higher densities indicated in orange. The red line on the image indicates the urban edge.

Business Areas

The SDF notes that business development in Kathu is expected to follow the existing trends as set out in previous spatial development frameworks. In this regard the development of the areas surrounding the Shell Garage in the north-eastern part of town, adjacent to the N14 is still expected to continue but should be restricted to the designated areas within the urban edge.

The development of the Kameeldoring CBD (Village Mall area) is set to continue growing into an important business centre within the Kathu area and the municipality as a whole. The development of the Village Walk Mall is considered a significant catalyst in this regard. This development is set to continue expanding in a south-western direction towards the proposed SIOC Business Park (Figure 2.5). The SDF also proposes that this node should become the future CBD of Kathu as a whole. This would also serve to strengthen the integration of Kathu and Sesheng.

Figure 2.5: Distribution of business areas in Kathu, indicated in blue

Industrial Areas

The current industrial area is situated on the southern side of town, between the R380 and the Kumba mining developments (Figure 2.6). The development is isolated from other land uses in town by an open space buffer towards the north, but is well linked in terms of road infrastructure. The SDF notes that the industrial area location in close proximity to the mining development is fitting given that these two sectors are closely related to one another. The SDF does not identify the need to additional industrial nodes at this stage.

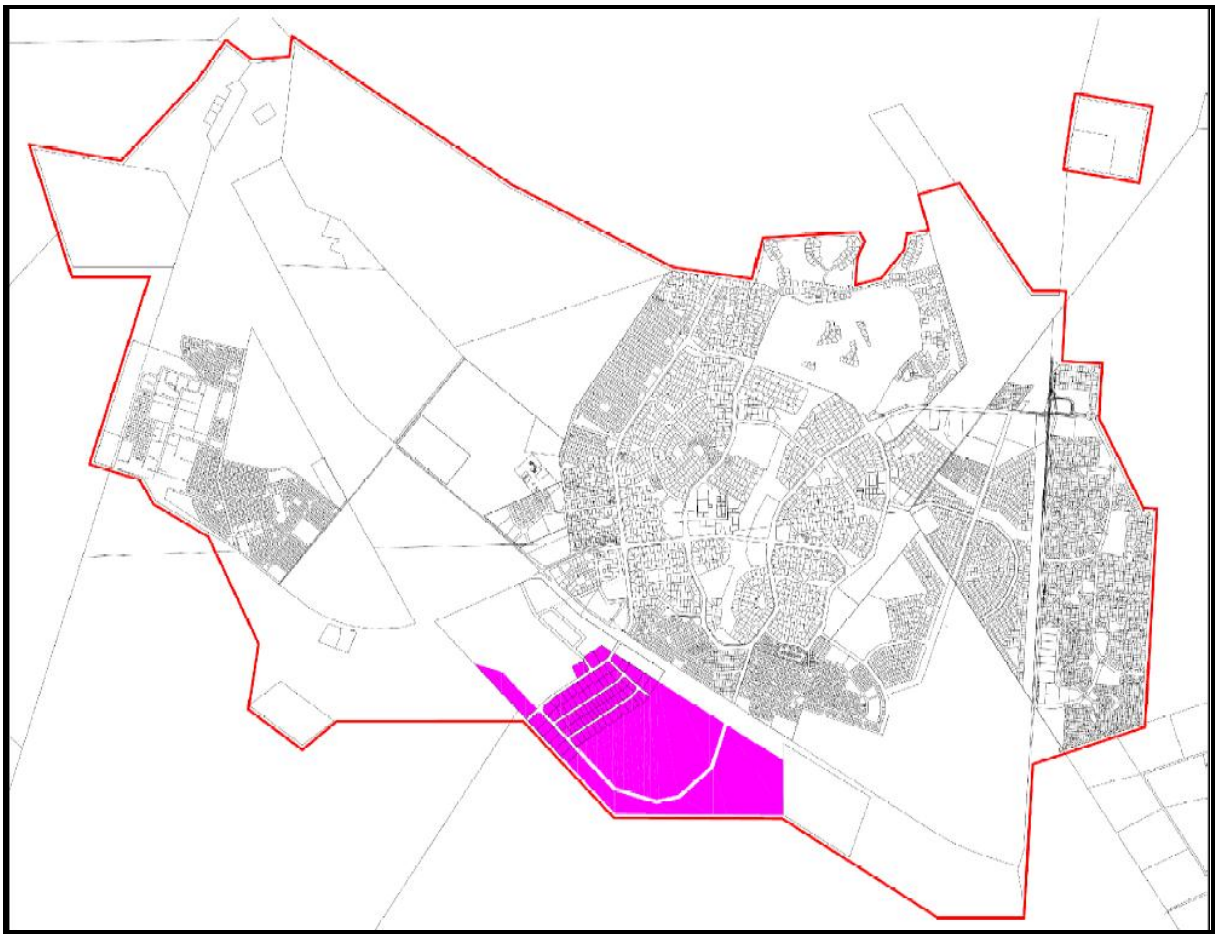


Figure 2.6: Location of industrial areas

Public Services and authority uses

Due to the growth of the Kameeldoring CBD (Village Mall area) and the significance of the R380/Henrik van Eck Way intersection the SDF identifies this area for the placement of new authority functions and buildings (Figure 2.7). The SDF views this area as the node for government functions given its visibility and accessibility.

Figure 2.7: Location of public buildings and facilities

Municipal Open Space System

The Metropolitan Open Space System (MOSS) includes a variety of uses with the aim to create an integrated system of public, recreational, agricultural and conservation spaces. Within the context of Kathu, the following categories of MOSS have been identified:

- Core conservation areas. These areas either have very high natural value or potential value. The conservation of these areas is critical to habitat preservation and any development and/or activity should be subject to strict environmental control (Dark Green areas)(Figure 2.8). These areas include the Kathu Forest, a recognised protected area in terms of environmental legislation. Protecting this space from urban pressure is therefore extremely important.
- High agricultural and natural potential. These areas exist where a need has been identified to protect areas from development pressures, especially in light of urban containment. Such areas may also have aesthetic potential or high agricultural value, and is generally comprises of agricultural land outside of the urban edge (Light Green areas)(Figure 2.8).

- Agricultural areas are those spaces, inside/outside of the urban edge, with specific agricultural potential, or which has been specifically set aside for agricultural development in the future. These areas need to be protected from the pressures of urban expansion for specific reasons (Yellow-Green areas))(Figure 2.8).
- Open Space Development. The most common form of MOSS found within the urban edge is probably these public and private open spaces (Dark Green areas)(Figure 2.8). In Kathu, private open space is found around the Kalahari Golf Estate where large tracts of land have been left vacant for golf course development and the preservation of camel thorn trees.

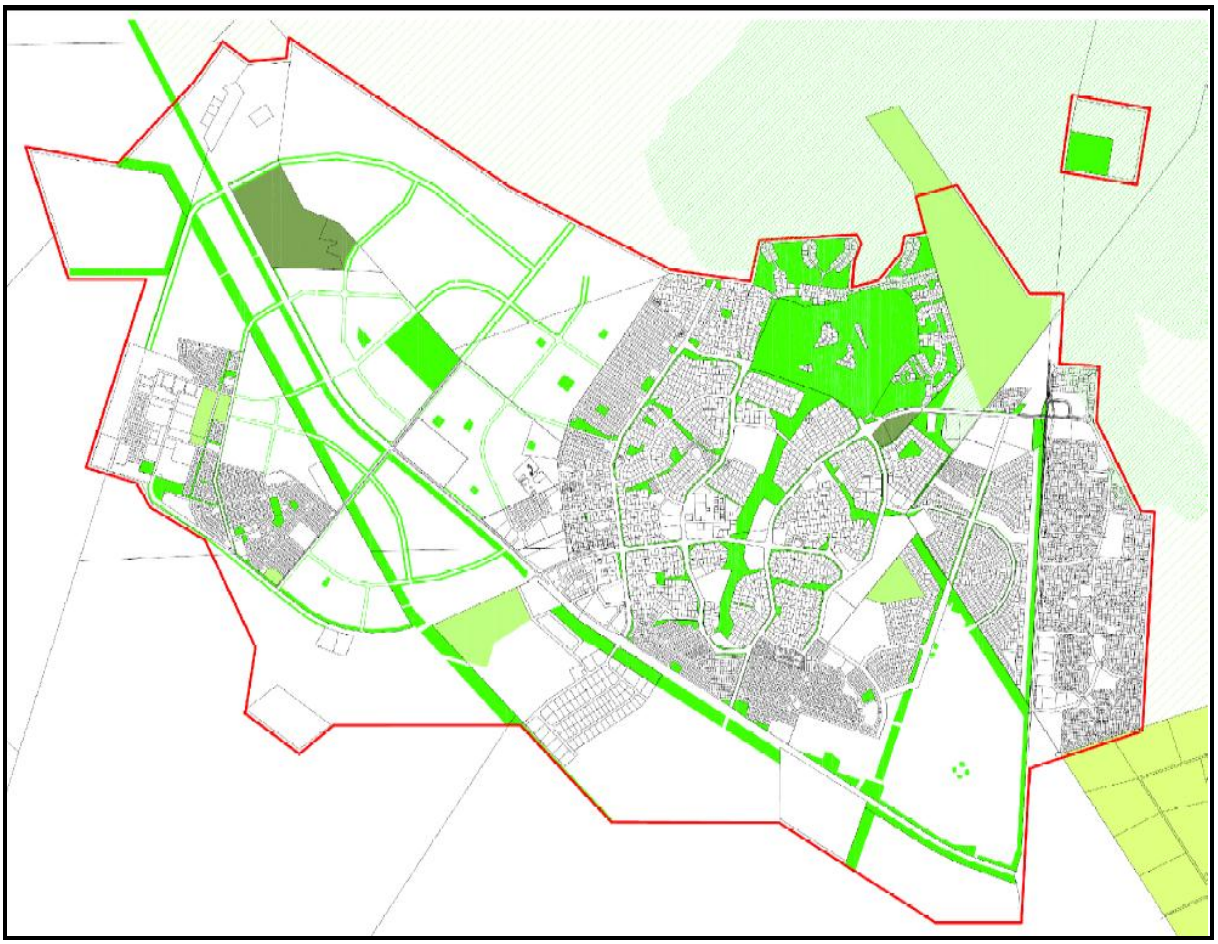


Figure 2.8: The Kathu MOSS, indicated in various shades of green representing different categories.

SECTION 3: OVERVIEW OF STUDY AREA

3.1 INTRODUCTION

Section 3 provides an overview of the study area with regard to:

- The administrative context;
- Economic context; and
- Demographic context.

3.2 ADMINSTRATIVE CONTEXT

The Gamagara Local Municipality (GLM) is one of three local municipalities that make up the John Taolo Gaetsewe District Municipality (JTGDM). The area derives its name from the dry bedded Gamagara River, which runs through the region and forms part of the Gariep River basin (Orange). There are four towns located in the GLM, namely, Kathu, including Mapoteng and Sesheng, Olifantshoek, Dibeng and Dingleton. Kathu serves as the administrative and economic centre of the GLM.

