



JOE MOROLONG LOCAL MUNICIPALITY
LAND DEVELOPMENT PLAN
(SPATIAL DEVELOPMENT FRAMEWORK)
START-UP, ISSUES AND VISION, SPATIAL ANALYSIS AND SYNTHESIS

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Contents

| | | |
|-----------|---|-----------|
| 1. | Introduction | 1 |
| 1.1 | The Purpose of a SDF | 1 |
| 1.2 | Legal Status and Requirements | 1 |
| 1.3 | General objectives, Strategies and outcomes of the SDF | 2 |
| 1.3.1 | Objectives | 2 |
| 1.3.2 | Strategies | 2 |
| 1.4 | Relationship between the IDP and SDF | 5 |
| 1.5 | Methodology | 5 |
| 1.6 | Study Area | 7 |
| 2. | Context | 9 |
| 2.1 | Regional Context | 9 |
| 2.2 | Legislative and Policy Context | 14 |
| 2.2.1 | Sustainable Development | 14 |
| 2.2.2 | International | 15 |
| 2.2.3 | National Policies, Programmes and Frameworks | 20 |
| 2.2.4 | National Legislation | 25 |
| 2.2.5 | Provincial Policies, Programmes and Frameworks | 31 |
| 2.2.6 | Provincial legislation | 32 |
| 2.2.7 | District Policies, Programmes and Frameworks | 33 |
| 2.2.8 | Local Policies, Programmes and Frameworks | 33 |
| 3. | Vision and Principles | 33 |
| 3.1 | Introduction | 33 |
| 3.1.1 | The Moshaweng LM IDP Vision and Mission statements | 33 |
| 3.1.2 | The John Taolo G. District Municipality SDF vision and mission statements | 34 |
| 3.1.3 | Northern Cape Provincial Growth and Development Strategy | 34 |
| 3.1.4 | Northern Cape Spatial Development Framework | 34 |
| 3.2 | Underlying Principles guiding the SDF | 35 |
| 3.3 | Spatial Vision and Mission | 36 |

| | | |
|-----------|---|-----------|
| 3.4 | Sense of Place | 37 |
| 4. | Spatial Analysis and Synthesis | 38 |
| 4.1 | Bio-Physical Environment | 38 |
| 4.1.1 | Environmentally Sensitive Development Areas | 38 |
| 4.1.2 | General Environmental Development Guidelines | 38 |
| 4.1.3 | Aspects determining Environmentally Sensitive Areas | 39 |
| 4.1.4 | Analysis | 59 |
| 4.2 | Socio-Economic Environment | 59 |
| 4.2.1 | Demographic Profile | 59 |
| 4.2.2 | Education | 70 |
| 4.2.3 | Health | 76 |
| 4.2.4 | Economics | 81 |
| 4.2.5 | Mining | 86 |
| 4.2.6 | Crime | 101 |
| 4.2.7 | History and Heritage | 105 |
| 4.2.8 | Cemeteries | 110 |
| 4.2.9 | Tourism | 112 |
| 4.2.10 | Communal land | 112 |
| 4.2.11 | Land Restitution | 119 |
| 4.2.12 | Comprehensive Rural Development Programme (CRDP) | 122 |
| 4.2.13 | Municipal Finances | 122 |
| 4.3 | Built Environment | 125 |
| 4.3.1 | Services and Social Infrastructure | 125 |
| 4.3.2 | Housing | 140 |
| 4.3.3 | Settlement and Urban Development | 142 |
| 4.3.4 | Churchill | 153 |
| 4.3.5 | Heuningvlei | 153 |
| 4.3.6 | Bothithong/Dithakong | 153 |
| 4.3.7 | Role of small settlements in regional and rural development | 154 |
| 4.4 | Synthesis of spatial issues and opportunities | 159 |
| 4.4.1 | Extraction | 160 |
| 4.4.2 | Human Resources | 164 |
| 4.4.3 | Production | 167 |
| 4.4.4 | Decomposition | 168 |
| 4.4.5 | Enables and destabilisers | 170 |
| 4.4.6 | SWOT Analysis | 172 |

| | | |
|-----------|--|------------|
| 5. | The Spatial Development Framework | 174 |
| 5.1 | Strategic Objectives | 174 |
| 5.1.1 | Overall objectives | 174 |
| 5.2 | Specific objectives relating to Joe Morolong | 175 |
| 5.3 | Strategies | 176 |
| 6. | Spatial concepts | 178 |
| 6.1 | Conceptual framework | 179 |
| 6.2 | Nodes | 179 |
| 6.3 | Networks | 179 |
| 6.3.1 | Transport networks | 179 |
| 6.3.2 | Service networks | 180 |
| 6.4 | Surfaces | 180 |
| 6.4.1 | Rural area | 180 |
| 6.4.2 | Tribal areas | 180 |
| 6.4.3 | Mining | 180 |
| 7. | Spatial development framework proposals | 181 |
| 8. | Spatial policies and strategies | 181 |
| 8.1 | Nodes | 181 |
| 8.1.1 | Local Nodes | 182 |
| 8.1.2 | Human development hubs | 183 |
| 8.2 | Networks | 202 |
| 8.2.1 | Corridors and linkages | 202 |
| 8.2.2 | Activity Spines | 203 |
| 8.3 | Surfaces | 204 |
| 8.3.1 | Rural development | 204 |
| 8.3.2 | Natural Open Space System | 205 |
| 8.3.3 | Mining | 207 |
| 8.3.4 | Tourism | 207 |
| 8.4 | Spatial planning tools | 207 |
| 8.4.1 | The Urban Edge | 207 |
| 8.4.2 | Infill and densification | 208 |
| 8.4.3 | Smart Growth | 210 |

| | | |
|------------|--|------------|
| 8.4.4 | Town Image and Public Spaces..... | 211 |
| 8.4.5 | Cultural heritage | 211 |
| 8.4.6 | Municipal Urban Open Space System | 212 |
| 9. | Implications for land use | 213 |
| 9.1 | Spatial Planning Categories | 213 |
| 9.1.1 | SPC B – Buffer Areas..... | 216 |
| 9.1.2 | SPC C – Agricultural Areas | 218 |
| 9.1.3 | SPC D – Urban Areas | 219 |
| 9.1.4 | SPC E – Industrial Areas..... | 221 |
| 9.1.5 | SPC F – Surface Infrastructure and Buildings | 223 |
| 9.2 | Establishing Integrated Land Management Areas | 228 |
| 9.2.1 | Biosphere Reserves | 228 |
| 9.2.2 | System of protected nature areas | 228 |
| 9.2.3 | Conservancies..... | 228 |
| 9.2.4 | Special Management Areas | 228 |
| 10. | Implementation framework | 228 |
| 10.1.1 | Project 1: Asset management and infrastructure investment plan..... | 229 |
| 10.1.2 | Project 2: Roads improvement project | 230 |
| 10.1.3 | Project 3: Formalisation and tenure upgrading in Bothithong | 231 |
| 10.1.4 | Project 4: Budget alignments | 231 |
| 10.1.5 | Project 5: Rural development strategy | 232 |
| 10.1.6 | Project 6: Institutional memory Project..... | 232 |
| 10.1.7 | Project 7: Construction of multi-purpose community centres..... | 233 |
| 10.1.8 | Projects to support the implementation of the SDF as stated in the LED | 233 |
| 11. | Monitoring and evaluation | 236 |

Figures

| | |
|---|-----|
| Figure 1: Hotazel Manganese Mine..... | 7 |
| Figure 2: Tshabong in Botswana..... | 12 |
| Figure 3: Sishen Iron Ore Mine | 13 |
| Figure 4: Household Sizes of Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007) | 61 |
| Figure 5: Joe Morolong Population (Source: Quantec and Stats SA: Census 2001 & Community Survey 2007) | 62 |
| Figure 6: Projections based on the 2001-2007 growth rates (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007) | 62 |
| Figure 7: Total Households (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007) | 63 |
| Figure 8: Projected Household Growth (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007) | 63 |
| Figure 9: Comparative population growth (Source: Quantec)..... | 65 |
| Figure 10: Population Pyramid of the Joe Morolong Local Municipality, 2001 (Source: Stats SA: Census, 2001)..... | 65 |
| Figure 11: Population Pyramid of the Joe Morolong Local Municipality, 2007 (Source: StatsSA, Community Survey, 2007))..... | 66 |
| Figure 12: HIV infected persons (Source: Quantec) | 67 |
| Figure 13: Aids related deaths (Source: Quantec)..... | 67 |
| Figure 14: Total death rate (Source: Quantec)..... | 68 |
| Figure 15: Migration patterns in the John Taolo G. District Municipality (Source:Stats SA: Census 2001)..... | 69 |
| Figure 16: Heads of households (Source: Stats SA: Census 2001) | 70 |
| Figure 17: Percentage people in Joe Morolong Local Municipality by level of education (Source: SA Census, 2001)..... | 71 |
| Figure 18: Percentage tested HIV positive, 2008/2009..... | 78 |
| Figure 19: % HIV positive Antenatal clients..... | 79 |
| Figure 20: Main Sectors of Employment (Source: Stats SA: Census 2001 & Community Survey 2007)..... | 82 |
| Figure 21: Percentage contribution of GVA per annum (Source: Quantec, 2012)..... | 83 |
| Figure 22: Percentage Growth of GVA per Annum (Source: Quantec, 2012) | 83 |
| Figure 23: Percentage Sectorial Contribution of GVA per Annum (Source: Quantec, 2012) | 84 |
| Figure 24: Percentage Sectorial Growth of GVA per Annum (Source: Quantec, 2012) | 84 |
| Figure 25: Income per person per month (Source: Stats SA: Census 2001 & Community Survey 2007)..... | 85 |
| Figure 26: Annual Income per Household (Source: SA Census, 2001)..... | 86 |
| Figure 27: Manganese ore (Source: Wikipedia) | 87 |
| Figure 28:Blasting at Kumba Sishen Iron Ore Mine..... | 94 |
| Figure 29: Kumba Sishen Iron Ore - Primary Crsuer | 94 |
| Figure 30: Location of Kumba Mines (Source: Kumba Iron Ore Responsibility Report 2010)..... | 95 |
| Figure 31: Crime occurrences in Joe Morolong Local Municipality | 101 |
| Figure 32: Crime per 100 000 people/annum (Source: South African Police Service) | 102 |
| Figure 33: Murder rate per 100 000 people/annum (Source: South African Police Service) | 102 |
| Figure 34: Municipal Expenditure | 122 |
| Figure 35: Municipal Revenue | 123 |
| Figure 36: Income and expenditure trends: Water, Sanitation and Waste Water Management (Source: Annual financial statements)..... | 125 |
| Figure 37: Mode of transport (Source: Quantec, 2012)..... | 126 |

| | |
|---|-----|
| Figure 38: Traditional modes of transport are important | 126 |
| Figure 39: Water service and backlogs | 128 |
| Figure 40: Sanitation services (Stats SA: Census 2001) | 132 |
| Figure 41: Access to energy (Source: Quantec, 2012) | 133 |
| Figure 42: Access to refuse services (Source: Quantec, 2012) | 135 |
| Figure 43: Access to telecommunication services (Source: Quantec, 2012) | 137 |
| Figure 44: 8ta cell phone coverage | 137 |
| Figure 45: Cell C cell phone coverage | 138 |
| Figure 46: MTN cell phone coverage | 138 |
| Figure 47: Vodacom cell phone coverage | 139 |
| Figure 48: Housing tenure (Source: Quantec, 2012) | 140 |
| Figure 49: Types of dwellings (Source: Quantec, 2012) | 141 |
| Figure 50: Period of residence: living in the same place for more than 5 years (Source: Quantec, 2012) | 141 |
| Figure 51: Vanzylsrus | 149 |
| Figure 52: Filling station at Vanzylsrus | 149 |
| Figure 53: The mining town of Hotazel | 151 |
| Figure 54: The town of Black Rock | 151 |
| Figure 55: Heuningvlei cliff | 153 |
| Figure 56: The village of Bothithong | 154 |
| Figure 57: A view over Dithakong | 154 |
| Figure 58: Investment types (Northern Cape Spatial Development Framework 2011) | 156 |
| Figure 59: Development Potential versus Human Needs for settlements in the Northern Cape (Source: Northern Cape SDF 2011) | 157 |
| Figure 64: Ecological Socio-Economic Relationship Framework (ESER) | 159 |
| Figure 65: The closed ecological cycle | 160 |
| Figure 66: Production cycle | 160 |
| Figure 67: Average water consumption | 161 |
| Figure 68: Precipitation in the Northern Cape | 162 |
| Figure 69: Topsoil erosion | 162 |
| Figure 66: Vanzylsrus (Source: Google Earth) | 166 |
| Figure 67: Hotazel (Source: Google Earth) | 166 |
| Figure 68: GINI Coefficient over the world | 171 |
| Figure 73 : The development concept | 178 |
| Figure 74: The application of the development concept | 179 |

Tables

| | |
|---|-----|
| Table 1: Total Population of Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007)..... | 61 |
| Table 2: Total Households in Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007)..... | 61 |
| Table 3: Population composition of Joe Morolong Local Municipality (Source: Stats SA: SA Census 2001 & Community Survey 2007) | 64 |
| Table 4: Population composition of South Africa (Source: Stats SA: SA Census 2001 & Community Survey 2007) | 64 |
| Table 5: Age Distribution (Source: SA Census, 2005 & StatsSA, Community Survey, 2007) | 66 |
| Table 6: Causes of Death in John Taolo Gaetsewe District Municipality, 2008..... | 68 |
| Table 7: Population in the District Municipality living in the same place for the past five years (Northern Cape Human Development Report, 2010:25 as cited in SA Census, 2001) | 69 |
| Table 8: Educational facilities | 71 |
| Table 9: Learners and Educators per School (Source: DWA Geo-Database,2008)..... | 74 |
| Table 10: Compliance with the acceptable learner: educator norm (Source: DWA, 2008)..... | 76 |
| Table 11: Number of health facilities | 76 |
| Table 12: Health Facilities | 76 |
| Table 13: HIV tested and % positive 2008/2009 | 78 |
| Table 14: Antenatal HIV Prevalence, 2008/2009 | 79 |
| Table 15: TB cases 2009 to 2010 per district..... | 80 |
| Table 16: Productive Workforce (Source: Stats SA: Census 2001 & Community Survey 2007)..... | 81 |
| Table 17: Employment Status (Source: SA Census, 2001) | 81 |
| Table 18: Sector of employment (Source: Stats SA: Census 2001 & Community Survey 2007) | 82 |
| Table 19: Mineral production and pricing for the Northern Cape Province 2007 (Source: LED Strategy)..... | 89 |
| Table 20: Crime in Joe Morolong Local Municipality..... | 101 |
| Table 21: Projected crime occurrence for 2014 | 103 |
| Table 22: Police station: Population ratio | 103 |
| Table 23: Joe Morolong Local Municipality History (Source: LED Strategy, 2012-2017) | 105 |
| Table 24: Ward specific historic overview (Source: Joe Morolong LED Strategy, 2012-2017)..... | 106 |
| Table 25: Tourism-related LED Objectives..... | 112 |
| Table 26: Housing ownership | 140 |
| Table 25 : Development objectives | 174 |
| Table 26: Development interventions | 175 |
| Table 27: A nodal system and the consequences for the SDF | 178 |
| Table 28: Elements included in rural service centre..... | 200 |
| Table 29: Capital cost of developing a basic service centre (R'000) | 200 |
| Table 30: Transport rout characteristics | 201 |
| Table 31: Transport unit costs | 202 |
| Table 32: Activities permitted in the high potential agricultural area | 206 |
| Table 33: Density considerations | 208 |
| Table 34: Spatial Planning Categories (Source: Northern Cape SDF 2011) | 214 |

| | |
|--|-----|
| Table 35: Detailed description of Spatial Planning Categories according to NCPSDF for SPC A:..... | 214 |
| Table 36: Detailed description of Spatial Planning Categories according to NCPSDF for SPC B:..... | 216 |
| Table 37: Detailed description of Spatial Planning Categories according to NCPSDF for SPC C: | 218 |
| Table 38: Detailed description of Spatial Planning Categories according to NCPSDF for SPC D: | 219 |
| Table 39: Detailed description of Spatial Planning Categories according to NCPSDF for SPC E:..... | 221 |
| Table 40: Detailed description of Spatial Planning Categories according to NCPSDF for SPC F:..... | 223 |
| Table 41: Development Guidelines for SPC's | 224 |
| Table 42: Primary and allowable land uses per Spatial Planning Category..... | 227 |