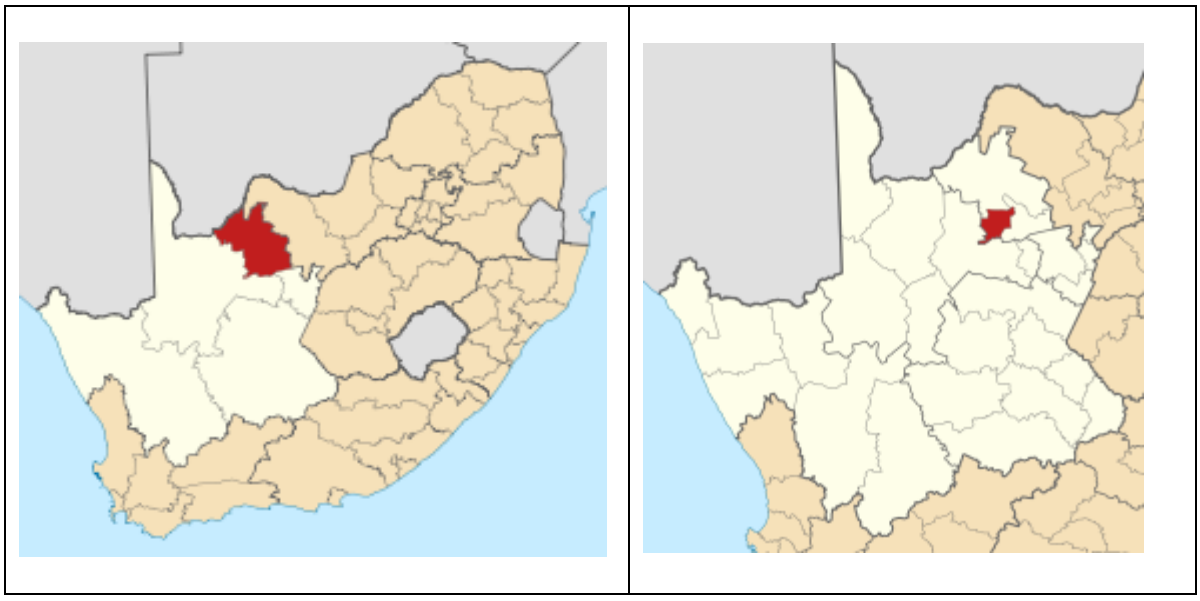


Figure 3.1: Location of John Taolo Gaetsewe District Municipality (left) and Gamagara Local Municipality (right) within the Northern Cape Province

3.1 SOCIO-ECONOMIC CONTEXT[5]

The proposed development is located in the Northern Cape Province, which is the largest province in South Africa and covers an area of 361,830 km^{2,} and constitutes approximately 30% of South Africa. The province is divided into five district municipalities (DM), namely, Frances Baard, Karoo, Namakwa, Siyanda, and John Taola Gaetsewe[6] DM, twenty-six Category B municipalities and five district management areas.

Population
Despite having the largest surface area, the Northern Cape has the smallest population of 1 145 861 (Census 2011) or 2.28% of the population of South Africa. The population has increased from 991 919 in 2001. Of the five districts, Frances Baard has the largest population of 382 086. The other districts and their respective populations are Siyanda (236 783), John Taola Gaetsewe (224 799), Pixley ka Seme (186 351) and Namakwa (115 1402). In terms of age, 30.1% are younger than 15 years of age and 64.2% fall within the economically active age group of 15-64 years of age (Census 2011). The female proportion makes up approximately 52.7% of the total with males making up the remaining 47.3% (Census 2011).

Education
Based on the information contained in the NCPSDF the average adult education attainment levels in the Northern Cape are lower than the adult education attainment levels of South Africa as a whole. Approximately 19.7% of the Northern Cape adults have no schooling in comparison to South Africa's 18.1%. The Northern Cape has the second lowest percentage of adult individuals (5.5%) that obtained a tertiary education in South Africa. The LED Strategy for the Northern Cape indicates that Pixley ka Seme has the lowest adult education attainment levels in the Northern Cape with 27.3% of the adult population having no form of schooling, whilst John Taolo Gaetsewe is second with 25.4% having no schooling. The highest number of the adult population with tertiary education (6.4%) is located in Frances Baard.

The Northern Cape also has the smallest portion (11.1%) of highly skilled formal employees in South Africa and Gauteng has the highest (14.3%). Linked to this the Northern Cape has the second largest portion of semi and unskilled formal employees in the country. A lack of skilled people often results in both the public and the private sector being unable to implement planned growth strategies and achieve the desired productivity, service delivery and service quality (NCSDF, 2012).

Economic development
Over the past 8 years there has been little to no variance in the Human Development Index (HDI) figures for the Northern Cape, indicating no increase or decrease in the overall standard of living[7]. This trend is unlikely to change in the foreseeable future, mainly due to

[5] The information in this section is based on the Northern Cape Provincial Growth and Development Strategy 2004-2014. This document does not include 2011 Census Data. Where possible data from the 2011 Census and the NCSDF 2012 has been used to update the information.
[6] Previously referred to as the Kalagadi DM
[7] The Human Development Index (HDI) was developed by the United Nations Development Programme (UNDP) based on the philosophy that the goal of development was to ensure that individuals live long, informed and comfortable lives. The HDI consists of three components: Longevity, which is measured by life expectancy at birth; Educational attainment, which is measured

the marginal economic base of the poorer areas, and the consolidation of the economic base in the relatively better-off areas. It is important to note that the HDI for the Northern Cape (0.55) is substantially below the South African figure of 0.72. The HDI of 0.55 displays a pattern of semi-development, and there is a definite inequality between the different population groups, with the Whites having a higher development lifestyle than the African or Coloured groups.

The percentage of Northern Cape people living below the poverty line has decreased from 40% in 1995 to 27% in 2011, while the poverty gap has decreased from 11% in 1995 to 8% in 2011 (Figure 3.2). The goal set by the province is to decrease the percentage of people living below the poverty line to 20% by 2015 NCSDF, 2012). The alleviation of poverty is one of the key challenges for economic development. Higher levels of economic growth are a key challenge for poverty eradication. Investment in people is pivotal to the eradication of poverty and inequality. Investment in people is also, to a large extent, about delivering social and economic infrastructure for education, welfare, health, housing, as well as transport and bulk infrastructure.

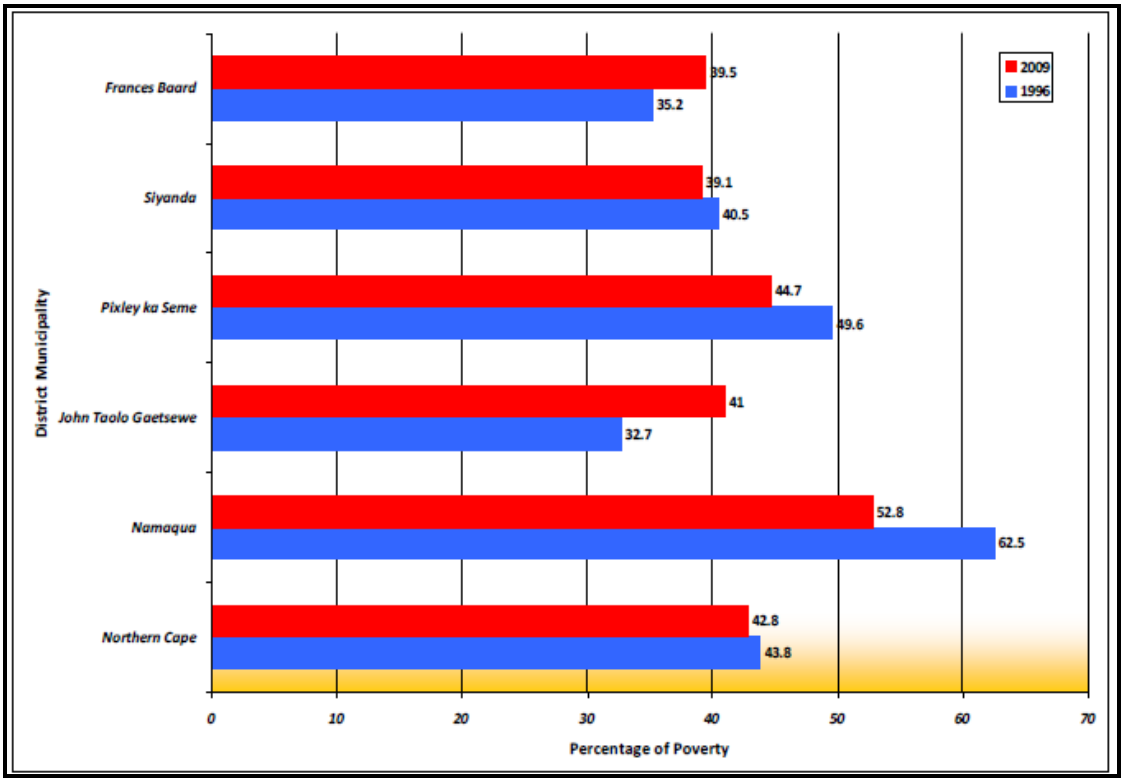


Figure 3.2: Percentage of people living in poverty in the Northern Cape (Source: Global Insight, 2009 as cited in the PGDS, July 2011).

by two education variables, namely adult literacy and combined gross primary, secondary and tertiary enrolment ratio, and; Income, which is measured by gross domestic product (GDP) per capita. Performance in each dimension is expressed as a value between 0 and 1, and the HDI index gives an internationally accepted measure of the wellness (quality of life) of the population of the area under consideration. The closer the HDI is to 1.0, the higher the level of "living condition". For example, Sweden has an index of 0.91 defined as high, South Africa at 0.72 is defined as middle and Lesotho at 0.47 is defined as low.

In terms of per capita income, the Northern Cape Province has the third highest per capita income of all nine provinces. However, income distribution is extremely skewed, with a high percentage of the population living in extreme poverty. The measure used in the PGDS document to measure poverty is the percentage of people living below the poverty line or breadline is used[8]. The poverty line indicates a lack of economic resources to meet basic food needs. Figure 3.3 indicates the percentage of household income below the poverty breadline of R800 in the Northern Cape Province, the highest being Karoo at 48% and the lowest being Namakwa at 36%.

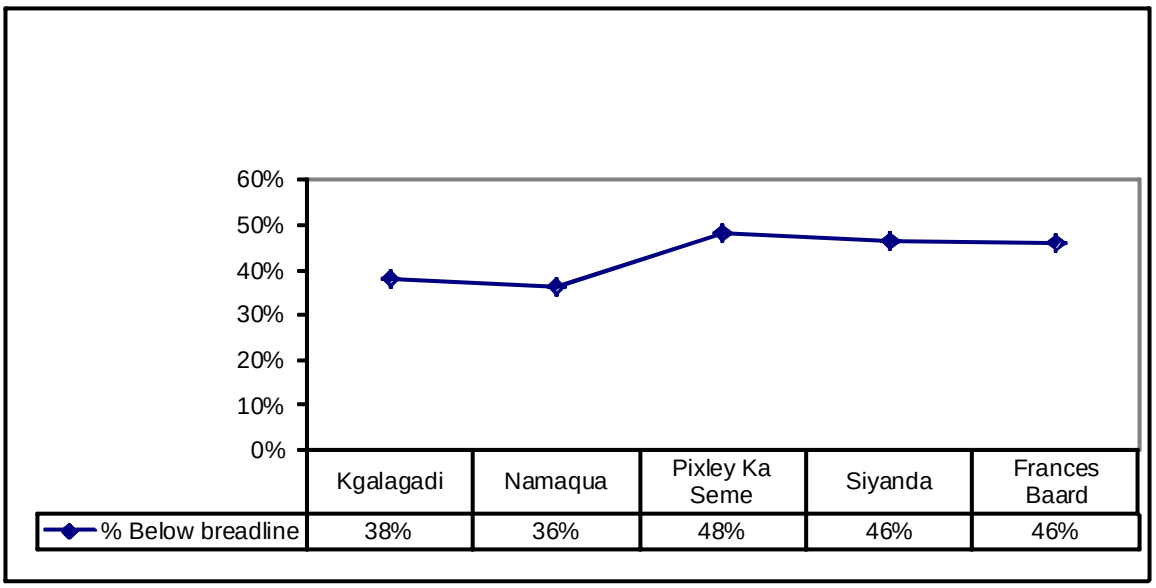


Figure 3.3: Percentage of household income below the poverty breadline by district (*Source: Northern Cape PGDS)*