Maps

| | |
|---|-----|
| Map 1: Old Moshaweng and DMA Boundaries | 8 |
| Map 2: Local context map of Joe Morolong Local Municipality..... | 10 |
| Map 3: Regional context map of Joe Morolong Local Municipality | 11 |
| Map 4: Orange-Senqu River Basin..... | 19 |
| Map 5: Geology - Joe Morolong Local Municipality (Source: ENPAT)..... | 40 |
| Map 6:Economic minerals - Joe Morolong LM | 41 |
| Map 7: Soil Depth - Joe Morolong Local Municipality (Source: ENPAT) | 43 |
| Map 8: Soil Potential - Joe Morolong Local Municipality..... | 44 |
| Map 9: Asbestos contamination areas | 48 |
| Map 10: Environmental Sensitive Areas - Joe Morolong Local Municipality (Source: Department of Environmental Affairs) | 51 |
| Map 11: Vegetation - Joe Morolong Local Municipality..... | 56 |
| Map 12: Biomes - Joe Morolong Local Municipality | 58 |
| Map 13: Locality of Schools - Joe Morolong Local Municipality..... | 73 |
| Map 14: Locality of Clinics - Joe Morolong Local Municipality | 77 |
| Map 15: Locality of Minerals..... | 90 |
| Map 16: Locality of Mines - Joe Morolong Local Municipality | 93 |
| Map 17: Location of Police Stations – Joe Morolong Local Municipality..... | 104 |
| Map 18: Cemeteries - Joe Morolong Local Municipality..... | 111 |
| Map 19: Homelands of South Africa (Source: Wikipedia) | 114 |
| Map 20: Traditional Authorities - Joe Morolong Local Municipality | 118 |
| Map 21: Land Restitution - Joe Morolong Local Municipality..... | 121 |
| Map 22: Transportation Infrastructure | 127 |
| Map 23: Bulk Water Services - Joe Morolong Local Municipality | 130 |
| Map 24: Bulk Electricity Services - Joe Morolong Local Municipality..... | 134 |
| Map 25: Landfill and Wastewater Treatment – Joe Morolong Local Municipality | 136 |
| Map 26: Population Distribution..... | 148 |

| | |
|--|-----|
| <i>Map 27: Vanzylsrus - Land use Map</i> | 150 |
| <i>Map 28: Hotazel - Land use Map</i> | 152 |
| Map 29 : Asbestos contamination areas | 188 |
| Map 30 : Bothithong Human Developmnet Hub..... | 190 |
| Map 31 : Cassel Human Development Hub | 191 |
| Map 32 : Dithakong Human Development Hub | 192 |
| Map 33 : Glenred Human Development Hub | 193 |
| Map 34 : Churchill Human Development Hub | 194 |
| Map 35: Vanzylsrus development concept..... | 197 |
| Map 36: Hotazel development concept | 198 |
| Map 37: Blackrock Development concept | 199 |
| Map 38: LED Projects – Joe Morolong Local Municipality | 235 |

Acronyms:

| | | | |
|----------------|---|----------|--|
| ABET | Adult Basic Education and Training | MTIEF | Medium Term Income and Expenditure Framework |
| ABLSP | Area Based Land Sector Plan | MSA | Municipal Systems Act (Act 32 of 2000) |
| ACSA | Airports Company South Africa | MEC | Member of Executive Council |
| CBA | Critical Biodiversity Area | NDPG | Neighborhood Development Partnership Grant |
| CF | Concept Framework | NEMA | National Environmental Management Act (Act 107 of 1998) |
| COGHSTA | Department of Cooperative Governance, Human Settlements and Traditional Affairs | NEMBA | National Environmental Management: Biodiversity Act (Act 10 of 2004) |
| CRDP | Comprehensive Rural Development Program | NIMBY | "Not in my Back Yard" |
| DEA | Department of Environmental Affairs | NHA | National Health Act (Act 61 of 2003) |
| DFA | Development Facilitation Act (Act 67 of 1995) | NHRA | National Heritage Resources Act (Act 25 of 1999) |
| DMA | Disaster Management Act (Act 57 of 2002) | NLTTA | National Land Transportation Transition Act (Act 22 of 2000) |
| DMR | Department of Mineral Resources | NMT | Non-Motorised Transport |
| DoT | Department of Transport | NSDP | National Spatial Development Perspective |
| DRDLR | Department of Rural Development and Land Reform | NWA | National Water Act |
| DWA | Department of Water Affairs | PGDS | Provincial Growth and Development Strategy |
| EIA | Environmental Impact Assessment | PRASA | Passenger Rail Agency of South Africa |
| EMF | Environmental Management Framework | SAHRA | South African Heritage Resources Agency |
| ESA | Ecological Support Area | SANBI | South African National Botanical Institute |
| ESER Framework | Ecological Socio-Economic Relationship Framework | SANParks | South African National Parks |
| GIS | Geographical Information System | | |
| IDP | Integrated Development Plan | | |
| IGRA | Intergovernmental Relations Framework Act (Act 13 of 2005) | | |
| ISHSP | Integrated Sustainable Human Settlement Plan | | |
| ITP | Integrated Transport Plan | | |
| IWMP | Integrated Waste Management Plan | | |
| HSP | Human Settlement Plan | | |
| LED | Local Economic Development | | |
| LUMB | Land Use Management Bill, 2008 | | |
| LUMS | Land Use Management System | | |
| MINTEK | National Mineral Technology Institute | | |
| MFMA | Municipal Financial Management Act | | |

1. Introduction

In terms of the Northern Cape Planning and Development Act (Act 7 of 1998), Joe Morolong Local Municipality hereby presents its Local and Representative Council Land Development Plan (also referred to as a Land Development Plan). The Land Development Plan is in essence identical to the better known Spatial Development Framework, as required by the Municipal Systems Act (Act 32 of 2000). This plan will be procedurally carried out in terms of the NC Planning and Development Act to insure compliance to the act, but will also be further referred to as a Spatial Development Framework to comply with the national terminology as depicted in the Municipal Systems Act and the anticipated Spatial Planning and Land Use Management Bill 2012.

The Joe Morolong Local Municipality Spatial Development Framework (SDF) is prepared to support, inform and advise the Integrated Development Plan (IDP) of the Local Municipality. The Vision, Mission Statements, Objectives and Strategies contained in the IDP are taken into account in compiling the SDF to seamlessly integrate and synthesise the goals of the Municipality. The SDF will also provide guidelines for the Land Use Management System. The SDF is not a prescriptive document or detailed development Plan, but forms part of a number of development guideline Policies and Frameworks and provide a spatial vision over a 20 year period. The SDF is in essence a rural SDF, addressing aspects that are unique to rural areas.

1.1 The Purpose of a SDF

It is the purpose of the Joe Morolong Local Spatial Development Framework/Land Development Plan to:

- To develop a strategic, comprehensive and credible spatial development Framework/Plan that will address spatial, environmental and economic issues faced by the Local Municipality and all those that live and work in it.
- This Framework/Plan will guide the preparation and facilitate the implementation of the Integrated Development Plan of the Municipality, and guide all the efforts by the State, private sector and community to fight poverty and facilitate sustainable, integrated, inclusive and equitable growth and development of the Municipality.

- To compile a Framework/Plan that complies with the Municipal Systems Act, 2000 (Act 32 of 2000)¹, the Municipal Planning and Performance Management Regulations, 2001, published in terms of the Municipal Systems Act, 2000 (Act 32 of 2000), as well as the Spatial Planning and Land Use Management Bill 2012² and the provisions of Section 29 of the Northern Cape Planning and Development Act, 1998 (Act 7 of 1998)³.

1.2 Legal Status and Requirements

A Spatial Development Framework (SDF) is required in terms of Section 26 of the Municipal Systems Act (Act 32 of 2000) as part of the required Integrated Development Plan (IDP).

The requirements of the Municipal Systems Act for a SDF are for all intents and purposes the same as a Local and Representative Council Land Development Plan as required by Section 29 of the Northern Cape Planning and Development Act, (Act 7 of 1998).

Furthermore, Planning Legislation is currently undergoing a major overhaul and SDF's will soon be regulated and informed by the Spatial Planning and Land Use Management Act (currently a Bill), which is expected to be enacted in 2012. The SPLUMB is a critically important Bill, which is highly anticipated to provide a uniform National Planning instrument. The SPLUMB will provide a Spatial Planning Tool and inform land development applications and Land Use Management Systems. The SPLUMB, when enacted will replace all current fragmented Planning Legislation into one comprehensive Act to inform all Planning Procedures Nationally.

The Department of Rural Development and Land Reform: Chief Directorate Spatial Planning and Information (DRDLR) have compiled a Guideline Document, namely the "Guidelines for the formulation of Spatial Development

¹ SOUTH AFRICA. 2000. *Municipal Systems Act 32 of 2000*. Pretoria: Government Press.

² SOUTH AFRICA. 2012. *Spatial Planning and Land Use Management Bill*. Pretoria: Government Press.

³ SOUTH AFRICA. 1998. *Northern Cape Planning and Development Act 7 of 1998*. Pretoria: Government Press.

Frameworks”⁴ in the compilation of SDF’s since 2001. In 2008, SDF’s all over the Country were evaluated and the Guidelines were updated to ensure high quality SDF’s be produced. The latest draft Guidelines were released in 2011 and will be used to benchmark the SDF. To ensure quality, the SDF will be predominantly compiled in the manner and format as described in the Guidelines.

1.3 General objectives, Strategies and outcomes of the SDF

1.3.1 Objectives

The overall Objectives of the SDF are derived from International, National, Provincial and District Legislation, Policies and Frameworks. More specific objectives are formulated from a localised perspective from Local and Regional Legislation, Policies, Frameworks and Conditions. The Objectives contained in the SDF provide direction and defines what must be achieved. The Strategies will provide the manner in which the Objectives can be met.

The general objectives of the SDF can be summarised as fourfold:

- The provision of a Spatial Development Vision and Strategy.
- Optimal usage of scarce resources on a spatial plan. The benefit of proper Spatial Planning is that it makes optimal use of public funds, with minimal wastage so that the most can be made from a limited municipal budget.
- The Local SDF acts as a coordination tool of the Local Municipality’s Development Plans.
- The Local SDF, as a decision making tool for the private sector. It provides a clear vision of the Municipality to commercial stakeholders and developers. In this manner, the SDF informs the Land Use Management System.

⁴ SOUTH AFRICA. Department of Rural Development and Land Reform. 2011. *Guidelines for the Formulation of Spatial Development Frameworks. Draft 8.* Pretoria. Government Press. 94 p.

Bioregional Planning

The Northern Cape Provincial Spatial Development Framework bases its Planning on the Bioregional Planning concept. It is the objective to define and recognise the various bioregions in the municipal and surrounding area. Bioregional Planning is defined in the NC PSDF as the following:

“Land-use Planning and Management that promotes sustainable development by recognizing the relationship between, and giving practical effect to, environmental integrity, human well-being and economic efficiency within a defined geographical space, the boundaries of which were determined in accordance with environmental and social criteria.”⁵

The Bioregional Planning Concept is an all-encompassing Strategy to include all facets of human life on earth and ensuring sustainability thereof for future generations. The Concept was developed in Environmental Conservation Schools of thought and is expanded to include all planning, which will inadvertently affect biodiversity, economic efficiency and human well-being or social aspects.⁶

The three sectors need to complement each other to form a sustainable and habitable environment where all human needs are accommodated. The Bioregional Planning Concept pertains to a specific geographic area where the three mentioned sectors interact on a Regional Plan.

These delicate relationships take place within boundaries and need to be recognised. The Bioregional space may not be contained with administrative boundaries as municipal boundaries, but it does form the true reality that exists and needs to be identified and supported. This will form the underlying purpose of the SDF.

1.3.2 Strategies

The aforementioned objectives can be summarised under the following headings in the table with each objective’s strategy. The Strategies provide

⁵ SOUTH AFRICA. Office of the Premier. 2011. *Northern Cape Provincial Spatial Development Framework: Volume 1.* Kimberley: Office of the Premier. 47 p.