Economic sectors

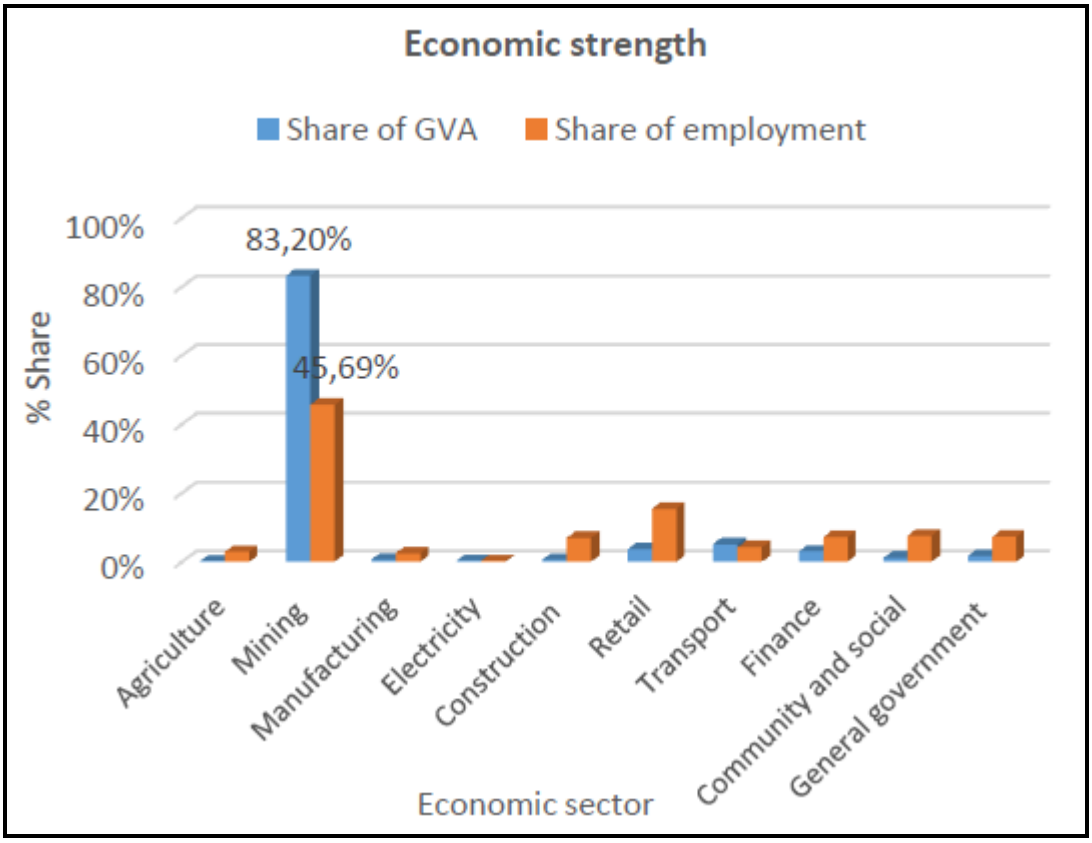
The Northern Cape economy has shown significant recovery since 2000/2001 when it had a negative economic growth rate of -2.5% (LED Strategy). The provincial economy reached a peak of 3.7% in 2003/2004 and remained the lowest of all provinces. The Northern Cape is the smallest contributing province to South Africa's economy (only 2% to South Africa GDP per region in 2007).

The mining sector is the largest contributor to the provincial GDP, contributing 28.9% to the GDP in 2002 and 27.6% in 2008. The mining sector is also important at a national level. In this regard the Northern Cape produces approximately 37% of South Africa's diamond output, 44% of its zinc, 70% of its silver, 140% of its iron-ore, 93% of its lead and 99% if its manganese.

Mining is also the dominant economic sector in GLM and contributed to more than 83.20% of the GVA of the municipality (Figure 3.4). The sector also employs more than 46.69% of the economically active population in the GLM (Figure 3.4). All the other economic sectors

[8] In terms of the poverty line, a person is considered poor if his or her consumption or income level falls below some minimum level necessary to meet basic needs. The minimum level is usually called the poverty line. In South Africa the poverty income level is set at R800/month.

contribute less than 16% each of the GVA of Gamagara LM. Mining is also the key sector in the JTGSM, contributing 49.6% to the JTGDM's GDP in 2007, followed by the government services sector (12.6%), the trade sector (9.1%), and the finance and business services (7.7%). The JTGDM and GLM are therefore both heavily dependent on mining.



Source: Gamagara Local Municipality: Municipal Profile. Developed by i@Consulting (Pty) Ltd on behalf of the Housing Development Agency - 2014

Figure 3.4: Key sectors in the Gamagara Local Municipal economy

The agriculture and agri-processing sector is also a key economic sector. Approximately 2% of the province is used for crop farming, mainly under irrigation in the Orange River Valley and Vaalharts Irrigation Scheme. Approximately 96% of the land is used for stock farming, including beef cattle and sheep or goats, as well as game farming. The agricultural sector contributed 5.8% to the Northern Cape GDP per region in 2007 which was approximately R1.3 billion, and it employs approximately 19.5% of the total formally employed individuals (NCSDF, 2012). The sector is experiencing significant growth in value-added activities, including game-farming. Food production and processing for the local and export market is also growing significantly. The main agricultural produce of the Northern Cape include:

- High-value horticultural products such as table grapes, sultanas and wine grapes, dates, nuts, cotton, fodder, and cereal crops are grown along the Orange River.
- Wheat, fruit, groudnuts, maize and cotton in the Vaalharts irrigation scheme in the vicinity of Hartswater and Jan Kempdorp.
- Vegetables and cereal crops at the confluence of the Vaal River and the Orange Rivers in the vicinity of Douglas.

- Wool, mohair, karakul, Karoo lamb, ostrich meat and leather, and venison throughout most of the province.

Economic development in the Northern Cape is hampered by the vastness of the area and the remoteness of its communities in rural areas. Development is also hampered by the low education and skills levels in the province. As a result unemployment in the Northern Cape presents a major challenge.

Employment
Unemployment in the Northern Cape presents a major challenge. While the unemployment level in the Northern Cape is lower than the national average, the figure for the not economically-active population is higher than the average for South Africa. In terms of regions the Pixley ka Seme has the highest unemployment rate (21.6%) in the province followed by Frances Baard at 19.19%. Namakwa has the lowest unemployed rate (13.4%). In terms of key sectors, the community and social services sector is the largest employer in the province at 29%, followed by the agricultural sector (16%), wholesale and retail trade (14%), finance (8%) manufacturing (6%) and mining (6%), etc. (Figure 3.5).

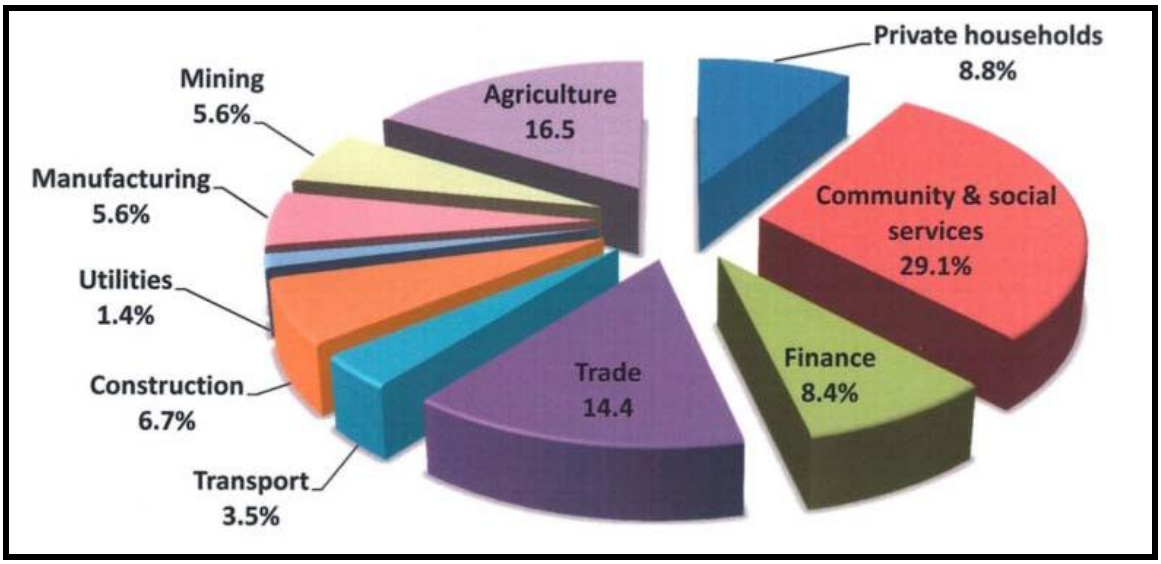


Figure 3.5: Employment by Economic Sector and Industry (Source: Statistics South Africa 2012).

3.3 DEMOGRAPHIC PROFILE

3.1.1 Demographic overview

As indicated in Table 3.1, the population of the JTGDM increased by from 191 539 in 2001 to 224 799 in 2011, which represents an increase of ~ 17.4%. The population of the GLM almost doubled, increasing from 23 202 in 2001 to 41 617 in 2011 (~ 79%) over the same period. This represents an average annual increase of ~ 1.6% and 5.84% for the JTGDM and GLM respectively. The increase in the population in the JTGDM and GLM was linked to an increase in the 15-64 age group. This is linked to the growth in the mining sector and the influx of workers to the area over this ten year period. The decrease in the less than 5 year age group reflects a situation where the majority of job seekers in the 15-64 age group are

single males who have not settled down and started a family in the area. As expected, the number of households in both the JTGDM and GLM increased between 2001 and 2011, more than doubling in the GLM. The size of the JTGDM decreased from 4 to 3.5, while the household size in the GLM remained the same at 3.4.

The majority of the population is in the GLM in 2011 was Black African (55%), followed by Coloureds (28.7%), Whites (14%) and Indian/Asian (0.6%)(Census 2011). The dominant language spoken is Afrikaans (51.6%), followed by Setswana (32.3%), English (3.5%), IsiZulu (1.2%) and IsiXhosa (1.1%).

Table 3.1: Overview of key demographic indicators for the JTGDM and GLM

	JTGDM		GLM	
ASPECT	**2001**	**2011**	**2001**	**2011**
Population	191 539	224 799	23 202	41 617
% Population <15 years	38.1	34.0	30.2	25.5
% Population 15-64	57.1	61.2	66.3	71.9
% Population 65+	4.8	4.8	3.5	2.6
Households	44 218	61 331	5 306	10 808
Household size (average)	4.0	3.5	3.4	3.4
Formal Dwellings %	70.2%	76.6%	84.3%	74.4%
Dependency ratio per 100 (15-64)	75.1	63.3	50.9	39.0
Unemployment rate (official) - % of economically active population	42.5%	29.7%	27.1%	17.7%
Youth unemployment rate (official) - % of economically active population 15-34	53.3%	37.2%	37.2%	22.4%
No schooling - % of population 20+	25.7%	14.6%	21.4%	10.5%
Higher Education - % of population 20+	3.3%	4.1%	9.6%	12.6%
Matric - % of population 20+	14.2%	20.5%	23.0%	26.5%

Source: Compiled from StatsSA Census 2011 Municipal Fact Sheet

The dependency ratio in both the JTGDM and GLM decreased from 75.1 to 63.3 and 50.9 to 39.0 respectively. The decrease represents a positive socio-economic improvement by indicating that there are a decreasing number of people dependent the economically active 15-64 age group. The age dependency ratio is the ratio of dependents, people younger than 15 or older than 64, to the working, age population, those ages 15-64. However, the dependency ratio for the JTGDM remains higher than the ratio for the Northern Cape as whole, which was 55.7 in 2011. The dependency ratio for the GLM was significantly lower than the Northern Cape and National average. This reflects the key role played by the mining sector in the GLM.

In terms of percentage of formal dwellings, the number of formal dwellings in the JTGDM increased from 70.2% in 2001 to 76.6% in 2011. The number of formal houses in the GLM decreased from 84.3% to 74.4% for the same period. This represents a negative socio-economic movement for the GLM and reflects the challenges faced by the GLM associated with the influx of workers and job seekers to the area. This figure also indicates that there is likely to be a housing backlog in GLM.