⁶ Miller, K. 1996: *Balancing the scales: Guidelines for increasing biodiversity’s chances through bioregional management.* Washington: World Resources Institute.

the actual methods that needs to be implemented to ensure that the objectives be met on ground level.

| Development Objective | Strategy |
|--|---|
| The integration of various areas in the Municipality to form a well-functioning space economy. | <ul style="list-style-type: none"> Channel development into a System of nodes and corridors, in accordance with the Principles of the National Spatial Development Perspective. Do not promote or support developments that are out of context with the desired development directions. Development must be localised in specific strategic areas where there can be a focused effort on the provision of engineering services, transportation and land use integration. Consolidate existing areas rather than creating new development areas. |
| The development of sustainable human settlements and renewal of existing settlements. | <ul style="list-style-type: none"> Move away from the current pattern of housing delivery towards an approach of integrated, inclusive and sustainable settlement creation. Employ the principles of Breaking New Ground in all new settlements, as well as in the upgrading and renewal of existing settlements. Identify land for housing projects in close proximity to core areas, and with the emphasis on improved linkages. |
| The promotion and facilitation of economic development. | <ul style="list-style-type: none"> Support and develop strategic locations that contain the right characteristics to enable sustainable economic development and which contribute to the overall spatial efficiency and sustainability. |
| The sustainable management of the natural environmental assets and heritage. | <ul style="list-style-type: none"> Identify and isolate the valuable natural assets, and exclude these from development proposals. Ensure that a continuous ecological and |

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| | <ul style="list-style-type: none"> open space system is created. Ensure the conservation and sustainable management of conservation areas. |
| The promotion of tourism development. | <ul style="list-style-type: none"> Identify tourism development opportunities within the Municipality. Ensure linkages to tourism development areas. Recognise the important role the private sector and land owners play in tourism development. |
| The promotion of sustainable rural development. | <ul style="list-style-type: none"> Identify and protect high potential agricultural land. |
| The development and improvement of linkages with surrounding areas of importance. | <ul style="list-style-type: none"> Develop a movement network that supports the spatial development focus areas. Create a Strategic Network of movement linkages in the Municipality, and between major regional centres. Ensure land use and transportation integration. |
| Service delivery, specifically focusing on providing sufficient capacity in development priority areas. | <ul style="list-style-type: none"> Ensure the provision of service infrastructure in accordance with spatial requirements (i.e. the integration of Spatial Planning and Engineering Services Master Planning). Identify the strategic areas of opportunity that should be the focus areas for capital investment in engineering services infrastructure. |

Outcomes:

In the light that the SPLUMB is anticipated to be enacted in the foreseeable future, the SDF will be prepared to be correctly aligned. Section 11 in Chapter 4 of the **Spatial Planning and Land Use Management Bill** deals with expected outcomes of a SDF. The following is an excerpt from the Bill:

- National and Provincial Spheres of Government may and in the case of Local Government must prepare Spatial Development Frameworks that:
 - interpret and represent the Spatial Development Vision of the responsible Sphere of Government and Authority;
 - are informed by a longer term Spatial Development Vision Statement and Plan;
 - represent the integration and trade-off of all relevant Sector Policies and Plans;
 - guide planning and development decisions across all sectors;
 - guide a Provincial Department or Municipality in taking any decision or exercising any discretion in terms of this Act or any other law dealing with Spatial Planning and Land Use Management Systems;
 - contribute to a coherent, planned approach to spatial development at National, Provincial and Municipal Spheres;
 - provide clear and accessible information to the public and private sector and provide direction for investment;
 - include previously disadvantaged areas, areas governed by traditional authorities, informal settlements and slums and land holdings of state owned enterprises and Government agencies and address their inclusion and integration into the spatial, economic, social and environmental objectives of the relevant sphere;
 - address historical spatial imbalances in development;
 - identify the long-term risks of particular spatial patterns of growth and development and the Policies and Strategies necessary to mitigate those risks;
 - provide direction for strategic developments, infrastructure investment, promote efficient, sustainable and planned investments by all sectors and indicate priority areas for investment in land development;
- promote a rational and predictable land development environment to create trust and stimulate investment in land development projects;
- comply with applicable Environmental Legislation or a specific Environmental Management Act as defined in Section 1 of the National Environmental Management Act No. 107 of 1998;
- give effect to National Legislation and Policies on sustainable utilisation and protection of agricultural resources;
- constitute and reflect the outcome of substantial citizen engagement including direct participation in the process through public meetings, public exhibitions, public debates and discourses in the media and any other forms or mechanisms that promote such direct involvement.
- The Spatial Development Frameworks prepared by different spheres of Government must be coordinated, aligned and be in harmony with each other and once adopted as provided for in this Act, guide and inform the exercise of any discretion or of any decision taken in terms of this Act or any other law dealing with land use and development of land by that sphere of Government.
- The Municipal Spatial Development Frameworks must, in accordance with Chapters 2 and 5 of the Municipal Systems Act, contribute to and be part of the Integrated Development Plans and must assist in integrating, coordinating, aligning and expressing development Policies and Plans emanating from the various sectors of the three spheres of Government as they apply within the municipal area.
- The Provincial Spatial Development Frameworks must contribute to and express Provincial Development Policy, as well as integrate and spatially express Policies and Plans emanating from the various sectors of the Provincial and National Spheres of Government as they apply at the geographic scale of the Province.
- The National Spatial Development Framework must contribute to and give spatial expression to National development Policy and Plans as well as integrate and give spatial expression to Policies and Plans emanating from the various sectors of National Government and may include any Regional Spatial Development Framework.
- Spatial Development Frameworks must outline specific arrangements for prioritising, mobilising, sequencing and implementing public and private infrastructural and land development investment in the priority spatial structuring areas identified in Spatial Development Frameworks.

- The Minister may determine procedures to resolve and prevent conflicts or inconsistencies which may emerge from the Spatial Development Frameworks of different spheres of Government and between a Spatial Development Framework and the Objectives or Plans of any other Organ of State.⁷

1.4 Relationship between the IDP and SDF

The SDF relates to all and any component in the IDP that affects land, the environment and the built environment, thus all spatial elements. The SDF expresses the IDP in spatial terms and provides guidelines to most effectively reach the goals of the IDP in the spatial realm. The SDF will provide direction to Land Use Management Systems and development controls, precinct Plans and Spatial Development Plans. It is a two way relationship with the IDP providing impetus to the SDF and the SDF advising the IDP.



1.5 Methodology

The methodology used for the SDF was derived from the Guidelines as compiled by the Department of Rural Development and Land Reform. The following distinct phases were followed as prescribed:

Phase 1: Start-up

- During the Start-up Phase, the Project Committee, Steering Committee and the Technical Committee were established to guide the process on all levels. The purpose of this phase was to clarify the Scope of Work, Policy Context, Spatial Principles and role of the surrounding SDF's.
- Deliverable: Inception Report

⁷ SOUTH AFRICA. 2012. *Spatial Planning and Land Use Management Bill*. Pretoria: Government Press.

Phase 2: Issues and Vision

The public participation process was executed during the Issues and Vision Phase. During the process, the community and stakeholders expressed all and any issues experienced that needs to be addressed in its opinion. The Spatial Vision for the municipal area was formed and a sense of place was established.

- Deliverable: Public Participation Report

Phase 3: Spatial Analysis and Synthesis

Firstly, the compilation of the findings of the first two phases takes place during this Phase. Secondly, the built environment, the socio-economic environment and the bio-physical environment are studied. Each of the three areas is researched and the finding analysed. The findings are then synthesised as a whole for the Municipality to be taken further to the Proposal Stage.

Phase 4: Draft SDF

The Spatial Proposals are made during this Phase based upon the information gathered during the first phases. The Development Concepts, Proposals, Spatial Policies and Strategies and Land Use Management Guidelines are compiled during this stage.

- Deliverable: Draft Joe Morolong Local Municipality SDF

Phase 5: Support for the SDF

During this phase, the draft SDF is circulated for support to the various stakeholders, communities, Council, Government Bodies, Traditional Leaders, etc. A workshop is held to discuss the SDF with the mentioned parties.

Phase 6: Finalisation and Approval

The Finalisation Phase is used to compile all comments from the previous phase and amendments are made to the draft SDF for submission for final

approval. Final approval is to be executed in terms of all applicable Legislation.

- Deliverable: Final Joe Morolong Local Municipality SDF
- A0 SDF map
- Executive Summary of SDF

Phase 7: Implementation

The SDF becomes operational at the Local Municipality during the Implementation Stage, whereby planning and development will be guided by the finally adopted SDF. Constant monitoring is required to ensure optimum usage of the SDF.

Based on the legal requirements, the SDF should be a narrative document and spatial representations (maps) which indicate the following:

- Preferential and focus areas for certain types of land uses;
- The location of projects identified as part of the IDP Planning;
- Indicate the desired direction of urban expansion and rural revitalisation;
- A Business Plan for implementation of the SDF.

The SDF will include:

- Preferential and focus areas for certain types of land uses;
- The location of projects identified as part of the Integrated Development Planning process;
- Reflect the Spatial Objectives and Strategies contained in the IDP;
- Indicate the desired direction of urban expansion and the most appropriate use of vacant land where appropriate and desirable; and
- A Business Plan for implementation of the Spatial Development Framework.

The SDF is a legally binding document and should therefore be very specific and indicate the appropriate level of detail. The Local Municipality SDF must be integrated and aligned with the National, Provincial and District Frameworks, as well as those of the adjacent Local Municipalities.

The SDF should highlight the Vision and Mission of the IDP and its spatial implication. It should confirm the interrelationship of the Municipal Vision and that of the District, from a spatial point of view. It should identify main relevant Principles and Strategies as contained in the IDP and how they translate spatially. It should delineate the municipal border, settlements, farms and wards and map the areas where the main pressing needs and the proposed multi-sector projects are located.

1.6 Study Area

The Joe Morolong Municipality is a Category B Municipality (NC451) located within the John Taolo Gaetsewe District Municipality. The Municipality was initially established in 2001, known as the Moshaweng Local Municipality as a cross-border Municipality and included 11 wards with \pm 130 settlements in parts of the North West and Northern Cape Provinces. In February 2006, the Premiers of the Northern Cape and North West Provinces signed an agreement, which effectively repealed the statutory provisions of the cross-border Municipalities. Since 18 May 2011, the previously John Taolo Gaetsewe District Municipality Area which included Vanzylsrus, Hotazel and McCarthysrus, was also incorporated into the Joe Morolong Local Municipality. This additional area comprised mostly of commercial and privately owned (Mines) farms with no traditional settlements located on it.

The Joe Morolong Local Municipality is the most populous Municipality within the District. Joe Morolong is a rural area consisting of a traditional component where Traditional Leaders play a critical role in decision making. The area consists of approximately 185 so-called “villages” (traditional settlements). The total extent of the Joe Morolong Local Municipality is 20,173 square kilometres.

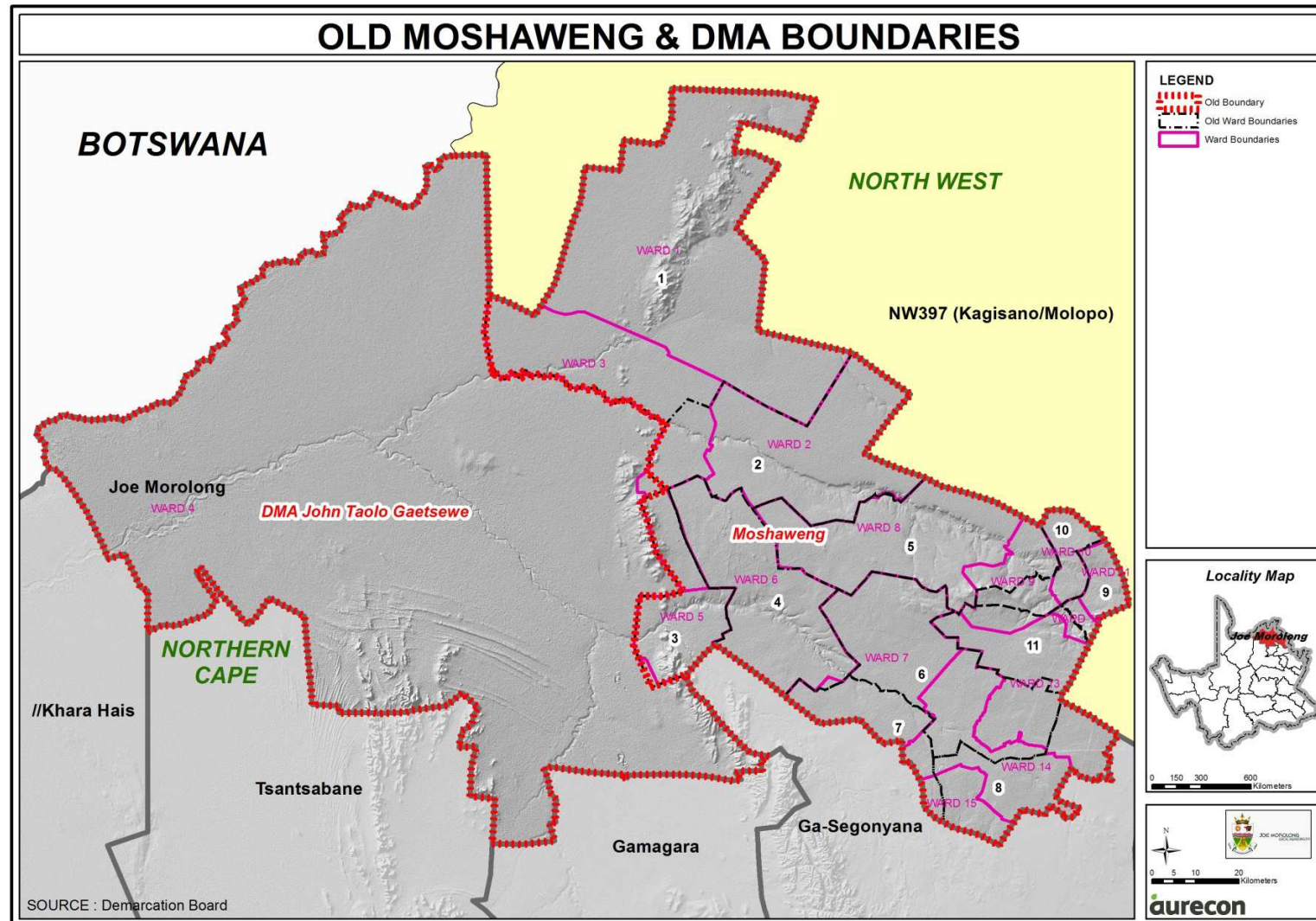
The StatsSA Community Survey of 2007 indicates that the population decreased from 97,945 in 2001 to 75,609 in 2007. This is a -3.8% decrease in the total population.

Joe Morolong is mainly a rural area with high unemployment and small mining area. The area was pronounced as a Comprehensive Rural Development Area.

Figure 1: Hotazel Manganese Mine



Map 1: Old Moshaweng and DMA Boundaries



2. Context

2.1 Regional Context

The following 6 Local Municipalities share a border with the Joe Morolong Local Municipality:

- Kagisano-Molopo Local Municipality (North West)
- Greater Taung Local Municipality (North West)
- Ga-Segonyana Local Municipality (Northern Cape)
- Gamagara Local Municipality (Northern Cape)
- Tsantsabane Local Municipality (Northern Cape)
- //Khara Hais Local Municipality (Northern Cape)

LOCAL CONTEXT - JOE MOROLONG

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NORTHERN CAPE

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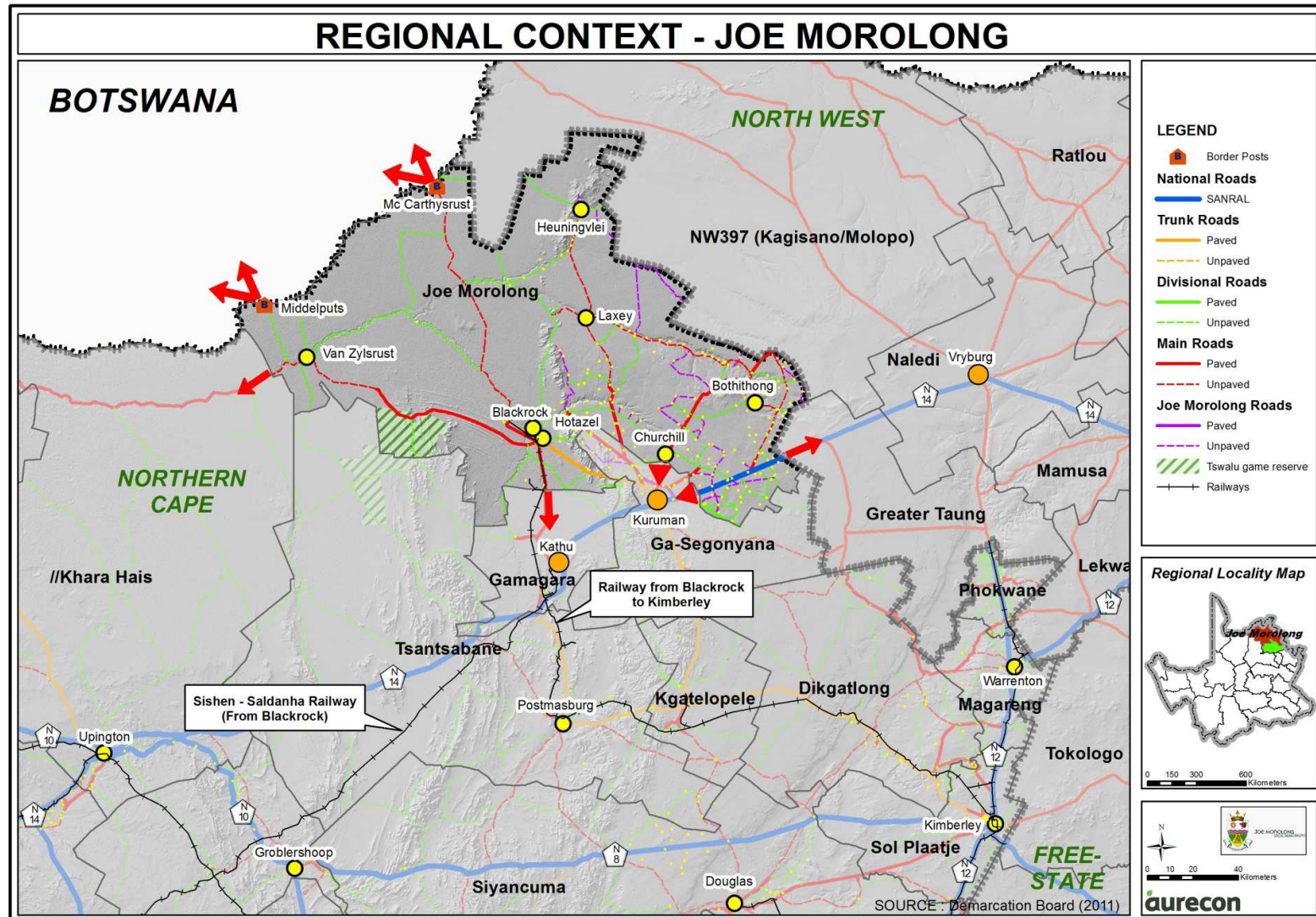
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Map 3: Regional context map of Joe Morolong Local Municipality



In terms of the regional context and interaction with surrounding Municipalities, Regions and Countries across the various bioregions, the Joe Morolong Local Municipality is rather isolated geographically. It is located on the northern border of South Africa. In context to larger economic centres, the Municipality finds itself prone to large travelling distances to acquire its goods and services. Road access plays a pivotal role in the interactions and also has an adverse effect by increasing costs to all goods and services due to transport fees.

The N14 Road

The N14 is the only National Road crossing the Municipality's Southern tip. The road connects Pretoria, Lichtenburg, Vryburg, Kuruman, Upington and Springbok and stretches 1200 km. The N14 carries substantial traffic and goods transported from Gauteng to these Regions and form an important regional link across these areas.

Major trade centres servicing the traditional settlements in Joe Morolong Local Municipality is Kuruman in the Ga-Segonyana Local Municipality to the South on the N14 and Vryburg in the Naledi Local Municipality, also situated on the N14 to the South. The N14, as mentioned, being a lifeline of goods and services through the region plays an important role in the adjacent Municipalities and provide income to centres along the road. Hartswater in the Phokwane Local Municipality (Northern Cape) may also attract traffic from the Joe Morolong Local Municipality.

Botswana

The Joe Morolong Local Municipality has two minor Port of Entries across the non-perennial Molopo River to Botswana to the north namely McCarthy's Rest and Middleputs. The major border crossing between South Africa and Botswana is the Ramatlabama Port of Entry between Mafikeng (North West Province) in RSA and Gaborone, the capital city of Botswana.

No major trading centres or settlements exist on the South African side of either of the two Port of Entries, with just a small number of scattered structures and farmland. The connecting roads to the two Port of Entries are gravel roads on the South African side and both become low order tarred roads on the Botswana side, indicating low traffic volumes.

On the Botswana side of the Middleputs Port of Entry, the scattered informal settlement (traditional "village") of Bogogobo exists. Its population in 2001 was 341.

Approximately 10km from the McCarthy's Rest Port of Entry on the Botswana side, the traditional settlement of Tshabong exists with a population of 6591 measured in the 2001 census. Tshabong is located close to the Tsabong kimberlite field, one of the largest diamondiferous kimberlite fields in the world⁸. Even though diamonds exist in this area, relatively small amounts of traffic take place over this Port of Entry.

Figure 2: Tshabong in Botswana



⁸ WIKIPEDIA. 2012. Tshabong. <http://en.wikipedia.org/wiki/Tshabong>. Date of access: 22 Mar 2012.

Kagisano-Molopo Local Municipality (North West Province)

The Kagisano-Molopo Local Municipality to the northeast is very similar in character as the Joe Morolong Local Municipality. The southern parts of the Kagisano-Molopo LM are predominantly made up of settlements under Traditional Authority and the Northern parts are made of predominantly commercial farms. No major trading centres exist in the Kagisano-Molopo Local Municipality and interaction takes place between lower order and higher order settlements (with larger dealerships etc.) on low order roads.

Greater Taung Local Municipality (North West Province)

The Greater Taung Local Municipality is characterised by traditional settlements and lacks any major trading centres large enough to attract substantial traffic and interaction from the Joe Morolong Local Municipality. The closest economical centre is Reivilo, approximately 60km from the southern tip of the Joe Morolong Local Municipality.

Ga-Segonyana Local Municipality (Northern Cape Province)

Kuruman is situated in the Ga-Segonyana Local Municipality along the N14 to the South of the Joe Morolong Local Municipality. Kuruman serves as an important centre for goods and services to the Traditional Settlements in the Municipality. Most internal roads in the Joe Morolong Local Municipality direct towards Kuruman and make it accessible.

Gamagara Local Municipality (Northern Cape Province)

Dingleton, Sishen and Kathu (being areas of the same town) are known for its large Iron Ore Mine, one of the five largest in the world and a railway connection to Saldanha on the West Coast. The population in 2001 was 8,247. Sishen may provide work to many persons originating from the Joe Morolong Local Municipality that may travel on a daily or weekly basis between the Mine and their homes.

Figure 3: Sishen Iron Ore Mine



Tsantsabane and //Khara Hais Local Municipality (Northern Cape Province)

Upington is situated in //Khara Hais Local Municipality, but relatively low levels of interaction occur between Upington and Joe Morolong Local Municipality. There are no major centres in Tsantsabane Local Municipality, therefore also leading to low interaction.

2.2 Legislative and Policy Context

Vertical Integration:

The SDF forms a link in a larger chain of Planning Policies, Legislation and Guidelines. South Africa forms part of the African Continent and interacts in a spatial manner economically, socially, environmentally and physically with neighbouring countries on the Continent and also with countries across the oceans. In the case of the Joe Morolong Local Municipality, the area shares a substantial stretch with the border of Botswana to the northwest and much interaction occurs.

These external influences are better described in the National Spatial Development Perspective (NSDP). The NSDP also coordinates the overall relationship within South Africa between Provinces, Regions and Local Municipalities to ensure that the preferred Developmental Principles be reached in an optimal manner.

Furthermore, the NSDP relates to the nine Provincial SDF's which seamlessly integrates into the Vision and Goals of the NSDP. The Provincial SDF's provides the needed impetus to create momentum for the District SDF's. The main Principles for the Province are laid out for the District, which is discussed in further detail in the District SDF.

Finally, on operational level, the Local SDF's give way to most of the implementation of the Policies carried over from the National, Provincial and District SDF's. The Local SDF focuses on manners to implement the Higher Level Strategies on a localized level. The Local SDF is the main forward planning instrument in the hands of the Developer, Municipality and members of the public.

Various other Policies, Programmes and Legislature on a National, Provincial and District Level is treated in the same manner to ensure a seamless vertical integration of broader and higher level goals to be implemented on a local scale.

Horizontal Integration:

The Joe Morolong Local forms an integral part of the local area and has delicate relationships and interaction with surrounding regions on the same level. The Bioregions as previously described interact across adjacent municipal boundaries. Unfortunately, administrative boundaries e.g. ward boundaries and municipal boundaries were not always created to be subject to the bioregions that exist. Various overlapping bioregions may also exist and finding water tight boundaries is a difficult task. The organic nature of the bioregions, their boundaries may shift over time and differ for different functions, be it economical, ecological or social. The fact of the matter is that bioregions are the true reflection of the actual reality of life that takes place every day and ignoring the bioregions would be a critical mistake.

Therefore, interaction with adjacent Local Municipalities is of the utmost importance and any Planning Policies or Programmes should be coordinated between these Local Municipalities.

Various activities take place close to the municipal borders and thereby influence and are being influenced by neighbouring municipalities. It may be that projects had been identified in close proximity to municipal borders and special attention will be paid to it.

Features that may be identified such as interregional aspects e.g. road networks that supply goods and services and attract development. The road network and major routes connecting the adjacent municipalities will be studied and Strategies formed.

The Local SDF also interacts with various localized Legislation and local Policies, Sector Plans, Programmes etc. The horizontal relationship between all local planning instruments needs to be defined. The Local SDF will aim to integrate all the local instruments (with a spatial element) into an integrated whole that is easy to use and understand.

2.2.1 Sustainable Development

Sustainable Development is a cross cutting concept that should permeate all facets of municipal activities. It is an overarching Policy and not an isolated Principle.

Human activities and living patterns are currently unsustainable in the long run. The environment is exploited for economic gain and irreparable damage is caused for future generations. Sustainable development is the process whereby economic development, community development and ecological development is balanced with each other.

Profits, expansion of economic activities and externalisation of costs stems from economic activities. Infrastructural development to meet human needs, creation of equity and self-reliance stems from community development.

Ecological development limits consumption of natural resources at a rate that can be regenerated and by the reduction of production waste that can be absorbed by the environment.

The Brundtland Report definition of sustainable development:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- The concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."⁹
- The Joe Morolong Local Municipality needs to review all of its development initiatives to ensure that it meets the basic requirements of sustainable development, without compromising the needs of the poor and destitute. Sustainable development needs to be implemented on a local level to have a global effect.
- Understanding that sustainable development is not only an environmental issue, but cuts across all activities, be it economic or social is important.
- Financial sustainability means ensuring the efficient and responsible use of municipal resources –so that these resources can continue to provide benefits over the long term.

⁹ *World Commission on Environment and Development (WCED). Our common future. Oxford: Oxford University Press, 1987 p. 43.*

- Economic sustainability means putting the Plans and Structures in place today that will support local economic growth and opportunities for years to come.
- The implications on the ground level may mean:
- Increasing municipal savings, by managing resources more efficiently.
- Securing greater access to funding.
- Enhancing your local tax base.
- Attracting new investment, businesses and industries.
- Attracting, building and retaining a skilled and educated workforce.
- Creating jobs and fostering a supportive environment for local entrepreneurs.
- Supporting local food production.

2.2.2 International

In terms of Legislation, Policies and Frameworks, various International Agreements had been signed between South Africa and other Countries to uplift the poor, protect our environment, etc. Various goals had been set and needs to be taken into account, even on a local level. The following are selected International Agreements that may be more relevant to the Joe Morolong Local Municipality.

United Nations - Millennium Development Goals

Member states of the United Nations and various other world organisations signed an agreement in New York in September 2000 to reach eight international goals by the year 2015. The goals address extreme poverty and all its facets, gender equality, education, environmental sustainability and basic human rights i.e. the right to health, education, shelter and security.¹⁰

¹⁰ *United Nations. 2000. United Nations Millennium Development Goals. <http://www.un.org/millenniumgoals/bkgd.shtml>. Date of access: 16 Mar 2012.*

United Nations - Agenda 21

Agenda 21 is a comprehensive Global, National and Local Plan of action to be executed by the United Nations System, Government and major groups in all areas. The Rio Declaration of Environment and Development and the Statement of Principles for the Sustainable Management of Forests were adopted by 178 Governments in Rio de Janeiro, Brazil in 1992. The full implementation of Agenda 21 was reaffirmed at the World Summit on Sustainable Development held in Johannesburg in 2002.¹¹

Institutional responsibility in this area lies within three ministries: that for the Southern African Development Community (SADC), Foreign Affairs, and Trade and Industry. South Africa has responded by various changes in Legislation and Policies, e.g. the National Environmental Management Act 107 of 1998, a Policy on Integrated Pollution Control and waste Management, a Policy Conservation and Sustainable Utilisation of South Africa's Biological Diversity and the National Water Act 36 of 1998, amongst others.¹²

Local Agenda 21

Various National Governmental departments had been tasked to deal with implications emanating from the International Agenda 21, e.g. Dept. Environmental Affairs, Dept. of Tourism, Dept. of Minerals and Energy, Dept. of Local Government, Dept. of Human Settlements, Dept. of Rural Development and Land Reform etc. insofar matters pertaining to Agenda 21 are relevant.

Key elements to be addressed by the SDF contained in the Local Agenda 21 are the following:

- Environmental matters
- Sustainable development
- Public participation
- Formation of strategic partnerships
- Performance measures of the above-mentioned targets

¹¹ United Nations. 1992. United Nations Department of Economic and Social Affairs: Division for sustainable development. <http://www.un.org/esa/dsd/agenda21/>. Date of access: 16 Mar 2012.

¹² United Nations. 1997. Economic aspects of sustainable development in South Africa. <http://www.un.org/esa/agenda21/natlinfo/countr/safrica/eco.htm> Date of access: 16 Mar 2012.

United Nations - Convention to Combat Desertification

The United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, the Convention's full name, was adopted on 17 June 1994 and opened for signature in Paris in October that year. As at 14 January 1997, the Convention (CCD) had been ratified by 60 countries. It entered into force on 26 December 1996.

A quarter of the earth's land surface is threatened by desertification. More than one billion people in more than 100 countries are affected as farming and grazing land become unproductive. Desertification does not mean that existing deserts are expanding, but means that a process of land degradation takes place in arid, semi-arid and dry sub-humid areas resulting from climatic variations or human activities. These patches of degraded land may develop far away from existing deserts, but may grow together and form larger areas.

The five main endangered areas are:

- The Sonoran Desert of northwest Mexico and its continuation into the southwest United States;
- The Atacama Desert, a thin coastal strip in South America between the Andes and the Pacific Ocean;
- A large desert area running eastward from the Atlantic Ocean to China, including the Sahara Desert, the Arabian Desert, the Deserts of Iran and the former Soviet Union, the Great Indian Desert (Thar) in Rajasthan, and the Takla-Makan and Gobi Deserts in China and Mongolia;
- The Kalahari Desert in Southern Africa; and
- Most of Australia.