Employment
The official unemployment rate in both the JTGDM and GLM decreased for the ten year period between 2001 and 2011. In the JTGDM the rate fell from 42.5% to 29.7%, a decrease of 12.8%. In the GLM the unemployment rate decreased from 27.1% to 17.7%, a decrease of 9.4%. Youth unemployment in both the JTGDM and GLM also dropped over the same period. Youth unemployment in the both the JTGDM is still high however (~ 37.2%) compared to the GLM (22.4%). However, the 2015-2016 unemployment levels in the JTGDM and GLM are likely to be higher than the figure recorded in the 2011 Census. This is due to the significant decrease in the iron ore price over the last 6 months and the associated job losses in the mining sector.

Household income
Based on the data from the 2011 Census, 10.1 % of the population of the GLM have no formal income, 1.9% earn between 1 and R 4 800, 3.9% earn between R 4 801 and R 9 600 per annum, 11.2% between R 9 601 and 19 600 per annum and 16.8% between R 19 600 and R 38 200 per annum (Census 2011). The poverty gap indicator produced by the World Bank Development Research Group measures poverty using information from household per capita income/consumption. This indicator illustrates the average shortfall of the total population from the poverty line. This measurement is used to reflect the intensity of poverty, which is based on living on less than R3 200 per month for an average sized household. Based on this measure almost half (43.9%) of the GLMs population live close to or below the poverty line. This figure is likely to be linked to the influx of job seekers to the area and the inability of all of them to secure work. The significant decrease in the iron ore price over the last 6 months and the associated job losses is likely to exacerbate the situation. This is also likely to result in an increasing number of individuals and households who are likely to be dependent on social grants. The low income levels also result in reduced spending in the local economy and less tax and rates revenue for the district and local municipality.

Education
The education levels at both the district and local municipal level also improved, with the percentage of the population over 20 years of age with no schooling in the JTGDM decreasing from 25.7% to 14.6%. For the GLM the decrease was from 21.4% to 10.5%. The percentage of the population over the age of 20 with matric also increased in both the JTGDM and GLM, from 14.2% to 20.5% in the JTGDM and 23.0% to 26.5% in the GLM. However, despite this increase the figure for the JTGDM and GLM are still below the national (28.4%) levels in 2011. The figure for the JTGDM is also below the provincial level (22.7%)

3.1.2 Municipal services

As indicated in Table 3.2, the municipal service levels in the JTGDM and GLM all improved over the period 2001 to 2011. This represents a socio-economic improvement. However, the service levels in the JTGDM are significantly lower than both the national and provincial averages. The national averages for each of the relevant indicators are 57% (access to flush toilet), 62% (weekly waste removal), 46.3% (piped water inside dwelling) and 84.7% for electricity. The figures for the GLM are all higher than the national and provincial averages. This reflects the contribution of the mining sector to the provision of services and socio-economic development of the area.

Table 3.2: Overview of access to basic services in the JTGDM and GLM

Municipal Services	JTGDM		GLM	
	2001	2011	2001	2011
% households with access to flush toilet	21.5	26.2	70.7	77.6
% households with weekly municipal refuse removal	23.1	26.0	89.0	90.6
% households with piped water inside dwelling	16.8	22.7	61.5	59.1
% households which uses electricity for lighting	39.0	81.8	94.0	87.9

Source: Compiled from StatsSA Census 2011 Municipal Fact Sheet

SECTION 4: ASSESSEMENT OF KEY SOCIAL ISSUES

4.1 INTRODUCTION

Section 4 provides an assessment of the key social issues identified during the study. The identification of key issues was based on:

- Review of project related information, including other relevant specialist studies;
- Interviews with key interested and affected parties;
- Experience of the author with the area and local conditions;
- Experience with other mixed used development projects..

The assessment section is divided into:

- Assessment of compatibility with relevant policy and planning context ("planning fit";
- Assessment of social issues associated with the construction phase;
- Assessment of social issues associated with the operational phase;
- Assessment of the "no development" alternative.

As indicated in Section 1.4, three layout alternatives and the no-development alternative were identified in the Scoping Report and Plan of Study (EnviroAfrica, March 2015). During the Scoping Phase Alternative 1 and 2 were found to be unsuitable due to the impact on biophysical environment. The SIA assess Alternative 3 (the preferred alternative) and the no-development option. The assessment and impact ratings provided below therefore apply to Alternative 3.

4.2 POLICY AND PLANNING FIT

The key policy and planning documents pertaining to the proposed development include:

- Northern Cape Provincial Growth and Development Strategy (2011);
- Northern Cape Provincial Spatial Development Framework (2012);
- John Taolo Gaetsewe District Municipality Integrated Development Plan (2014-2016);
- Gamagara Local Municipality Integrated Development Plan (2015-2017); and
- Gamagara Spatial Development Plan (2011).

At a provincial level the NCPGDS highlights the importance of the mining sector and the need to develop infrastructure for economic growth and social development. In terms of the PSDF the proposed development is located within a spatial planning category defined as an Urban Related Area (D). At a municipal level the JTGDM SDF identifies six development strategies. Of relevance to the proposed development are:

- Development Strategy 1**:** The continued expansion of the mining industry; and
- Development Strategy 2**:** The rejuvenation and expansion of the economies of Kuruman and Kathu.

The Gamagara SDF notes that a key spatial development objective (Objective 11) is to manage land use and settlement expansion in Kathu and Seshen, and amalgamate the two towns into a single Regional Node. The proposed SIMS Mixed Use Development supports this vision and the spatial objective of integrating Kathu and Sesheng. The development is also located within the Kathu Urban Edge. The area has therefore been identified a suitable for infill development. The proposed SIMS Mixed Use Development is therefore in keeping with and supports the relevant land use policies and plans for the site and surrounds.

4.3 SOCIAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The key social issues affecting the construction phase include:

Potential positive impacts

- Creation of business and employment and opportunities for the local economy.

Potential negative impacts

- Risks to social and family networks posed by construction workers;
- Safety and security risks posed by construction workers;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

4.3.1 Creation of local business and employment and opportunities

The proposed SIMS Mixed Used Development will involve the development of ~ 1 439 units. This will be made up of 538 middle-income, single residential properties, 851 middle to low-income group housing properties, four properties for the development of flats, six commercial properties, twenty nine open space properties, six sites for places of worship, two sites for education and two properties for municipal use.

Based on the information provided by Mr Jimmy Walker, from Sishen Iron Ore, the average cost of the middle income units would be ~ R 1.8-2 million (2016 rand values). This includes purchase of the land, services and building costs. The middle income units would be 120-140 m^2 consist of three to four bedrooms and a garage. The establishment costs of the lower to middle income units would be between R 500 000 and R 800 000 (2016 rand values). These units would range in size between 50 to 100 m^2 depending on the number of bedrooms.

Based on this information the capital expenditure associated with residential component of the development would be ~ R2.5 billion (2016 rand values). This total would be made up of:

- R1 billion, associated with 538 middle income units at an average cost of R 2 million per unit;
- R 1.5 billion, associated with 851 middle-to-lower income units at an average cost of R 650 000 per unit;

The cost of establishing the bulk services, including roads, is estimated to be in the region of R 150 million. The total capital expenditure associated with the residential component of the development is therefore estimated to be in the region of R 2.6 billion (2016 rand

values). This total does not include the costs associated with the development of 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use. At this stage in the project it is not possible to provide an accurate estimate of the capital expenditure costs associated with these components. However, when these costs are included the total capital expenditure associated with the fully developed SIMS Mixed Use Development is likely to exceed 3 billion (2016 rand values).

The majority of work during the construction phase is likely to be undertaken by contractors who will employ local builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in Kathu and the GLM. The majority of the building materials associated with the construction phase is likely to be sourced from locally based suppliers in Kathu and the GLM. This will represent a positive injection of capital into the local economy of the GLM and the Northern Cape as a whole.

The project should also be viewed within the context of the slump in the construction and building sector in the wake of the 2008 global financial crisis and the drop on the iron ore price over the last 12 months. The proposed development would therefore represent a significant opportunity for the local construction and building sector in the GLM and the Northern Cape Province.

Employment opportunities

Middle income units (538 units)
Assumed that each unit would take ~ 4 months to construct and employ 12 people (including sub-contractors) at any given time. Assuming that the 538 middle income units are developed over a five year period this would equate to ~ 107 units per annum. The construction of this component of the development therefore has the potential to create in the region of 1 284 construction related employment opportunities per annum over a five year period.

Middle to lower income units (851 units)
Assumed that each unit would take ~ 3 months to construct and employ 10 people (including sub-contractors) at any given time. Assuming that the 851 units are developed over an eight year period this would equate to ~ 106 units per annum. The construction of component therefore has the potential to create in the region of 1 060 construction related employment opportunities per annum over an eight year period.

Based on the above assumptions, and assuming that the construction of the middle and lower income components commence at the same time, the total number of employment opportunities over the first five years would be in the region 2 344 per annum. However, it is likely that a number of workers are likely to work on more than one residential unit at a time. For the purposes of the assessment it is therefore assumed that 30% of the workers employed will work on more than one residential unit at a time. The total number of employment opportunities created will therefore be ~ 1 634 per annum over a five year period. Of this total 654 (40%) would be low skilled workers, 654 (40%) semi-skilled artisans and 326 (20%) would be skilled builders and sub-contractors.

The number of employment opportunities for the remaining three years associated with the completion of the middle to lower income component would be ~ 742 per annum (assuming that 30% of the workers employed will work on more than one residential unit at a time). Of

this total 297 (40%) would be low skilled workers, 297 (40%) semi-skilled artisans and 148 (20%) would be skilled builders and sub-contractors.

For the purposes of calculating the total number of employment opportunities it is assumed that 80% of the workers employed at the outset of the construction phase will be employed for the duration of the project. The proposed development will therefore not create an additional 1 634 new jobs every year. The total number of employment opportunities created by the residential component of the development would be ~ 1 907 over the first five years and 891 for the final three years. The total number of employment opportunities over the total eight year period will therefore be in the region of 2 800. Of this total ~ 1 120 (40%) would be available to low skilled workers, ~ 1 120 (40%) to semi-skilled workers and 560 (20%) to skilled workers.

The majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the community. This would represent a significant opportunity for members of the local community. In addition to the residential components the proposed development will also include the development of 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use. All of these components will create employment and wage opportunities over and above the estimated ~ 2 800 employment opportunities created by the residential component.

The majority of employment opportunities associated with the construction phase is frequently regarded as temporary employment. However, while these jobs may be classified as "temporary" it is worth noting that the people employed in the construction industry by its very nature rely on "temporary" jobs for their survival. In this regard "permanent" employment in the construction sector is linked to the ability of construction companies to secure a series of temporary projects over a period of time. Each development, such as the proposed development, therefore contributes to creating "permanent" employment in the construction sector.

Wage bill

The annual wage bill over the first five year period would be in the region of R 222 million (rand values). The annual wage bill for the final three year period would be in the region of R 101 million (2016 rand values). This is based on a monthly wage of R 6 000 for low-skilled workers, R 10 000 for semi-skilled workers and R 25 000 for skilled workers. The total wage bill over eight years would therefore be in the region of R 1.4 billion (2016 rand values). Of this total ~ R 298 million (20%) would be earned by low skilled workers, R 498 (33%) million by semi-skilled workers, and R 705 million (47%) by skilled workers. Low and semi-skilled workers would therefore earn ~ R 796 million (2016 rand values)(53%) of the total wage bill over the assumed eight year construction phase.

As indicated above, the majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the local community. A significant portion of the total wage bill will therefore be earned by HD members from the local area. The majority of the wage bill will also be spent in the local economy and will create significant opportunities for local businesses in Kathu and surrounding towns. This benefit will extend over the assumed ~ 5-8 year construction phase. Given the economic down-turn in the mining sector over the last 12 months this would represent a significant economic benefit and opportunity.