The stated objective of the Convention is "to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa" To achieve this goal, the Convention calls for action involving international cooperation and a partnership approach. It focuses on improving land productivity, rehabilitation of land, conservation and sustainable management of land and water resources. Such action should also prevent the long-term consequences of desertification, including mass migration, species loss, climate change and the need for emergency assistance to populations in crisis. "The Convention's

entry into force offers an opportunity for the international community to turn its attention to the most impoverished peoples of the Planet", says Hama Arba Diallo, the Convention's Executive Secretary. "It will bring renewed hope to millions of people living in fragile dry land ecosystems and help them start on the road to sustainable development."

Of the approximate total of 5.2 billion hectares agricultural dry land, 69% is degraded. In Africa, 75% of the dry lands used had been degraded. World food production needs to increase by more than 75 % over the next 30 years to keep up with the current world population growth. In addition, desertification is partially responsible for migration patterns. Poverty forces people to over-cultivate, deforest and practise unsustainable activities to support themselves. This state can eventually lead to conflict, political instability, starvation and social breakdowns.

The established Convention focuses on improving land productivity, rehabilitation of land, conservation and sustainable management of land and water resources.

Desertification-affected countries are obliged to:

- Give priority to combating desertification and drought by allocating adequate resources in accordance with capabilities;
- Establish Strategies to combat desertification and drought;
- Address the underlying causes of the problem and pay special attention to relevant socio-economic factors;
- Promote awareness and the participation of local population in action to combat desertification and drought; and
- Provide an enabling environment through appropriate laws, Policies and Action Programmes.¹³

The Joe Morolong Local Municipality therefore falls within one of the listed endangered areas, namely the Kalahari Desert. Many of the settlements within the Municipality are affected by the desertification and subsequent less productive outputs of the land.

¹³ United Nations. 1997. *The United Nations Convention to Combat Desertification: A New Response to an Age-Old Problem*. <http://www.un.org/ecosocdev/geninfo/sustdev/desert.htm>. Date of access: 16 Mar 2012.

New Partnership for Africa's Development (NEPAD)

NEPAD is a programme of the African Union (AU) adopted in Lusaka, Zambia in 2001. The aim of the programme is to pursue new priorities and approaches to the political and socio-economic transformation of Africa. Its objective is to promote growth, development and participation in the global economy.

NEPAD is about consolidating and accelerating gains made in Africa, a call for new relationships in Africa and with the international community, especially the highly industrialised countries. The Programme is a declaration that Africans will no longer allow to be conditioned by circumstances and determine its own destiny.

In the same spirit, the Joe Morolong SDF will provide direction to assist the Local Municipality to implement measures to uplift its people and rise up over its circumstances.¹⁴

Orange-Senqu River Commission (ORASECOM)

The Commission was the first to be established following the regional ratification of the SADC Protocol and Shared Water Course Systems. The Agreement recognises:

- The Helsinki Rules (1966)
- The UN Convention on Non-Navigational Uses of International Watercourses (1997)
- The SADC Revised Protocol on Shared Watercourse Systems (2000)

The Commission agreement was signed in 2000 between Lesotho, South Africa, Botswana and Namibia. The ORASECOM promotes the equitable and sustainable development of the resources of the Orange-Senqu River. It also provides a Forum for consultation and coordination between the Riparian States to promote integrated water resources management and development within the basin.

The goals of ORASECOM are:

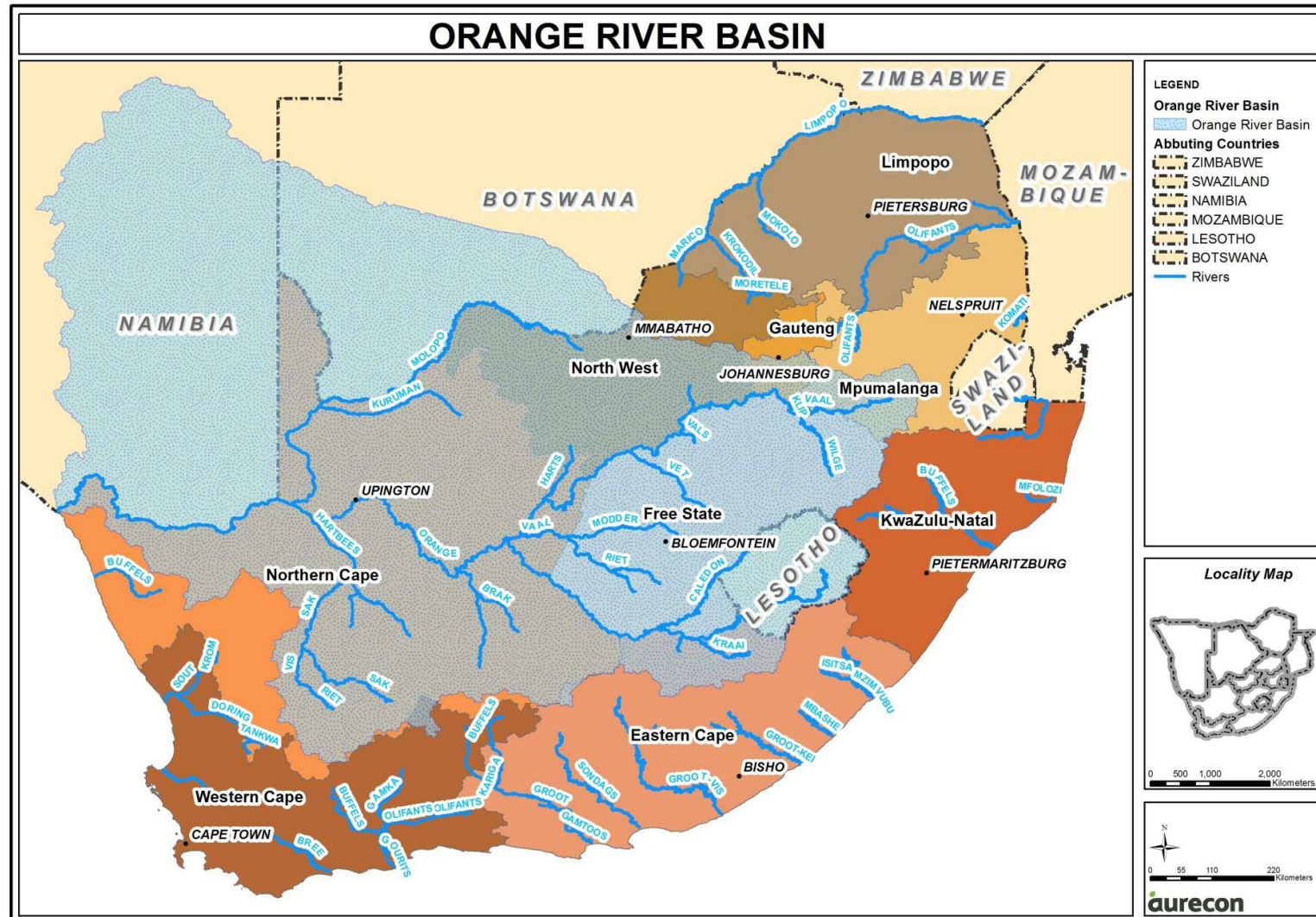
¹⁴ New Partnership for Africa's Development. 2001. *NEPAD's Principles, Programme of Action, Priorities and desired Outcomes*. <http://www.nepad.org/> Date of access: 16 Mar 2012.

- Develop a comprehensive perspective of the basin
- Study the present and planned future uses of the River System
- Determine the requirements for flow monitoring and flood management

The Joe Morolong Local Municipality falls within the basin of the Orange-Senqu River and needs to take cognisance of the agreements.¹⁵

¹⁵ ORASECOM. 2000. *Orange Senqu River Commission: Regional and International Agreements*. <http://www.orasecom.org/about/agreements.aspx>. Date of access: 16 Mar 2012.

Map 4: Orange-Senqu River Basin



Botswana National Development Plan

The Joe Morolong Local Municipality shares an extensive border with Botswana to the northwest. A number of ports of entry within Joe Morolong Local Municipality exist between South Africa and Botswana through which goods, services and people are transported. Bioregions exist that operate across this international borders. Therefore the Planning and Development Strategies of Botswana are relevant to the Joe Morolong Local Municipality SDF as it impacts on the people, environment and economy of the Municipality.

Botswana is named after the Tswana speaking population of these Regions. All the major eight tribes in Botswana speak Tswana and have a paramount chief known as a Kgosi kgolo, who is entitled to a seat in the House of Chiefs. The Tswana Dynasties are all related and have been split between South Africa and Botswana. The largest number of ethnic Tswana people actually resides in South Africa. The South African Tswana people were citizens of Bophutatswana, one of the independent homelands in the former South Africa under the "Apartheid" rule.¹⁶

The Tswana people residing on both sides of the international border both speak the same language and is actually related from the same tribes, with the same customs. It can therefore be expected that interaction will occur between these two Countries on this Border.

Botswana has compiled its 10th National Development Plan (NDP) which runs from 1 April 2009 to 31 March 2016 to coincide with the Botswana 2016 Long Term Vision.¹⁷ Botswana's Strategy for a landlocked country revolves around the fact that transport costs are high to surrounding areas. It is the aim to invest in better transport infrastructure to enhance international trade with neighbouring countries. The NDP indicates South Africa as advantageous neighbour with whom it wants trade relations, especially with the North West Province and Gauteng. Botswana feels that its economy is small enough not

to spark protectionist measures from South Africa. Exports to South Africa have grown with 23.6% between 2001 and 2008. The Southern African Development Community (SADC) Free Trade between its member countries was launched in 2008, whilst Botswana already had a free trade agreement with South Africa.

Botswana is making efforts to ease the process of acquiring work and residence permits for foreign skilled labourers to assist in its private sector development. This may increase traffic of labour between the two Countries.

The National Export Strategy had been drafted in consultation with private firms to strengthen and diversify exports. An Export Development Programme had been established to boost export volumes.

Botswana has adopted a "High Value – Low Volume" Tourism Strategy, which has borne fruits. In this manner the product remain unspoilt by avoiding an excessive number of tourists by higher pricing in parks etc. This Strategy is currently being reviewed to include a limited mix of higher volume tourism. Eco-tourism is a concept that is being marketed to attract foreign visitors.

In 2005, almost 2 billion tourists visited Botswana. The vast majority of tourists arrive by road with South Africa accounting for 39.5%. It is clear that interaction between Botswana and South Africa is strongly based upon tourism.

Land Use Planning in Botswana entails to balance socio-economic factors with environmental factors. This is in tandem with the Vision 2016 and the Millennium Development Goal of ensuring environmental sustainability and natural resource conservation.

2.2.3 National Policies, Programmes and Frameworks

- The above-mentioned objectives will be met within the broader context provided by Legislation, Programmes, Policies and Frameworks.

| National Policies, Programmes and Frameworks | Relevant content |
|--|--|
| The National Spatial Development | Government Policy that recognizes the importance of the space economy in |

¹⁶ WIKIPEDIA. 2009. Tswana people. http://en.wikipedia.org/wiki/Tswana_people. Date of access: 20 Mar 2012.

¹⁷ BOTSWANA. 2009. National Development Plan: Version 10. Government Press: Gaborone.

| National Policies, Programmes and Frameworks | Relevant content |
|---|---|
| Perspective (NSDP) 2006 ¹⁸ | <p>addressing the legacy of Apartheid and poverty and provides Principles for guiding the space economy as follows:</p> <ul style="list-style-type: none"> • All people have a right to basic services • Fixed investment should be direct to areas with economic and employment growth potential • Social inequalities should be addressed through investment in people rather than places • Future settlement and development opportunities should be channelled to nodes and corridors related to major growth centres. |
| Breaking New Ground (BNG)(2004) ¹⁹ | <p>The focus of this Policy is to change the delivery of housing at scale, to ensuring that housing delivery results in the creation of sustainable human settlements. The objectives of this Policy are:</p> <ul style="list-style-type: none"> • Accelerating the delivery of housing as a key strategy for poverty alleviation • Utilising provision of housing as a major Job Creation Strategy • Ensuring property can be accessed by all as an asset for wealth creation and empowerment • Leveraging growth in the economy • Combating crime, promoting social cohesion and improving quality of life for |

¹⁸ SOUTH AFRICA. The Presidency. 2007. *The National Spatial Development Perspective*. Cape Town: The Presidency. 215 p.

¹⁹ SOUTH AFRICA. 2004. *Department of Human Settlements. Comprehensive housing Plan for the development of integrated sustainable human settlements (Breaking new ground)*. Government Press: Pretoria. 23 p.

| National Policies, Programmes and Frameworks | Relevant content |
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| | <p>the poor</p> <ul style="list-style-type: none"> • Supporting the functioning of the entire single residential property market to reduce duality within the sector by breaking the barriers between the first economy residential property boom and the second economy slump. • Utilizing housing as an instrument for the development of sustainable human settlements, in support of spatial restructuring |
| Outcome 7 ²⁰ | <p>Twelve Outcomes had been identified by Government to be reached by 2014. These Outcomes have a set of measurable outputs to be achieved and each output has a set of activities to assist in achieving the Output.</p> <p>Outcome 7 aims to achieve “vibrant, equitable and sustainable rural communities”. Service delivery is to be fast-tracked through this outcome to rural areas and to ensure that the quality of life, income and access to services in rural communities is increased.</p> <p>The following outputs will be delivered through Outcome 7:</p> <ul style="list-style-type: none"> • Output 1: Sustainable agrarian reform with a thriving farming sector • Output 2: Improved access to affordable and diverse food • Output 3: Improved rural services to support livelihoods • Output 4: Improved employment and |

²⁰ SOUTH AFRICA. *Department Rural Development and Land Reform. Outcome 7*. <http://www.ruraldevelopment.gov.za/DLA-Internet/content/pages/Outcome7.jsp>. Date of access: 15 Mar. 2012.

| National Policies, Programmes and Frameworks | Relevant content |
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| | <p>skills development opportunities</p> <ul style="list-style-type: none"> • Output 5: Enabling institutional environment for sustainable and inclusive growth |
| National Waste Management Strategy ²¹ | <ul style="list-style-type: none"> • Address Integrated Waste Management Planning • Waste minimisation; recycling • Waste collection and transportation • Waste treatment and disposal |
| Neighbourhood Partnership Development Grant (NPDG) (2007) ²² | <p>The NDPG is aimed at stimulating and accelerating investment in poor, underserved residential neighbourhoods by providing technical assistance and capital grant financing for municipal projects. These projects should have a distinct private sector element or an intention to achieve this. Funding from this Programme takes the form of a conditional grant to Municipalities through the Division of Revenue Act (DoRA), 2007 and is administered by the Neighbourhood Development Programme (NDP) Unit of the National Treasury. (National Treasury, 2007)</p> |
| Comprehensive Rural Development Programme (CRDP) (2009) ²³ | <p>The CRDP forms part of Government's Medium Term Strategic Framework. It has a vision to create vibrant, equitable and sustainable rural communities, through:</p> |

²¹ SOUTH AFRICA. Department of Environmental Affairs. *The National waste management strategy*. http://www.wastePolicy.co.za/home/nwms_v1/title. Date of access: 20 Mar 2012.

²² SOUTH AFRICA. 2006. Department: National Treasury. *Neighbourhood Development Partnership Grant*. <http://ndp.treasury.gov.za/default.aspx>. Date of access: 20 Mar 2012.

²³ SOUTH AFRICA. Department Rural Development and Land Reform. *CRDP Background*. http://www.ruraldevelopment.gov.za/DLA-Internet/content/pages/CRDP_Background_and_Framework.jsp. Date of access: 15 Mar. 2012.

| National Policies, Programmes and Frameworks | Relevant content |
|--|---|
| | <ul style="list-style-type: none"> • Coordinated and integrated broad-based agrarian transformation (with a focus on the establishment of rural business initiatives, local markets, co-operatives, etc.) • Strategically increasing rural development (with a focus on empowering rural people) • An improved Land Reform Programme |
| Green Paper on Land Reform, 2011 ²⁴ | <p>In order to align land reform initiatives, the former Department of Land Affairs embarked on a series of District Area Based Plans to align land reform efforts with other initiatives including SDFs.</p> <ul style="list-style-type: none"> • A re-configured single, coherent four-tier system of land tenure, which ensures that all South Africans, particularly rural blacks, have a reasonable access to land with secure rights, in order to fulfil their basic needs for housing and productive livelihoods. • Clearly defined property rights, sustained by a fair, equitable and accountable land administration system within an effective judicial and 'governance' system. • Secure forms of long-term land tenure for resident non-citizens engaged in appropriate investments which enhance food sovereignty and livelihood security, and improved agro-industrial development. • Effective Land Use Planning and Regulatory Systems which promote |

²⁴ SOUTH AFRICA. 2011. Department: Rural Development and Land Reform. *Green Paper on Land Reform*. Government Press: Pretoria. 11 p.

| National Policies, Programmes and Frameworks | Relevant content |
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| | optimal land utilization in all areas and sectors; and, effectively |
| Department of Water Affairs (formerly and Forestry) Best Practice Guidelines (2006) ²⁵ | DWA has produced a number of Best Practice Guidelines to assist participants including the mining and metallurgy industries, water and sanitation infrastructure, community water supply schemes. |
| National Biodiversity Framework (NBF) (2008), published in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) ²⁶ | <p>The NBF provides a Framework to co-ordinate and align the efforts of the many organizations and individuals involved in conserving and managing South Africa's biodiversity, in support of sustainable development. It also provides a framework for conservation and development, emphasizing that care should be taken over the location of development, the type of development, and the consumption of natural resources in the development process. Municipalities are identified as organs of state whose core business is not biodiversity conservation, but whose Policies, Programmes and decisions impact directly and substantially on how South Africa's biodiversity is managed. As such, they play a key role in managing the natural resources, and are required to take biodiversity into account in their Planning and decision-making.</p> <p>The NBF requires Provincial Conservation Authorities to develop Provincial Spatial Biodiversity Plans, which form the basis for the development of Biodiversity Sector Plans and/or the publication of Bioregional Plans in</p> |

²⁵ SOUTH AFRICA. 2007. *Department of Water Affairs: Best Practice Guideline – H4 Water Treatment*. Pretoria: Government Press. 77 p.

²⁶ SOUTH AFRICA. 2000. *National Environmental Management Act 10 of 2004*. Pretoria: Government Press.

| National Policies, Programmes and Frameworks | Relevant content |
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| | <p>terms of the Biodiversity Act.</p> <p>Bioregional Plans: Bioregional Plans are Spatial Plans that are published in terms of the Biodiversity Act. They consist of maps that identify Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) accompanied by Land-use Guidelines for CBAs and ESAs. Bioregional Plans are aligned with administrative boundaries, usually district, local or metropolitan.</p> |
| Millennium Development Goals, 2000 ²⁷ | <p>The United Nation's Millennium Development Goals is an ambitious agenda for reducing poverty and improving lives. The target for achieving most of the goals is 2015, using 1990 as a benchmark.</p> <ul style="list-style-type: none"> • Halving extreme poverty and hunger. • Achieving universal primary education. • Promoting gender equality. • Reducing under-five mortality by two-thirds. • Reducing maternal mortality by three-quarters. • Reversing the spread of HIV and AIDS, malaria and TB. • Ensuring environmental sustainability. • Developing a global partnership for development, with targets for aid, trade and debt relief. |
| National 2014 Vision ²⁸ | As part of South Africa's celebration of 10 |

²⁷ UNITED NATIONS. 1995. *Millennium Development Goals*. <http://www.un.org/millenniumgoals/reports.shtml>. Date of access: 23 Mar 2012.

²⁸ SOUTH AFRICA. 2009. *Vision 2014*. Pretoria: Government Press.

| National Policies, Programmes and Frameworks | Relevant content |
|--|---|
| | <p>years of democracy in 2004, National Government formulated Vision 2014 to guide itself over the next 10 years.</p> <ul style="list-style-type: none"> • Reduce unemployment by half. • Provide the skills required by the economy. • Ensure that all South Africans are fully able to exercise their constitutional rights and enjoy the full dignity of freedom. • Compassionate Government service to the people. • Massively reduce health risks. • Significantly reduce the number of serious and priority crimes. • Position South Africa strategically as an effective force in global relations. |
| Comprehensive Rural Development Programme | <p>The Comprehensive Rural Development Programme (CRDP) is strategic priority number 3 within the government's current Medium Term Strategic Framework. The design of the programme is predicated on lessons learnt from pilot sites selected through socio-economic profiling, community participatory processes and intergovernmental co-operation. A great deal of baseline data has emerged from the first two pilot engagements in Riemvasmaak in the Northern Cape, and Muyexe Village in Giyani in the Limpopo Province. The CRDP is therefore different from past government strategies in rural areas</p> |

| National Policies, Programmes and Frameworks | Relevant content |
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| | <p>because it is premised on a proactive participatory community-based planning approach rather than an interventionist approach to rural development.</p> <p>The CRDP is aimed at being an effective response against poverty and food insecurity by maximizing the use and management of natural resources to create vibrant, equitable and sustainable rural communities. A CRDP must improve the standards of living and welfare but also rectify past injustices through rights-based interventions and address skewed patterns of distribution and ownership of wealth and assets. The strategic objective of the CRDP is therefore to facilitate integrated development and social cohesion through participatory approaches in partnership with all sectors of society. This document therefore serves as the policy framework document for the Comprehensive Rural Development Programme - or 'CRDP'. The document therefore aims to set out the programme principles.</p> <p>The vision of the CRDP is to create vibrant, equitable and sustainable rural communities include: contributing to the redistribution of 30% of the country's agricultural land; improving food security of the rural poor; creation of business opportunities, de-congesting and rehabilitation of over-crowded</p> |

| National Policies, Programmes and Frameworks | Relevant content |
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| | <p>former homeland areas; and expanding opportunities for women, youth, people with disabilities and older persons who stay in rural areas.</p> <p>The ultimate vision of creating vibrant, equitable and sustainable rural communities will be achieved through a three-pronged strategy based on:</p> <ul style="list-style-type: none"> a coordinated and integrated broad-based agrarian transformation; strategically increasing rural development; and an improved land reform programme. <p>The core principle of the CRDP is :</p> <ul style="list-style-type: none"> To promote participatory development in an integrated manner by ensuring that, where appropriate, decision-making involves local communities and all three spheres of government; To promote participatory development in an integrated manner by ensuring that, where appropriate, decision-making involves local communities and all three spheres of government; To promote co-operative governance across all three spheres of government; To promote the values of the Constitution and the principles of Batho Pele; |

2.2.4 National Legislation

| National Legislation | Relevant content |
|---|---|
| Constitution of the Republic of South Africa, 1996 ²⁹ | <p>The Constitution is the supreme law of the land. The Bill of Rights enshrines the rights of all people in our Country and affirms the democratic values of human dignity, equality, and freedom.</p> <ul style="list-style-type: none"> Section 24: Everyone has the right to an environment, which is not harmful to their health or well-being. Section 26(1): Everyone has the right to have access to adequate housing. Section 152 spelling out the objectives of Local Government as insuring access to at least basic services and facilitating economic development within a framework of financial sustainability. |
| Spatial Planning and Land Use Management Bill (SPLUMB) (6 May 2012) ³⁰ | <p>Chapter 4 provides for the preparation of SDF's on a National, Provincial, Regional and Local Level. Extracts from the Bill in terms of local SDF's includes:</p> <ul style="list-style-type: none"> S19(3)(a) requires that Council give notice of the proposed SDF in the media. S19(3)(b) That the public has 30 days to submit written representations after S19(3)(a) has taken effect. S19(3)(c) That Council consider representations as in S19(3)(b) S20 A Municipal Spatial Development |

²⁹ SOUTH AFRICA. 1996. *Constitution of the Republic of South Africa*. <http://www.info.gov.za/documents/constitution/1996/index.htm>. Date of access: 27 Mar 2012.

³⁰ SOUTH AFRICA. 2012. *Spatial Planning and Land Use Management Bill*. Pretoria: Government Press.

| National Legislation | Relevant content |
|----------------------|--|
| | <p>Framework must:</p> <ul style="list-style-type: none"> (a) give effect to the development principles set out in chapter 2 (See <i>Chapter 6: Normative Standards in this Report</i>); (b) include a written and visual representation of a Five 5-Year Spatial Development Plan for the spatial form for the Municipality; (c) include a longer term Spatial Development Vision Statement for the municipal area which indicates a desired spatial growth and development pattern for between ten (10) and twenty (20) years into the future; (d) identify current and future significant structuring and restructuring elements of the spatial form of the Municipality, including development corridors, activity spines and economic nodes where public and private investment will be prioritised and facilitated; (e) include population growth estimates over the next five years; (f) include estimates of the demand for housing units across different socioeconomic categories and the planned location and densities of future housing developments; (g) include estimates of economic activity and employment trends and locations in the municipal area over the next five years; |

| National Legislation | Relevant content |
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| | <ul style="list-style-type: none"> (h) identify, quantify and provide location requirements of engineering infrastructure and services provision for existing and future development needs over the next five years; (i) identify the designated residential, business, commercial and industrial areas where National or Provincial inclusionary housing and inclusionary Economy Policy or statutory requirements will be applicable; (j) include a strategic assessment of the environmental pressures and opportunities within the municipal area, including the availability of high potential agricultural land where applicable; (k) identify the designation of areas in the Municipality where incremental upgrading approaches to development and regulation will be applicable; (l) identify the designation of areas in which: <ul style="list-style-type: none"> (i) more detailed Local Plans must be drawn up; and (ii) where shortened land use development procedures may be applicable and Land Use Schemes may be so amended; (m) provide the spatial expression of the co-ordination, alignment and integration of Sectorial Policies of all municipal departments; (n) determine a Capital Expenditure |

| National Legislation | Relevant content |
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| | <p>Framework for the Municipality's Development Programmes;</p> <p>(o) determine the purpose, desired impact and structure of the Land Use Management Scheme to apply in that municipal area; and</p> <p>(p) include an Implementation Plan comprising:</p> <ul style="list-style-type: none"> (i) sectorial requirements including budgets and resources for implementation; (i) necessary amendments to a Land Use Scheme; [iii] specification of institutional arrangements necessary for implementation; [iv] specification of implementation targets, including dates and monitoring indicators; and (v) specification, where necessary, of any arrangements for partnerships in the implementation process. <p>Status of SDF's:</p> <p>21. (1) A Planning Tribunal or any other authority required or mandated to make a land development decision in terms of this Act or any other law dealing with land development, may not make a decision which is inconsistent with a Municipal Spatial Development Framework.</p> <p>(2) A Planning Tribunal or any other authority required or mandated to make a land development decision may depart from the provisions of a Municipal Spatial Development</p> |

| National Legislation | Relevant content |
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| | <p>Framework only if -</p> <ul style="list-style-type: none"> (a) site specific circumstances justify a departure from the provisions of such Municipal Spatial Development Framework; or (b) the application of the Municipal Spatial Development Framework under particular circumstances will lead to illogical or unintended result. <p>(3) A Municipal Spatial Development Framework may not contradict an applicable Provincial or National Spatial Development Frameworks.</p> <p>(4) Where a published Provincial Spatial Development Framework is inconsistent with the applicable Municipal Spatial Development Framework, the MEC must take the necessary steps, including the provision of technical assistance, to support the revision of those spatial development Frameworks in order to ensure consistency between the two.</p> |
| Municipal Systems Act (Act 32 of 2000) ³¹ | <p>Chapter 5 provides for the preparation of IDPs:</p> <ul style="list-style-type: none"> • S26(e) lists an SDF as a core component of an IDP and requires that the SDF provides Basic Guidelines for a Municipal Land Use Management System • S24(1) requires that Municipalities should align their planning with National and Provincial Planning, as well as those of affected Municipalities |

| National Legislation | Relevant content |
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| | <ul style="list-style-type: none"> S27 requires a District Municipality to adopt a Framework for Integrated Development Planning that is binding to the Local and District Municipality. <p>This Framework should:</p> <ul style="list-style-type: none"> identify relevant National and Provincial Legislation, identify matters that require alignment between local and district planning specify Principles to be applied determine Procedures for coordination and amendment of the Framework |
| Local Government: Municipal Planning and Performance Management Regulations (GN R796 of 2001) ³² | <p>S2(4) requires that an SDF should:</p> <ul style="list-style-type: none"> give effect to the DFA Principles; set out Objectives that reflect the desired spatial form of the Municipality; contain Strategies and Policies to achieve the objectives and which should indicate desired patterns of land use; address the spatial reconstruction; provide strategic guidance regarding the location and nature of development; set out Basic Guidelines for a Land Use Management System in the Municipality; set out a Capital Investment Framework for the Municipality's Development Programmes; contain a Strategic Assessment of the Environmental Impact of the SDF; |

³² SOUTH AFRICA. 2001. *Local Government: Municipal Planning Performance Management Regulations. Regulation 796 of 2001.* Pretoria: Government Press.

| National Legislation | Relevant content |
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| | <ul style="list-style-type: none"> identify Programmes and projects for the development of land within the Municipality; be aligned with the Spatial Development Frameworks reflected in the Integrated Development Plans of neighbouring municipalities; and provide a Plan of the desired spatial form of the Municipality, which should: <ul style="list-style-type: none"> indicate where public and private land development and infrastructure investment should take place; indicate desired or undesired utilisation of space in a particular area; delineate an urban edge; identify areas for strategic intervention; and indicate priority spending areas. |
| Municipal Financial Management Act (56 of 2003) ³³ | To secure sound and sustainable management of Municipal Financial Affairs, and in particular, the management and disposal of public assets, particularly land. |
| Subdivision of Agricultural Land Act 70 of 1970 ³⁴ | <p>Application Regulations regarding the subdivision of agricultural land for development within a Municipality:</p> <p>Subject to the provisions of Section 2, a Surveyor-General shall only approve a General</p> |

³³ SOUTH AFRICA. 2003. *Municipal Financial Management Act 56 of 2003.* Pretoria: Government Press.