Business opportunities
As indicated above the the proposed development will represent a positive benefit for the local construction and building sector in Kathu and the GLM. The sector of the local economy that will also benefit from the proposed development is the local service industry. The potential opportunities for the local service sector would be linked to accommodation, catering, cleaning, transport, etc. associated with the meeting the needs of both local and non-local construction workers over a period of eight years. The hospitality industry in the area will also likely to benefit from the provision of accommodation and meals for professionals (engineers, quantity surveyors, project managers, product representatives etc.) and other (non-construction) personnel involved on the project. Experience from other large construction projects indicates that the potential opportunities are not limited to on-site construction workers but also to consultants and product representatives associated with the project.

The implementation of the proposed enhancement measures listed below would also enable the establishment of the proposed development to support co-operation between the public and private sectors which would support local economic development in the GLM.

Table 4.1: Impact assessment of employment and business creation opportunities during the construction phase

Nature: Creation of employment and business opportunities during the construction phase		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly probable (4)	Definite (5)
Significance	Medium (55)	High (60)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Opportunity to up-grade and improve skills levels in the area.		
Residual impacts: Improved pool of skills and experience in the local area.		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the creation of employment and business opportunities and the provision of housing and community facilities.

Recommended enhancement measures
In order to enhance local employment and business opportunities associated with the construction phase of the project the following measures should be implemented:

- Where reasonable and practical the proponent should appoint local contractors and implement a 'locals first' policy, especially for semi and low-skilled job categories. Where feasible, efforts should be made to employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria;
- The proponent should liaise with the GLM with regards the establishment of a database of local companies, specifically BBBEE companies, which qualify as potential service providers (e.g. construction companies, catering companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction. These companies should be notified of the tender process and invited to bid for project-related work;
- Where feasible, the proponent should assist local BBBEE companies to complete and submit the required tender forms and associated information. While preference to appointing local companies is recommended, it is recognised that a competitive tender process may not guarantee the employment of companies for the construction phase.
- An accredited training and skills development programme aimed at maximising to opportunity for local workers to be employed for the low and semi-skilled positions should be initiated prior to the initiation of the construction phase. The aim of the programme should be to maximise employment opportunities for members of the local community. In this regard the programme should be aimed at community members from Kathu and other towns in the GLM. The programme should be developed in consultation with the Department of Labour and the GLM. The recommended targets are 80% and 60% of low and semi-skilled positions respectively should be taken up by local community members;
- The recruitment selection process for the training and skills development programme should seek to promote gender equality and the employment of women wherever possible;
- The GLM and relevant community representatives should be informed of the final decision regarding the project and the potential job opportunities for locals and the employment procedures that the proponent intends following for the construction phase of the project;
- The GLM, in conjunction with the local business sector and representatives from the local hospitality industry, should identify strategies aimed at maximising the potential benefits associated with the project.

4.3.2 Risk posed to family and social networks

Experience for other, typically large construction projects is that the presence of construction workers can pose a potential risk to local communities located in the vicinity of the site. While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can affect the local community. In the case of local communities the most significant negative impact is associated with the disruption of existing family structures and social networks. This risk is linked to the potential behaviour of male construction workers, including:

- An increase in alcohol and drug use;
- An increase in crime levels;
- An increase in teenage and unwanted pregnancies;
- An increase in prostitution; and
- An increase in sexually transmitted diseases (STDs).

The impact on individual members of the community who are affected by the behavior of construction workers has the potential to be high, specifically if they are affected by crime

and STDs etc. The potential risk posed by construction workers to individuals cannot be completely eliminated. The focus of the assessment is therefore on the potential impact on the community as whole.

Based on the experience of the consultants the potential impacts on local communities associated with construction workers are typically associated with projects located in rural areas or small towns where large numbers of construction workers from outside the area are employed. Given the location of the proposed development the majority, if not all, of the low and semi-skilled workers are likely to reside locally. As such they will return to their houses on a daily basis. Based on this the overall impact of construction workers on the local community with mitigation is likely to be low. In addition, the presence of construction and contract workers in Kathu is not a new phenomenon. Local communities in the area are therefore used to the presence of workers from outside the town. While the potential threat posed by construction workers to the community as a whole is likely to be low, the impact on individual members who are affected by the behavior of construction workers has the potential to be high, specifically if they are affected by STDs etc.

Table 4.2: Assessment of impact of construction workers on local communities

Nature: Potential impacts on family structures and social networks associated with the presence of construction workers		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Medium Term for community as a whole (3)	Medium Term for community as a whole (3)
Magnitude	Low for the community as a whole (4)	Low for community as a whole (4)
Probability	Probable (3)	Probable (3)
Significance	Low for the community as a whole (27)	Low for the community as a whole (24)
Status	Negative	Negative
Reversibility	No in case of HIV and AIDS	No in case of HIV and AIDS
Irreplaceable loss of resources?	Yes, if people contract HIV/AIDS. Human capital plays a critical role in communities that rely on farming for their livelihoods	
Can impact be mitigated?	Yes, to some degree. However, the risk cannot be eliminated	
Mitigation: See below		
Cumulative impacts: Impacts on family and community relations that may, in some cases, persist for a long period. Also in cases where unplanned / unwanted pregnancies occur or members of the community are infected by an STD, specifically HIV and or AIDS, the impacts may be permanent and have long term to permanent cumulative impacts on the affected individuals and/or their families and the community. The development of other development projects in the area may exacerbate these impacts.		
Residual impacts: Community members affected by STDs etc. and associated impact on local community and burden services etc.		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the creation of employment and business opportunities and the provision of housing and community facilities.

Recommended mitigation measures
The potential risks associated with construction workers can be mitigated. The aspects that should be covered include:

- The developer should seek as far as is possible to appoint a local or regional contractor/s from the local area for the bulk services and housing contracts;
- The developer in consultation with the appointed contractor/s should implement an HIV/AIDS awareness programme for all construction workers at the outset of the construction phase;
- The movement of construction workers on and off the site should be closely managed and monitored by the contractors. In this regard the contractors should be responsible for making the necessary arrangements for transporting workers to and from site on a daily basis;
- No construction workers, with the exception of security personnel, should be permitted to stay overnight on the site.

4.3.3 Safety, security and potential for increased crime

The presence of construction workers in the area has the potential to impact on the safety and security of local residents in the area, specifically the residents of Mapoteng and the residential area located to the north of the Kathu Village Mall. Based on experience the presence of construction workers can result in an increase in petty crime and theft. This is linked to the ability of the construction workers to monitor the movements of local residents and take advantage of their absence from the property. The majority of the crime is therefore opportunistic and linked to theft and house break-ins.

Access to the site for workers and construction vehicles is likely to be from the south and west for both the northern and southern section of the site. Access is also likely to be via the R 380 which bisects the site. Based on the findings of the SIA the significance of the potential safety and security risks with mitigation is rated as low negative.

Table 4.3: Assessment of risk posed by construction workers on safety and security

Nature: Potential safety and security risk posed by presence of construction workers on site		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (33)	Low (24)
Status	Negative	Negative
Reversibility	No, if local residents are murdered or physically harmed	No, if local residents are murdered or physically harmed

Irreplaceable loss of resources?	Yes, if family member is murdered	Yes, if family member is murdered
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts: No		
Residual impacts: Include psychological effects associated with attacks or crime related events that may last for many years.		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the creation of employment and business opportunities and the provision of housing and community facilities.

Recommended mitigation measures
The developer and or contractors cannot be held responsible for the off-site, after-hours behaviour of all construction employees. However, the contractors appointed by the developer should ensure that all workers employed on the project are informed at the outset of the construction phase that any construction workers found guilty of theft will be dismissed and charged. All dismissals must be in accordance with South African labour legislation. In addition, the following mitigation measures are recommended. These recommendations apply to the construction of the bulk infrastructure on the site and the establishment of housing:

- No construction workers, with the exception of security personnel, should be allowed to stay on site overnight;
- Building contractors appointed by the developer must ensure that workers are transported to and from the site on a daily basis;
- Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays;
- No work should be permitted on Sundays and Public Holidays.

4.3.4 Impact of construction related activities

Construction related activities can impact negatively on adjacent landowners and communities. The typical impacts include dust, noise and safety. As indicated above access to the site for workers and construction vehicles is likely to be from the south and west for both the northern and southern section of the site. Access is also likely to be via the R 380 which bisects the site. The movement of construction vehicles along the R 380 and the access road to Mapoteng will create potential dust and safety impacts for other road users, specifically pedestrians, including school children walking to and from school.

Site clearing for the development will also increase the risk of dust, specifically during dry, windy summer months. In this regard Mapoteng, which is located to the south west of the site, the Kathu Village Mall and residential areas to the north of the mall, and the business and industrial node located to the south of the mall, would potentially be impacted by dust and noise impacts associated with construction related activities. The recommended mitigation measures listed below should be implemented to address these impacts. With mitigation the impact is rated as low negative.

Table 4.4: **Assessment of the impacts associated with construction activities**

Nature: Potential noise, dust and safety impacts associated with construction related activities and the movement of construction traffic to and from the site		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (33)	Low (24)
Status	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Potential damage to road result in higher maintenance costs for vehicles of other road users. The costs will be borne by road users who were not responsible for the damage.		
Residual impacts: Reduced quality of road surfaces and impact on road users		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the creation of employment and business opportunities and the provision of housing and community facilities.

Recommended mitigation measures
The potential impacts associated with construction related activities and heavy vehicles can be effectively mitigated. The aspects that should be covered include:

- The proposed development should be phased and site clearing confined to the specific areas under construction;
- Dust suppression measures must be implemented when site clearing takes place, such as wetting of exposed areas;
- Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays. No work should be permitted after 13h00 on Saturdays and on Sundays or Public Holidays;
- Drivers should be made aware of the potential risk posed to school children and other road users along the access road linking Mapoteng and Kathu and the R 380. All drivers must ensure that speed limit of 60 km per hour is enforced;
- The movement of heavy construction vehicles along the Mapoteng and Kathu access road and the R 380 should be timed to avoid peak traffic hours;
- Dust suppression measures must be implemented to reduce impacts associated with the movement of construction vehicles, including wetting of gravel roads and ensuring that

vehicles used to transport sand and building materials are fitted with tarpaulins or covers;
- All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits.

4.4 SOCIAL IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

The key social issues affecting the operational phase include:

Potential positive impacts
- Provision of housing, community facilities and open spaces;
- Creation of employment and business opportunities;
- Broadening of the rates base.

Potential negative impacts
The findings of the SIA indicate that there are no negative social impacts associated with the proposed SIMS Mixed Used Development that would have a material bearing on the decision making process.

4.4.1 Provision of housing, community facilities and open spaces

The proposed SIMS Mixed Use Development will consist of 538 middle-to-upper income units and 851 middle-to-lower income units. In addition to the residential component six sites for worship, two schools, two commuinity facilties and public open spaces, including sports fields, will be developed.

Sishen Iron Ore are committed to providing quality, affordable housing for its staff and has developed 1 793 houses over the last 5 years (Jimmy Walker, pers. comm). Mr Walker also indicated that due to accommodation shortages and the high property prices and rental costs in Kathu in recent years many employees have been forced to commute on a daily basis from towns in the area, including as far afield as Kuruman. Kuruman is located ~ 50 km north east of Kathu.

Despite the recent down turn in the mining sector and the associated retrenchments, Sishen Iron Ore have indicated that the future expansion of mining activities in the area will create the need for additional housing. The aim of the SIMS Mixed Used Development is to ensure that adequate accommodation is avaible in Kathu for employees and contractors when the need arises. As indicated above, there has been a significant increase in the population of the GLM between between the 2001 and 2011 census years, which has resulted in an increase in the number of informal houses to the extent that informal constituted 24.4% of the total households in the GLM in 2011. There has also been a significant increase in the number of backyard shacks. The GIHSSP indicates that 9.5% of the total households are backyard shacks which grew by 797% in the past ten years. As a result the Integrated Human Settlement Sector Plan has identified a housing backlog to be 2 590 houses (Gamagara IDP, 2015-2017).