³⁴ SOUTH AFRICA. 1970. *Subdivision of Agricultural Land Act 70 of 1970.* Pretoria: Government Press.

| National Legislation | Relevant content |
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| | <p>Plan or Diagram relating to a subdivision of agricultural land.</p> <p>(d) any subdivision of any land in connection with which a Surveyor has completed the relevant survey and has submitted the relevant sub-divisional diagram and survey records for examination and approval to the Surveyor-General concerned prior to the commencement of this Act and a Registrar of Deeds shall only register the vesting of an undivided share in agricultural land referred to in Section 3 (b), or a part of any such share referred to in Section 3 (c), or a lease referred to in Section 3 (d) or, if applicable, a right referred to in Section 3 (e) in respect of a portion of agricultural land, if the written consent of the Minister in terms of this Act has been submitted to him.</p> <p>(b) no undivided share in agricultural land not already held by any person, shall vest in any person;</p> <p>(c) no part of any undivided share in agricultural land shall vest in any person, if such part is not already held by any person;</p> <p>(d) no lease in respect of a portion of agricultural land of which the period is 10 years or longer, or is the natural life of the lessee or any other person mentioned in the lease, or which is renewable from time to time at the will of the lessee, either by the continuation of the original lease or by entering into a new lease, indefinitely or for periods which together with the first period of the lease amount in all to not less than 10 years, shall be entered into;</p> <p>(e) (i) no portion of agricultural land, whether surveyed or not, and whether there is any building thereon or not, shall be sold or advertised for sale, except for the purposes</p> |

| National Legislation | Relevant content |
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| | <p>of a mine as defined in section 1 of the Mines and Works Act, 1956 (Act 27 of 1956); and</p> <p>(ii) no right to such portion shall be sold or granted for a period of more than 10 years or for the natural life of any person or to the same person for periods aggregating more than 10 years, or advertised for sale or with a view to any such granting, except for the purposes of a mine as defined in section 1 of the Mines and Works Act, 1956;</p> <p>[Para. (e) Substituted by s. 2 of Act 12 of 1979 and by s. 2 (1) (a) of Act 33 of 1984.]</p> |
| National Environmental Management Act no.107 of 1998 ³⁵ | <p>In the Act, the SDF promotes Clause (4)(a) Sustainable Development, which requires the consideration of all relevant factors including the following:</p> <p>i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;</p> <p>ii. that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;</p> <p>iii. that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;</p> <p>iv. that waste is avoided, or where it cannot be altogether avoided, minimised and reused or</p> |

³⁵ SOUTH AFRICA. 1970. *National Environmental Management Act 107 of 1998*. Pretoria: Government Press.

| National Legislation | Relevant content |
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| | <p>recycled where possible and otherwise disposed of in a responsible manner;</p> <p>v. that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;</p> <p>vi. that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;</p> <p>vii. that a risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and</p> <p>viii. that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.</p> <p>(4)(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.</p> <p>(4)(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.</p> <p>(4)(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising</p> |

| National Legislation | Relevant content |
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| | <p>all forms of knowledge, including traditional and ordinary knowledge.</p> <p>(4)(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.</p> <p>(4)(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.</p> <p>(4)(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.</p> <p>(4)(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.</p> |

2.2.5 Provincial Policies, Programmes and Frameworks

| Provincial Policies, Programmes and Frameworks | Relevant content |
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| Northern Cape Provincial Spatial Development Framework | <p>The main goals of the Northern Cape Provincial Spatial Development Framework (NC PSDF) are the following³⁶:</p> <ul style="list-style-type: none"> Promote sustainable economic development by building on the comparative economic advantages of the Province. Protect and utilize the natural resource base in a sustainable manner for the benefit of all parties concerned. Merge social, ecological and economic considerations in decision-making as is required by NEMA and other legislative instruments. Make a meaningful and lasting contribution to the eradication of poverty and inequality through the wise use of the inherent capital of the Province. Create an environment that will ensure an acceptable return on capital invested by the private sector investors in the area. Provide a spatial representation of the ideals and goals of the IDP, LED and the PGDS. |
| Northern Cape Provincial Growth | The Joe Morolong SDF needs to comply with the |

³⁶ SOUTH AFRICA. Office of the Premier. 2011. *Northern Cape Provincial Spatial Development Framework: Volume 1*. Kimberley: Office of the Premier. 47 p.

| Provincial Policies, Programmes and Frameworks | Relevant content |
|--|--|
| and Development Strategy | <p>vision of Northern Cape Provincial Growth and Development Strategy (NC PGDS)³⁷, namely: "Building a prosperous, sustainable growing Provincial economy to reduce poverty and improve social development".</p> <p>To give effect to the PGDS and to generally broaden the economic base, the following objectives are set:</p> <ul style="list-style-type: none"> Propose measures to increase existing output levels. Propose new activities to extend the current economic base. The development of small, medium and micro-enterprises (SMME's). Increase ownership (of land and businesses) amongst all members of the community. The protection and enhancement of all property owners in the Province. |
| <ul style="list-style-type: none"> North West SDF Northern Cape Mineral Sector Strategy North West Provincial Growth and Development Strategy (PGDS) Medium Term Expenditure Framework | |

³⁷ SOUTH AFRICA. Office of the Premier. 2004. *Northern Cape Provincial Growth and Development Strategy*. Kimberley: Office of the Premier. 94 p.

2.2.6 Provincial legislation

| Provincial Policies, Programmes and Frameworks | Relevant content |
|--|--|
| Northern Cape Planning and Development Act 7 of 1998 ³⁸ | <p>Sections 27 to 34 of Act have reference to the compilation of Local and Representative Council Land Development Plans (elsewhere known as Spatial Development Frameworks).</p> <p>Section 28: Purpose of a Land Development Plan:</p> <ul style="list-style-type: none"> • Provides an integrated spatial and infrastructural development framework. • Guide and direct the exercise of the powers, duties and functions of local councils. • Complement and contribute to the purpose, intents and contents of an integrated development plan. <p>Section 29: Contents of a Land Development Plan</p> <ul style="list-style-type: none"> • Contextual framework • Development framework • Implementation framework <p>Section 30: Procedures</p> <ul style="list-style-type: none"> • 30(1) Council will publish a notice in |

³⁸ SOUTH AFRICA. 1998. *Northern Cape Planning and Development Act 7 of 1998*. Pretoria: Government Press.

| Provincial Policies, Programmes and Frameworks | Relevant content |
|--|--|
| | <p>two languages in a local newspaper and in the Provincial Gazette, stating:</p> <ul style="list-style-type: none"> – Intent to prepare LDP – purpose of LDP in terms of Section 29 – proposed content of LDP in terms of Section 29 – manner in which and when public participation will take place – estimated time to complete (not exceeding 18 months) <ul style="list-style-type: none"> • 30(2) Prior to submission of the LDP to council for consideration, the CEO shall: <ul style="list-style-type: none"> – publish a notice in two languages in a local newspaper and in the Provincial Gazette, stating the availability of the plan for comment purposes – circulate the plan to the concerned district council, any interested provincial and national departments for comment purposes. – the comment period shall not be less than 30 days from date of publication • 30(3) based on the merits, the plan shall be revised and it and the comments received shall be sent to council for consideration • 30(4) Following approval by local council, the plan shall be submitted to the MEC. |

2.2.7 District Policies, Programmes and Frameworks

- Dr Ruth S Mompoti and the John Taolo Gaetsewe District Municipality IDP's
- Dr Ruth S Mompoti and the John Taolo Gaetsewe District Municipality SDF's
- John Taolo Gaetsewe District Municipality Growth and Development Strategy

2.2.8 Local Policies, Programmes and Frameworks

- Municipal IDP
- Municipal SDF (existing)
- Municipal LUMS
- Adjacent Municipal IDP's
- Adjacent Municipal SDF's
- Adjacent Municipal LUMS's

3. Vision and Principles

3.1 Introduction

It should be noted that the 2010 IDP was compiled during the previous demarcation of the Moshaweng Local Municipality, which excluded the cross border area between the John Taolo Gaetsewe District Municipality and the North West Province.

3.1.1 The Moshaweng LM IDP Vision and Mission statements

Vision:

"The Municipality shall be a financial and administratively established and operating Municipality with its entire people having access to all basic services, education, employment, safety, health and living in an economically sustainable and developed environment."

Mission Statement:

"The Municipality shall be a safe and healthy development area where affordable services are provided in a sustainable manner through community involvement."³⁹

The 2010 IDP for the previously demarcated municipal area of Moshaweng, revolves its vision and mission statements around the five Key Performance Areas expected of the Local Municipality namely:

- Municipal Transformation and Institutional Development.
- Improve Basic Service Delivery and Infrastructure Investment.
- Local Economic Development (LED).
- Financial viability and Financial Management.
- Good Governance, communication participation and Ward Committee System.
- A Vision and Mission Statement is compiled for the SDF from inputs provided during the public participation process and the previous IDP. The SDF Vision is focused on spatial elements.

³⁹ MOSHAWENG LOCAL MUNICIPALITY. 2010. *Integrated Development Plan: Review*. Churchill: Moshaweng Local Municipality. 103 p.

3.1.2 The John Taolo G. District Municipality SDF vision and mission statements

Vision:

The vision of the 2012-JTGDM SDF reads as follows:

“The John Taolo Gaetsewe District Municipality will become a district in which all its residents...

- Engage in viable and sustainable wealth-generating economic activities. This has resulted in the eradication of poverty, and a dramatic reversal in the unequal distribution of wealth and income and the skewed access to opportunities in the district. Viable, well-planned rural development initiatives have brought an end to the deep poverty and the destitution of the Joe Morolong Local Municipality. Due to well researched and tested desert-resistant agricultural practices, high-value rural products are being produced and over-grazing and soil erosion is no longer a problem. Serious investment in and exploitation of renewable sources of energy has not only resulted in the district becoming self-reliant in the generation of electricity, but seen it make a sizeable injection on the national electricity grid.
- Live in sustainable human settlements that are safe, vibrant and in balance with the environment. Young people grow up with the prospect of a bright future, either in the district, or anywhere else in the world that the quality education they received, has prepared them for. Walking and cycling are the two most common modes of movement within towns and villages, while a safe and reliable minibus system provides transport between these settlements. Traffic management and road maintenance mean that mining trucks no longer pass through settlements and potholes are a thing of the past. Water and energy-use, energy generation and the construction of housing, are examples of “best practice in Green design, building and living”. Due to proper, respected and wise land-use management, including the regulation of mining activities, uncontrolled settlement expansion does not take place and environmental damage is minimised.
- Participate in the governance of the district, including settlement formation and expansion, economic development, education, and the provision of basic services. Plans are prepared with full participation of all

interested and affected parties, are based on accurate information and are implemented. Elected politicians and officials serve the people and corruption and misappropriation of funds are rare occurrences. Traditional leaders serve on a civil society advisory body that is consulted on all strategic decisions by the elected politicians. Decisions that affect the public are based on evidence, and only taken after careful consideration of all the viable options and deliberation on all the positions and perspectives in the district. Due to payment for services by all, and smart systems and practices, the municipalities in the district are financially viable and desirable places to work in.

This not only ensures that the district is truly “home” to all of its people, but also a sought-after national and international investment and tourism destination.”

3.1.3 Northern Cape Provincial Growth and Development Strategy

Vision:

“Building a prosperous, sustainable growing provincial economy to reduce poverty and improve social development.”

3.1.4 Northern Cape Spatial Development Framework

Vision:

The PSDF draws upon and aims to give effect to the vision cited in Chapter 1.2 of the Northern Cape PGDS, namely....‘building a prosperous, sustainable growing provincial economy to eradicate poverty and improve social development’. The PSDF is premised on the principle that, in order to achieve the above vision, a holistic and embracing approach to the management of the Northern Cape is required. Such an approach should focus on ensuring the sustainability of the resource base upon which the general well-being of the people of the Northern Cape depends. Accordingly, the overriding mission

of the IUCN2 was adopted as a basis for the formulation of a dedicated vision and overarching goal for the PSDF, namely 'the maintenance of essential ecological processes, the preservation of genetic diversity and the insurance of the sustainable utilisation of natural resources; and, the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations, while maintaining its potential to meet the needs and aspirations of future generations' (IUCN, 1980)³. In context of the above, the following cryptic vision was set for the PSDF, namely: '....Enhancing our future....'.

3.2 Underlying Principles guiding the SDF

The SDF will be based on a set of normative Principles as an underlying foundation to all Proposals, Endeavours, Programmes and Actions. This will ensure that goals of the SDF are always measurable in real terms that apply to the people of South Africa.

The normative Principles as contained within the DFA⁴⁰ is normally used as the basis for a SDF, but in the light of the fact that the SPLUMB will soon be enacted, the Principles for SDF's contained in Section 6 of Chapter 2 are more relevant.

The following principles had been summarised from the Spatial Planning and Land Use Management Bill (21 Feb 2012)⁴¹:

The Principle of Spatial Justice, whereby:

- past spatial and other development imbalances are redressed through improved access to and use of land;
- Spatial Development Frameworks and Policies at all spheres of Government address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former

homeland areas and areas characterised by widespread poverty and deprivation;

- Spatial Planning Mechanisms, including Land Use Schemes, include provisions that enable redress in access to land and property by disadvantaged communities and persons;
- Land Use Management Systems are inclusive of all areas of a Municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas;
- Land Development Procedures will include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas; and
- Where a Planning Tribunal considers an application before it, the Planning Tribunal's exercise of discretion may not be impeded or restricted on the ground that the value of land or property is affected by the outcome of the application.

The Principle of Spatial Sustainability, whereby:

- Spatial Planning and Land Use Management Systems must promote land development that is within the fiscal, institutional and administrative means of the Country;
- ensure protection of the prime and unique agricultural land, the environment and other protected lands and the safe utilisation of land;
- promote and stimulate the effective and equitable functioning of land markets;
- consider all the current and future costs to all parties for the provision of infrastructure and social services in land developments;
- promote land development in locations that are sustainable and limit urban sprawl;
- result in communities that are viable.

The Principle of Efficiency whereby:

- land development optimises the use of existing resources and infrastructure;

⁴⁰ SOUTH AFRICA. 1995. *Development Facilitation Act 67 of 1995*. Pretoria: Government Press.

⁴¹ SOUTH AFRICA. 2012. *Spatial Planning and Land Use Management Bill*. Pretoria: Government Press.

- Decision-making Procedures are designed with a view to minimising negative financial, social, economic or environmental impacts; and
- Development Application Procedures are efficient and streamlined and time frames are adhered to by all parties;
- the Principle of spatial resilience whereby flexibility in Spatial Plans, Policies and Land Use Management Systems is accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks.

The Principle of good Administration whereby:

- all Spheres of Government ensure an integrated approach to land use and land development that is guided by the Spatial Planning and Land Use Management Systems as embodied in this Act;
- no Government Department may withhold their sector input or fail to comply with any other prescribed requirements during the preparation or amendment of Spatial Development Frameworks;
- the requirements of any Law relating to land development and land use are met timeously;
- the preparation and amendment of Spatial Plans, Policies, Land Use Schemes, as well as Procedures for Development Applications, to include transparent processes of citizen participation and all parties to have the opportunity to provide inputs on matters affecting them; and
- Policies, Legislation and Procedures must be clearly set out and inform and empower citizens.