The company is also committed to maximising the opportunity for employees to become homeowners as opposed to renting. To achieve this houses are made available to employees as below cost. The cost of developing a 120m^2 middle to lower income unit is ~ R 980 000. This includes the land aquistion and building costs. These units would be made available to employees for ~ R 700 000, a discount of ~ 30%. The housing developed by

Sishen Iron Ore that is made available to employees to purchase is referred to as Facilitated Stock. Approximately 972 (70%) of the 1 389 units will be made available for employees to purchase at discounted costs. The remaining 417 (30%), will be made available to employees and contractors to rent. This component is referred to as Strategic Stock.

This creation of an opportunity for Sishen Iron Ore employees to become homeowners at a substantially discount of ~ 30 % of the market value represents a significant socio-economic benefit. In so doing employees can become owners of a fixed asset that will increase in value over time, as opposed to renting a property. International and local research indicates that psychological and socio-economic well-being is closely linked to the stability provided by owning one's home. Political stability is also closely linked to home ownership. People that have something of value to lose are more inclined to work towards looking for peaceful, construcive solutions as opposed to resorting to social unrest and protests.

The provision of housing and community facilities by Sishen Iron Ore therefore represents a long term investment in the well-being of its employees and the community of Kathu as a whole. This represents a significant socio-economic benefit for the employees, the town of Kathu and the GLM. The provision of affordable housing and rental stock in Kathu also ensures that workers do not have to commute over long distances in order to access thier place of work. This represents a postive social benefit for both the workers and thier families.

The proposed development will also provide six sites for worship, two schools, two commuinity facilties and public open spaces, including sports fields. Sishen Iron Ore are therefore committed to creating more than just accommodation, but also to providing the community with the facilities required to create a suburb that caters for the needs of it residents. Establishing schools, places of worship, open spaces and shops within easy access to residential areas enhance the quality of the area and the overall well-being of the communities that live there. This represents a postive social benefit for memebers of the community that will will be accommodated in the resiential component of the SIMS Mixed Use Development.

In addition, as indicated above, the proposed development area is located within the Kathu Urban Edge. The area has therefore been identified as suitable for urban development. The SIMS Mixed Use Development will also assit to address the historical, spatial planning legacies assocaited with Apartheid planning by facilitating and supporting the integration of Kathu and Seshen.

Table 4.5: Provision of housing, community facilities and public spaces

Nature: Provision of housing and community facilities		
	Without Mitigation (Assumes no development takes place)	**With Enhancement (Assumes development takes place)**
Extent	Local-Regional (2)	Local – Regional (4)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Definite (5)
Significance	High (60)	High (70)
Status	Negative	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	No	No
Can impact be enhanced?	Yes	Yes
Enhancement: See below		
Cumulative impacts: Provision of key components required to promote social and economic development and improve the overall well-being of the community		
Residual impacts: See cumulative impacts		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the benefits associated with the provision of housing, public and commercial facilities and open spaces.

Recommended enhancement measures
The development of the proposed SIMS Mixed Use Development represents an enhancement measure in itself. In addition, the following recommendations should be implemented:

- The proposed development should ensure that the community facilities include the establishment of sufficient number of crèches, primary schools and community sports facilities;
- A landscaping plan should be developed that makes provision for tree planting and creation of green open spaces as part of the urban design plan;
- A Management and Maintenance Plan and programme for the public open spaces and play areas should be developed and implemented;
- The proponent should assist the GLM with ensuring that funding and resources are made available to implement the Management and Maintenance Plan.

4.4.2 Creation of employment and business opportunities

The establishment of 538 middle-to-upper income units and 851 middle-to-lower income units, two schools, two commuinity facilties and public open spaces, including sports fields, will create employment opportunities for local residents, specifically domestic workers and gardeners etc. Based on the assumption that every third middle income house will employ a domestic worker and or gardener the proposed development will create ~ 180 employment opportunities for members from the local community. The majority, it not all of these community members are likely to be Historically Disadvantaged Individuals (HDIs). Given the high unemployment levels in the surrounding areas, coupled with the low income and education levels, this would represent a positive social impact. The lower-to-middle class households are less likely to employ domestic workers and or gardeners.

The number of employment opportunities associated the schools and commercial components will depend on their size. Based on information from other studies undertaken by the author a school that accommodates ~ 1 000 learners would employ approximately 60-80 staff members. This total would include teachers, administrators, cleaning, maintenance and security staff etc. Two schools with the capacity to accommodate ~ 1 000 learners would therefore create ~ 120-160 permanent employment opportunities.

The number of employment opportunities associated with the six commercial sites to be developed will depend on the type and size of the developments. Given the proximity of the southern section of the site to Mapoteng, one of the commercial developments is likely to be a supermarket. Based on information from other assessments undertaken by the author, the total number of people employed at 2 500-3 000 m^2 GLA supermarket, such as a Shoprite or Pick and Pay supermarket, is in the region of 160-180 full time employees. Large supermarkets are more labour intensive when compared to other retail operations. The other commercial activities are therefore likely to employ less people. However, it would be reasonable to assume that the total number of employment opportunities created by the development of all six commercial sites would be in the region of 500. The majority, it not all, of the employment opportunities are likely to benefit Historically Disadvantaged Individuals (HDIs) from the local community. This would represent a significant positive social impact.

The operational phase will also create downstream opportunities for local businesses, such as local maintenance and building companies, garden services and security companies, petrol stations, shops and restaurants etc., and create opportunities for new businesses to develop. This in turn will create additional employment opportunities. The local estate agencies in the area and legal firms would also benefit from the sale and resale of properties associated with the new development. The increase in the number of residential units is also likely to create the need to employ additional staff at the GLM.

The operational phase of the proposed SIMS Mixed Use Development will therefore create significant socio-economic benefits and opportunities for the local community and local GLM economy. In this regard the development will create in the region of 800-1 000 employment opportunities. The majority of these opportunities will benefit HD members of the community. A percentage of the wage bill earned by these workers will be spent in the local economy which will benefit local companies and businesses. The significance of the overall socio-economic benefits associated with the operational phase will be high.

Table 4.6: Creation of employment and business creation opportunities during the operational phase

Nature: Creation of employment and business opportunities during the operational phase		
	Without Mitigation	**With Enhancement**
Extent	Local-Regional (2)	Local-Regional (3)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Probable (3)	Definite (5)
Significance	Medium (36)	High (65)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Opportunity to create downstream employment opportunities levels, and up-grade and improve skills levels in the area.		
Residual impacts: Reduced unemployment and improved pool of skills and experience in the local area.		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity in terms of the benefits associated with the provision of housing, educational and commercial facilities.

Recommended enhancement measures
The recommended enhancement measure is for the proposed SIMS Mixed Use Development to proceed as planned. In addition, in order to enhance local employment and business opportunities associated with the operational phase of the project the following measures should be implemented:

- The proponent and the GLM should inform local community leaders, organizations and councillors of the potential job opportunities associated with the different components associated with the operational phase of the development;
- The proponent, in consultation with the GLM, should establish a database of local service providers in the area, specifically SMME's owned and run by HDI's. These companies should be notified of the potential opportunities associated with the operational phase of the development.
- The proponent in consultation with the GLM should look to identify measures to maximize employment opportunities for members from the local HD communities.

4.4.3 Broadening of the rates base

Based on the information provided by the developer the total market value of each component will be:

- R1 billion (538 middle income units); and
- R1.5 billion (851 middle-to-lower income units).

Assuming full development, the estimated monthly property rates for each of the above components would be:

- R322 800, for 538 middle income units (based on assumption of rates of R 600/month);
- R255 300, for 851 middle-to-lower income units (based on assumption of rates of R 300/month).

The monthly rates bill for the residential component of the proposed SIMS Mixed Used Development would be in the region of R 7 million (2015 rand values) per annum. In addition the proposed development would also generate revenue for the GLM from the consumption of water and electricity. However, it should be noted that the lower income households may find it difficult to pay municipal rates and taxes on a monthly basis. This may become an issue.

Table 4.7: Contribute to the GLM rates base

Nature: Increase rates and tax revenue for the GLM which can be used to address some of the socio-economic challenges facing the GLM		
	Without Mitigation (Assumes no development)	**With Enhancement (Assumes development)**
Extent	Local-Regional (2)	Local-Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	Moderate (32)	Moderate (36)
Status	Negative	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	No	No
Can impact be enhanced?	Yes	Yes
Enhancement: See below		
Cumulative impacts: Promotion of social and economic development and improvement in the overall well-being of the community		
Residual impacts: See cumulative impacts		

Assessment of No-Go option
Current status quo would be maintained. This option would represent a lost opportunity to generate rates and taxes associated with the housing and commercial facilities.

Recommended enhancement measures
The recommended enhancement measure is for the proposed SIMS Mixed Used Development to proceed as planned.

4.5 ASSESSMENT OF NO-DEVELOPMENT OPTION

The no-development alternative would result in a lost opportunity for Sishen Iron Ore to provide quality, affordable accommodation for its employees and to create a well-planned new development that includes the establishment of schools, places of worship, public open spaces and sports fields and shops. The no-development option would also result in a lost opportunity for Sishen Iron Ore employees to purchase houses at a significantly discounted price. The employment and business opportunities associated with the construction and operational phase would also be forgone, as would the rates and taxes generated for the GLM. The no-development option is therefore not supported. However, the recommendations listed in the SIA should be implemented.

Table 4.8: Assessment of no-development option

Nature: The no-development option would result in the lost opportunity for the local economy the GLA and residents who would benefit from the development.		
	Without Mitigation (No development)	**With Enhancement (Assumes development)**
Extent	Local-Regional (3)	Local-Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Definite (5)
Significance	High (65)	High (65)
Status	Negative	Positive
Reversibility	Yes	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Negative, linked to lost opportunity for the local economy the GLA and local members of the community who would benefit from the project.		
Residual impacts: See cumulative impacts		

Recommended enhancement measures
The development of the proposed SIMS Mixed Use Development would represent an enhancement measure. However, the potential issues identified by the SIA and other studies undertaken as part of the EIA should be addressed by the proposed development.

SECTION 5: KEY FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

Section 5 lists the key findings of the study and recommendations. These findings are based on:

- A review of key planning and policy documents pertaining to the area;
- Semi-structured interviews with interested and affected parties;
- A review of the findings of other relevant studies undertaken as part of the EIA;
- A review of social and economic issues associated with similar developments;
- The experience of the authors with the area and other similar projects in South Africa.

5.2 SUMMARY OF KEY FINDINGS

For the purposes of the meeting the objectives of the SIA the following policy and planning documents were reviewed:

- Fit with policy and planning;
- Construction phase impacts;
- Operational phase impacts;
- No-development option.

As indicated in Section 1.4, three layout alternatives and the no-development alternative were identified in the Scoping Report and Plan of Study (EnviroAfrica, March 2015). During the Scoping Phase Alternative 1 and 2 were found to be unsuitable due to the impact on biophysical environment. The SIA assess Alternative 3 (the preferred alternative) and the no-development option. The assessment and impact ratings therefore apply to Alternative 3.

5.2.1 Policy and planning issues

The key policy and planning documents pertaining to the proposed development include:

- Northern Cape Provincial Growth and Development Strategy (2011);
- Northern Cape Provincial Spatial Development Framework (2012);
- John Taolo Gaetsewe District Municipality Integrated Development Plan (2014-2016);
- Gamagara Local Municipality Integrated Development Plan (2012-2017); and
- Gamagara Spatial Development Plan (2011).

Based on the findings of the review the proposed SIMS Mixed Use Development supports a number of the provincial and local level policy and planning objectives. Of specific relevance to the study a key spatial development objective of the Gamagara SDF is to manage land use and settlement expansion in Kathu and Seshen and amalgamate the two towns into a single Regional Node. The proposed SIMS Mixed Use Development supports this vision and the spatial objective of integrating Kathu and Sesheng. The development is also located

within the Kathu Urban Edge. The area has therefore been identified a suitable for infill development. The proposed SIMS Mixed Use Development is therefore in keeping with and supports the relevant land use policies and plans for the site and surrounds.

5.2.2 Construction phase

The key social issues associated with the construction phase include:

Potential positive impacts

- Creation of employment and business opportunities

Employment
The total number of employment opportunities created by the residential component of the development would be ~ 1 907 over the first five years and ~ 891 for the final three years. The total number of employment opportunities over the total eight year period will therefore be in the region of 2 800. Of this total ~ 1 120 (40%) would be available to low skilled workers, ~ 1 120 (40%) to semi-skilled workers and 560 (20%) to skilled workers.

In addition to the residential components the proposed development will also include the development of six commercial properties, twenty nine open space properties, six sites for places of worship, two sites for education and two properties for municipal use. The establishment of each of these components will also create employment opportunities over and above the estimated ~ 2 800 employment opportunities created by the residential component. The majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the community. This would represent a significant opportunity for the local building sector and members of the local community.

Wage bill
The total wage bill over the assumed eight year construction phase for the residential component is estimated to be in the region of R 1.4 billion (2016 rand values). Of this total ~ R 298 million (20%) would be earned by low skilled workers, R 498 (33%) million by semi-skilled workers, and R 705 million (47%) by skilled workers. Low and semi-skilled workers would therefore earn ~ R 796 million (2016 rand values)(53%) of the total wage bill over the assumed eight year construction phase. The employment opportunities associated with the establishment of the components associated with the proposed development will generate additional wage incomes.

As indicated above, the majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the local community. A significant portion of the total wage bill will therefore be earned by HD members from the local area. The majority of the wage bill will be spent in the local economy and will create significant opportunities for local businesses in Kathu and surrounding towns. This benefit will extend over the assumed 8 year construction phase.

Business opportunities
Based on the information provided by the proponent the capital expenditure associated with residential component of the development would be ~ R2.6 billion (2016 rand values). This total does not include the costs associated with the development of the six commercial properties, twenty nine open space properties, six sites for places of worship, two sites for education and two properties for municipal use. At this stage in the project it is not possible to indicate what the capital expenditure costs associated with these components would be. However, when these costs are included the total capital expenditure associated with the

fully developed SIMS Mixed Use Development is likely to exceed R 3 billion (2016 rand values). The majority of work during the construction phase is likely to be undertaken by local contractors and builders. The majority of the building materials associated with the construction phase will be sourced from locally based suppliers. The proposed development will therefore represent a significant positive benefit for the local construction and building sector in the GLM and surrounding areas.

Potential negative impacts
- Impacts associated with the presence of construction workers on site;
- Security and safety impacts associated with the presence of construction workers;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

The significance of the majority of all of the negative impacts with mitigation was assessed to be of low significance. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. In addition, given that the majority of construction workers are likely to be locally based, the potential risk at a community level posed by construction workers to local family structures and social networks is regarded as low negative significance. However, the impact on individuals who are directly impacted on by construction workers (i.e. contract HIV/ AIDS) would be of high negative significance.

Table 5.1 summarises the significance of the impacts associated with the construction phase.

Table 5.1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of business and employment opportunities	Medium (Positive impact)	High (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole)	Low (Negative impact for community as a whole)
Threat to safety and security	Medium (Negative impact)	Low (Negative impact)
Impact of construction related activities (dust, noise, safety etc.)	Medium (Negative impact)	Low (Negative impact)

5.2.3 Operational phase

The key social issues associated with the operational phase include:

Potential positive impacts
- Provision of housing, community facilities and public spaces;
- Creation of employment and business opportunities; and
- Broaden the rates base.

Provision of housing, community facilities and public spaces

Despite the recent down turn in the mining sector and associated retrenchments, Sishen Iron Ore have indicated that the future expansion of mining activities in the area will create the need for additional housing. The aim of the SIMS Mixed Used Development is to ensure that adequate accommodation is avaible in Kathu for employees and contractors when the need arises. The company is also committed to maximising the opportunity for employees to become homeowners as opposed to renting. To achieve this houses will be made available to employees at ~ 30% below cost. Approximately 972 (70%) of the 1 389 units will be made available for employees to purchase at discounted costs. The remaining 417 (30%), will be made available to employees and contractors to rent. The creation of an opportunity for Sishen Iron Ore employees to become homeowners represents a significant socio-economic benefit.

The provision of housing and community facilities by Sishen Iron Ore also represents a long term investment in the well-being of its employees and the community of Kathu as a whole. This represents a significant socio-economic benefit for the employees, the town of Kathu and the GLM. The provision of affordable housing and rental stock in Kathu also ensures that workers do not have to commute over long distances in order to access thier place of work. This represents a postive social benefit for both the workers and thier families.

The proposed development will also provide six sites for worship, two schools, two commuinity facilties and public open spaces, including sports fields. Sishen Iron Ore are therefore committed to provinding more than just accommodation, they are also committed to providing the community with the facilities required to create a suburb that caters for the needs of it's residents. Establishing schools, places of worship, open spaces and shops within easy access to residential areas enhance the quality of the area and the overall well-being of the communities that live there. This represents a postive social benefit for the members of the community that will will be accommodated in the residential component of the SIMS Mixed Use Development.

In addition, the SIMS Mixed Use Development will assit to address the historical, spatial planning legacies assocaited with Apartheid planning by facilitating and supporting the integration of Kathu and Seshen.

Employment

The operational phase will create in the region of 800-1 000 employment opportunities. These opportunities are linked to the two schools, six commercial units and the residential component. The majority of these opportunities will benefit HD members of the community. A percentage of the wage bill earned by these workers will be spent in the local economy which will, in turn, benefit local companies and businesses in Kathu. The operational phase of the proposed SIMS Mixed Use Development will therefore create significant socio-economic benefits and opportunities for the local community and local GLM economy.

Business

The operational phase will create opportunities for local businesses, such as local maintenance and building companies, garden services and security companies, petrol stations, shops and restaurants etc. and create opportunities for new businesses to develop. Local estate agencies in the area and legal firms will also benefit from the sale and re-sale of properties associated with the new development

Rates base
The rates generated by the residential component of the proposed SIMS Mixed Used Development would be in the region of R 7 million (2015 rand values) per annum. In addition the proposed development will also generate revenue for the GLM from the consumption of water and electricity. However, it should be noted that the lower income households may find it difficult to pay municipal rates and the costs associated with electricity and water. This may become an issue.

Potential negative impacts
Based on the findings of the SIA there are likely to be no significant social impacts associated with the proposed SIMS Mixed Used Development that would have a bearing on the assessment process and approval of the project.

The significance of the impacts associated with the operational phase are summarised in Table 5.2.

Table 5.2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Provision of housing, community facilities and public spaces	High (Negative impact)[9]	High (Positive impact)
Employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Broaden the rates base	Medium (Negative impact)[10]	Medium (Positive impact)

5.2.4 Assessment of no-development option

The no-development alternative would result in a lost opportunity for Sishen Iron Ore to provide quality, affordable accommodation for its employees and to create a well-planned new development that includes the establishment of schools, places of worship, public open spaces, sports fields and shops. The no-development option will also result in a lost opportunity for Sishen Iron Ore employees to purchase houses at a significantly discounted price. The employment and business opportunities associated with the construction and operational phase will also be forgone, as would the rates and taxes generated for the GLM. The no-development option is therefore not supported. However, the recommendations listed in the SIA should be implemented.

5.3 CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the Alternative 3 of the proposed SIMS Mixed Use Development is located inside the Kathu Urban Edge. The proposed development therefore complies with and is supported by the local land use planning proposals for the area. The construction and operational phase of the proposed development will create a number of positive socio-economic benefits for the local community and the area as a whole. The development will also provide quality, affordable accommodation for the employees of Sishen Iron Ore and create a well-planned new development that includes the establishment

[9] Assumes that development does not proceed and potential benefit is forgone
[10] Assumes that development does not proceed and potential benefit is forgone

of schools, places of worship, public open spaces and sports fields and shops. In addiiton, the development will assit to address the historical, spatial planning legacies assocaited with Apartheid planning by facilitating and supporting the integration of Kathu and Seshen. The establishment of Alternative 3 of the proposed SIMS Mixed Use Development is therefore supported by the findings of the SIA.

5.4 IMPACT STATEMENT

The findings of the SIA indicate that Alternative 3 of the proposed SIMS Mixed Use Development complies with and is supported by the local land use planning proposals for the site. The findings of the SIA also indicate that the socio-economic benefits associated with the proposed development outweigh the negative impacts. All of the negative impacts can also be effectively mitigated.

It is therefore recommended that Alternative 3 of the proposed SIMS Mixed Use Development be supported, subject to the implementation of the recommended enhancement and mitigation measures contained in the SIA report.

ANNEXURE A: LIST OF SOURCES

INTERVIEWS

- Mr Jimmy Walker, Sishen Iron Ore, 16/11/2015;
- Mr Protea Leserwane, IDP Manager, Gamagara Local Municipality, 17/11/2015;
- Mr Headman Tabakeng, Department of Housing, Gamagara Local Municipality, 17/11/2015;
- Mr Johan Burger, Town Planner, Gamagara Local Municipality, 17/11/2015.

REFERENCES

- Northern Cape Provincial Growth and Development Strategy (2011);
- Northern Cape Provincial Spatial Development Framework (2012);
- John Taolo Gaetsewe District Municipality Integrated Development Plan (2014-2016);
- Gamagara Local Municipality Integrated Development Plan (2012-2017); and
- Gamagara Spatial Development Plan (2011);
- StatsSouth Africa, Census 2011 Municipal Fact Sheet.

ANNEXURE B: ASSESSMENT METHODOLOGY

METHODOLOGY FOR THE ASSESSMENT OF POTENTIAL IMPACTS

Direct, indirect and cumulative impacts of the above issues, as well as all other issues identified will be assessed in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, where it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score between 1 and 5 will be assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- The **duration**, where it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5.
- The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
  - 0 is small and will have no effect on the environment;
  - 2 is minor and will not result in an impact on processes;
  - 4 is low and will cause a slight impact on processes;
  - 6 is moderate and will result in processes continuing but in a modified way;
  - 8 is high (processes are altered to the extent that they temporarily cease); and
  - 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale, and a score assigned:
  - Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - Assigned a score of 3 is probable (distinct possibility);
  - Assigned a score of 4 is highly probable (most likely); and
  - Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- The **status**, which will be described as either positive, negative or neutral.
- The *degree* to which the impact can be *reversed*.
- The *degree* to which the impact may cause *irreplaceable loss of reso*urces.
- The *degree* to which the impact can be *mitigated.*

The **significance** is determined by combining the criteria in the following formula:

S=(E+D+M)P; where

S = Significance weighting
E = Extent
D = Duration
M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

ANNEXURE C: BACKGROUND INFORMATION DOCUMENT

Tony Barbour
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BACKGROUND INFORMATION DOCUMENT

KATHU RESIDENTIAL AND MIXED USE DEVELOPMENTS

KATHU, NORTHERN CAPE PROVINCE

NOVEMBER 2015

INTRODUCTION

The Sishen Iron Ore Company (Pty) Ltd is investigating the potential of developing:

- A low density middle of upper income residential development on the Farm Uitkoms No. 463, Portion 1 (Figure 1);
- A mixed use and housing development, and associated infrastructure, on Portion 1 and the Remainder of the Farm Sims No. 462 (Figure 2).

EnviroAfrica have been appointed by the Sishen Iron Ore Company (Pty) Ltd to manage the Environmental Impact Assessment (EIA) process for the proposed project. Tony Barbour has been appointed by EnviroAfrica to undertake a specialist Social Impact Assessment (SIA) as part of the EIA process. The aim of the Background Information Document (BID) is to:

- Provide key stakeholders with information on the proposed development;
- Provide information on the aim of the SIA.

PROJECT DESCRIPTION

UITKOMS RESIDENTIAL DEVELOPMENT

The Sishen Iron Ore Company (Pty) Ltd is investigating the potential of developing a low density middle of upper income residential development on the Farm Uitkoms No. 463, Portion 1, which is located to the north-east of the town of Kathu, west of the Sishen Golf and Country Club (Figure 1). The site covers an area of 112ha and is located within the urban edge of Kathu. The area has therefore been identified as suitable for infill

development. The site is bordered by the N14 to the east, and Frikkie Meyer Street to the south, with access to the site from Frikkie Meyer Street. The proposed development will consist of approximately 163 residential erven (Residential I) and one erf for Residential II use. This will be in the form of sectional title blocks, which will be placed at random to accommodate and preserve the existing Camel Thorn trees on the development.

The property is largely undeveloped, with only the Kathu Equestrian Club on the property. The Kathu Equestrian Club will be incorporated within the layout and theme of the development. The Kathu Equestrian Club will therefore not have to be relocated. Figure 3 at the end of the document illustrates the preferred layout.

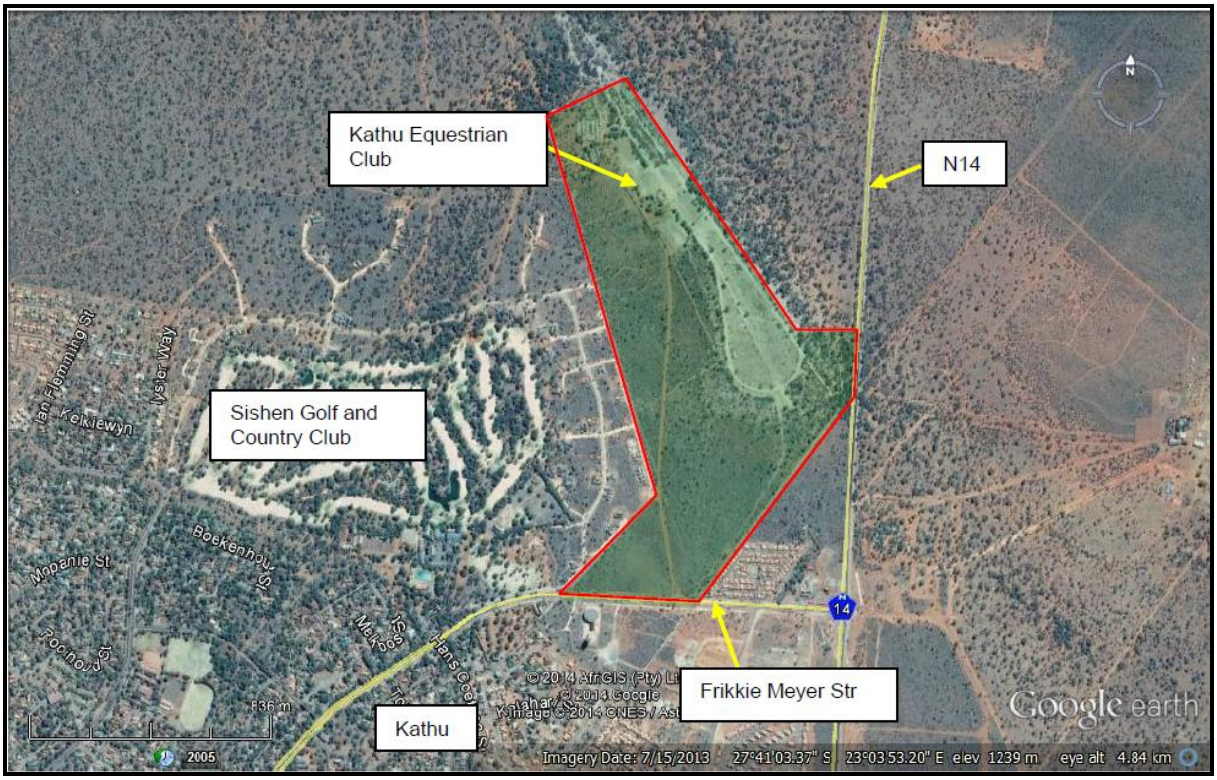

Figure 1: Location UITKOMS residential development

SIMS MIXED USE DEVELOPMENT

The Sishen Iron Ore Company (Pty) Ltd is investigating the potential of developing a mixed use and housing development, and associated infrastructure, on Portion 1 and the Remainder of the Farm Sims No. 462. The property is located to the west of the town of Kathu, adjacent to the Kathu Village Mall, and east of Mapoteng (Figure 2). The R380 runs through the development. Approximately 1439 properties are proposed to be developed. This includes 538 single residential properties, 851 group housing properties, 4 properties for the development of flats, 6 commercial properties, 29 open space properties, 6 sites for places of worship, 2 sites for education and 2 properties for municipal use The proposed activity will also include the construction of internal roads, and associated services infrastructure. The total area of the site (both properties) is approximately 168.9ha.

The development is located within the urban edge of Kathu, and has therefore been identified as suitable for infill development.

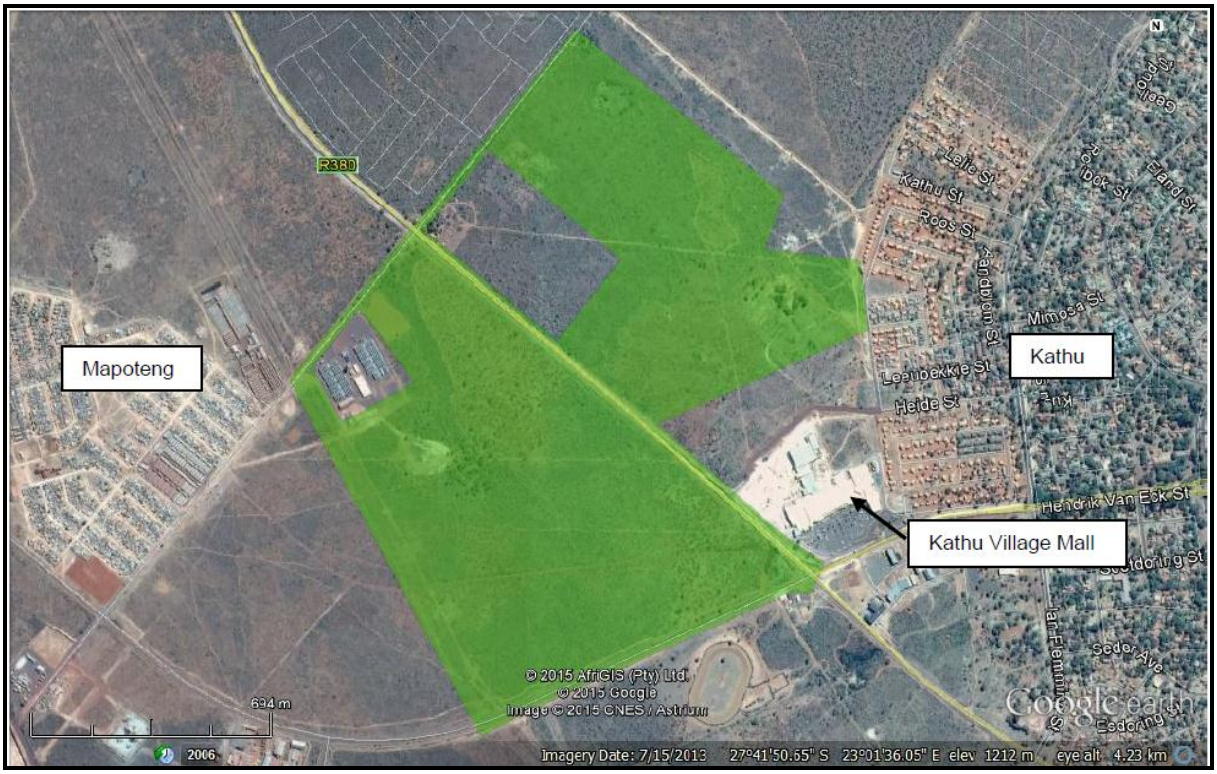

Figure 2: Location SIMS Mixed Use Development

AIM OF THE SIA

The objectives of the SIA are to provide the EIA with a detailed description of the local socio-economic conditions affected by the proposed project and to identify the potential social opportunities and risks associated with the project. Is so doing the SIA will seek to identify measures that can be implemented to avoid and or minimize the potential social risks. The SIA will also identify measures to enhance the potential social benefits associated with the proposed project.

Tony Barbour
Environmental Consultant
November 2015

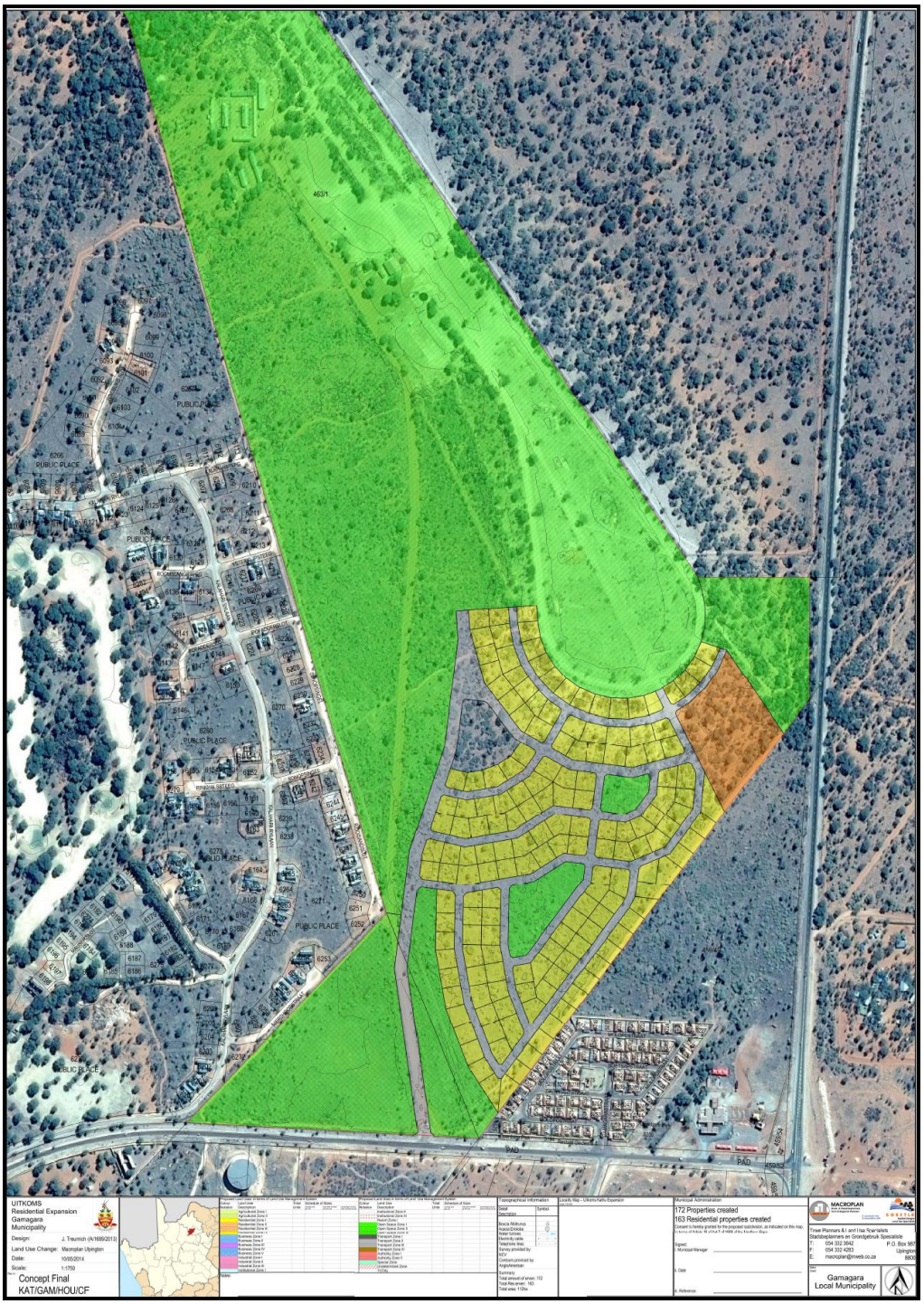

Figure 3: Preferred layout Uitkoms Residential Development