3.3 Spatial Vision and Mission

A SDF Vision and Mission Statement are compiled for the local SDF from inputs provided during the public participation process, the previous IDP, the NC SDF and the NC PGDS. The local SDF vision takes its cues from the broader visions for the province and district, the above mentioned underlying principles and is focused on spatial elements.

The following elements can be summarised from the above-mentioned vision statements:

- Institutional capacity
- Social and infrastructural services for all
- Development opportunities
- Sustainability
- Public participation and transparency in municipal management and development

Therefore:

The Spatial Development Framework Vision:

“A sustainable environment where all have equal access to land, opportunities and services within a rural context and within reachable distances”

The Vision and Mission Statements of the SDF is subject to the Framework provided by the underlying normative Principles. The main Principles are;

- Spatial justice
- Spatial sustainability
- Efficiency
- Good administration
- The Spatial Mission statement needs to be aligned within the Principle Framework mentioned above, to be measurable. Therefore the Municipal Mission:

Mission Statement

- Provision of Development clusters and shorter travel distances
- Provision of geographically accessible services:
 - health services;
 - shelter;
 - basic needs;
 - welfare;
 - safety;
 - education;
 - transport.
- Provision of opportunity in development clusters:
 - An environment conducive to commerce;
 - Access to finance and business services;
 - Provision of land, incentives and infrastructure for business development.
- A sustainable environment of focussed developmental initiatives and conservation of natural resources whilst retaining a rural character;
- Transparent and participatory government

3.4 Sense of Place

During the community meetings held, a sense of place for the Municipality was discussed with individuals living in the rural villages and on farms, the leaders of the community and representatives of community organisations. It was explained that the sense of place would include elements unique to the area and which would encapsulate the heart of the Municipality.

A sense of place is what makes a place unique. A “place” comes into existence when humans give meaning to a previously undifferentiated space.

It is often made up of a mix of the natural environment, cultural features and the people who occupy that place.

The sense of place that was defined by the community contains the following elements:

- The rural nature of the Region was a characteristic that was embraced by all.
- Farming lay close to the heart of all the community and its dependence on the fruit of the land was a subject of pride.
- The historical events during the late 1800's and early 1900's in many of the areas added significance of the proud history of the people.
- The Traditional Authorities and age old manner in which the communities organize themselves under a Kgosi and Headmen. A rich and beautiful culture, preserved over the ages, underlies the traditional authority culture, which crosses even international boundaries into Botswana.
- The vastness of the area and the wide open spaces where people live in close harmony and in a delicate balance with nature which exemplifies the lifestyles of its people. An atmosphere of tranquillity and calmness in rhythm with the slower pace of life in these areas is experienced.

Spatial Planning need to take note of elements that comprises “sense of place” for the Region in order to provide an ideal living environment. The following Planning Principles can be used to guide and enhance the sense of place in the Joe Morolong Local Municipality:

- Plan around public spaces to inform the settlement structure to:
 - Provide spaces for social interaction; and
 - Provide space to capture the expression and remembrance of the place
- Embrace the existing culture of traditional methods and landscapes by aligning future development to the current patterns to ensure that the cultural context remains;
- Take the natural environment into cognisance when planning public spaces e.g. vegetation, topography, water bodies to:
 - Create a unique setting; and
 - Create a natural visual impact into the human living environment

- Identify and enhance natural features that provide protection e.g. from wind, sun, dust, etc. to provide living comfort.

4. Spatial Analysis and Synthesis

4.1 Bio-Physical Environment

4.1.1 Environmentally Sensitive Development Areas

Areas earmarked for development, is closely related to areas that have been identified as conservation areas and/or environmentally sensitive areas. It will thus be prudent to allow only such development that will be sympathetic to the natural environment and after Environmental Impact Assessments have been done to establish the influence of the proposed development on the environment, or such other legal procedures.

There are about 190 towns and/or settlements in the John Taolo Gaetsewe District Municipality (JTGDM), of which 80% are villages in the Joe Morolong Local Municipality. There is, however, a proliferation of informal urbanization associated with high density rural populations in the Joe Morolong Local Municipality. Rural land use is characterized by rural tribal villages or rural farms and agriculture, whilst urban land use is characterized by residential, commercial and industrial land use⁴².

Consequently, the pressures on the natural environment have increased. The increasing pressure of development on the natural and human resources within the study area has given rise to acute problems including:

- Growth of informal settlements
- Uncoordinated and fragmented development
- Loss of biodiversity and heritage resources

These issues put pressure on available resources enhancing the importance of the conservation of sensitive environments. Therefore it is imperative that strategic planning for the environment be the forerunner of the development

⁴² VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

process to ensure sustainable development. Development Planning needs to make provision for the adequate protection of sensitive natural features and conservation of the groundwater resources upon which much of the Region depends. The areas to avoid, or carefully plan for, include:

- Groundwater recharge zones (wetlands)
- Ecological corridors and core/representative habitats
- Agricultural resources

In particular, the following environmental aspects on development must be taken into account:

- Soils and water resources
- Carrying capacity of the natural vegetation
- Importance of the wetlands of the region

The abovementioned is relevant for these land uses exerts inherent pressures on the bio-physical environment. Our analyses will take these, as well as historical information into account in order to determine the Bio-physical sensitivity of development within the Joe Morolong Local Municipal area.

4.1.2 General Environmental Development Guidelines

The Study Area discusses the various Principles and Guidelines as encapsulated in e.g. Agenda 21, NEMA, and other guideline documents. There is considerable commonality between the various principles of the above-mentioned Strategies. These commonalities can be grouped in four broad categories, namely:

- Sustainability
- Optimal utilisation of resources
- Integrative approach
- Participatory approach

According to the above-mentioned, the principle of sustainable development is notably the most important commonality and should guide the alignment of IDP with the Sector Plans. An integrative approach to development, optimal utilisation of resources and public participation are the other general commonalities. Combining these principles in the formulation of

Environmental Strategies for a Municipality will contribute to optimal utilisation of resources and effective facilitation of responsible development.

The localised Environmental Strategies of the Municipality should (based on the NEMA Principles), direct future decision-making within the Municipality – these Guidelines include amongst others:

- Minimising negative impacts on the environment as a whole,
- Minimising negative impacts on people's environmental rights,
- Avoiding pollution and degradation of the environment,
- Avoiding waste through recycling and safe disposal,
- Managing the exploitation of non-renewable natural resources,
- Avoiding the jeopardising of renewable resources and ecosystems,
- Paying specific attention to sensitive, vulnerable, highly dynamic or stressed ecosystems.

4.1.3 Aspects determining Environmentally Sensitive Areas

4.1.3.1 Geology and Soils

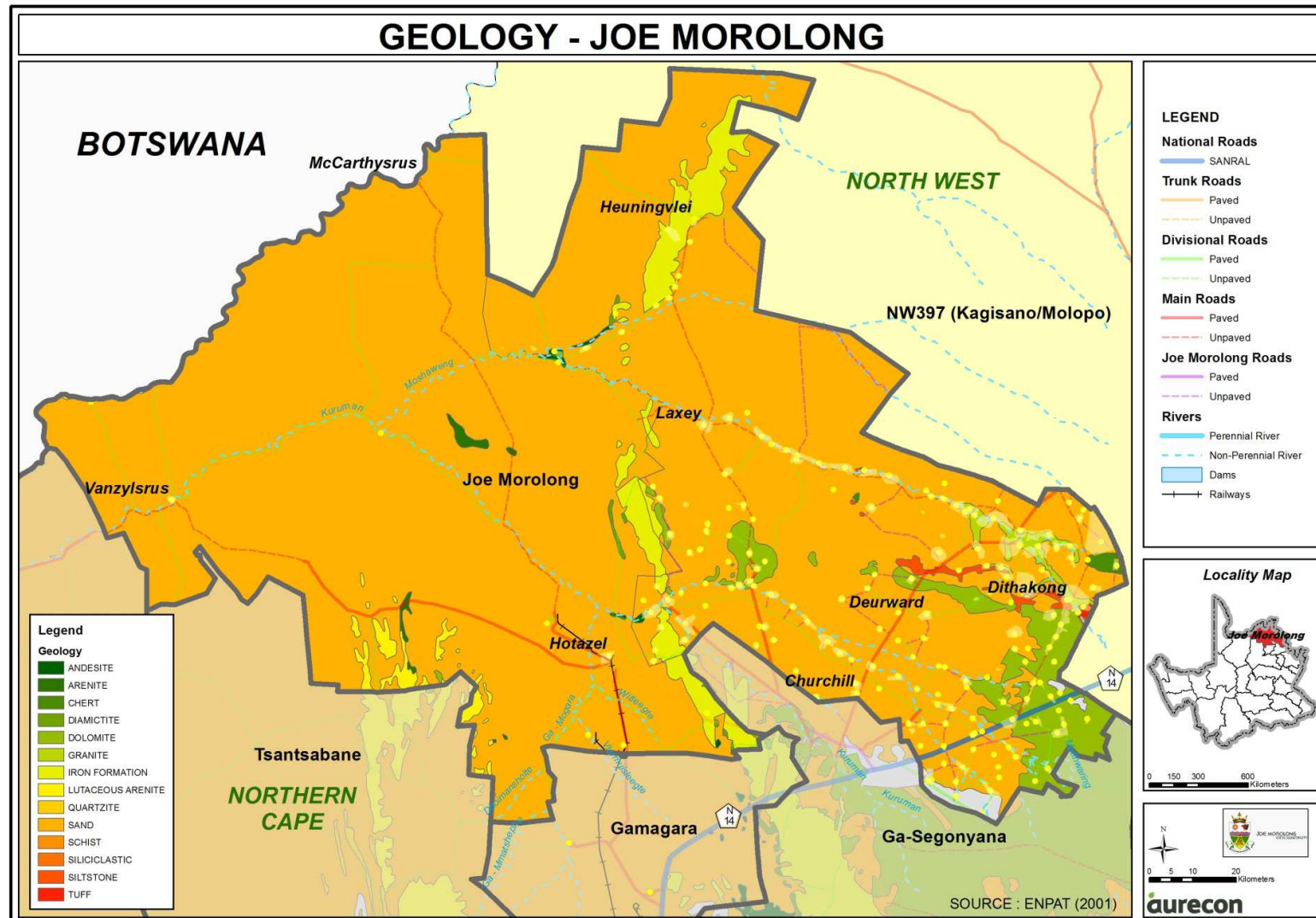
The area is situated in typical Kalahari surroundings. The topography alternates between elevated areas with poor developed soils to very deep developed soil type with poor differentiation between the different soil horizons in the plains. The biota of the area is closely interrelated with the parent rock, soil and land use and critically sensitive to unnatural disturbances⁴³.

Dolomitic geology is found in the Region. The inherent qualities of dolomite generally cause karst systems to be represented with significant and important contributions to groundwater recharge, storage and movement. At the surface, these systems appear as fountains or “eyes”. The pre-eminent example is the well-known Kuruman Eye, but the dolomitic area stretches all the way to Boesmansgat in the South (outside the Study Area).

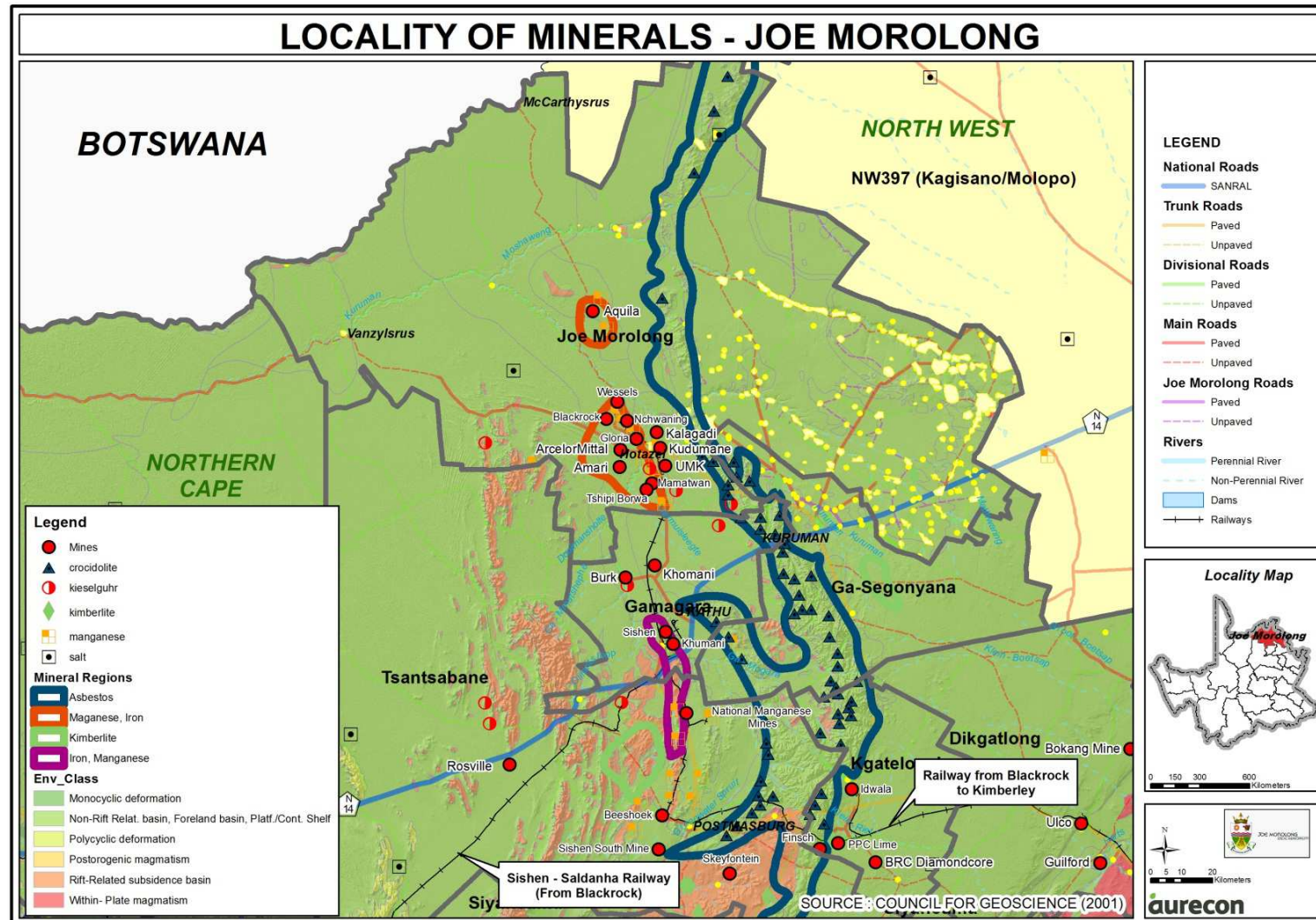
The sensitivity that can be derived from the above mentioned aspects is directly linked to the erosion prone character of the area under contention.

⁴³ LOW, A.B. & REBELO, A.G. 1996. *Vegetation of South Africa, Lesotho and Swaziland*. Department of Environmental Affairs and Tourism, Pretoria. 85 p.

Map 5: Geology - Joe Morolong Local Municipality (Source: ENPAT)



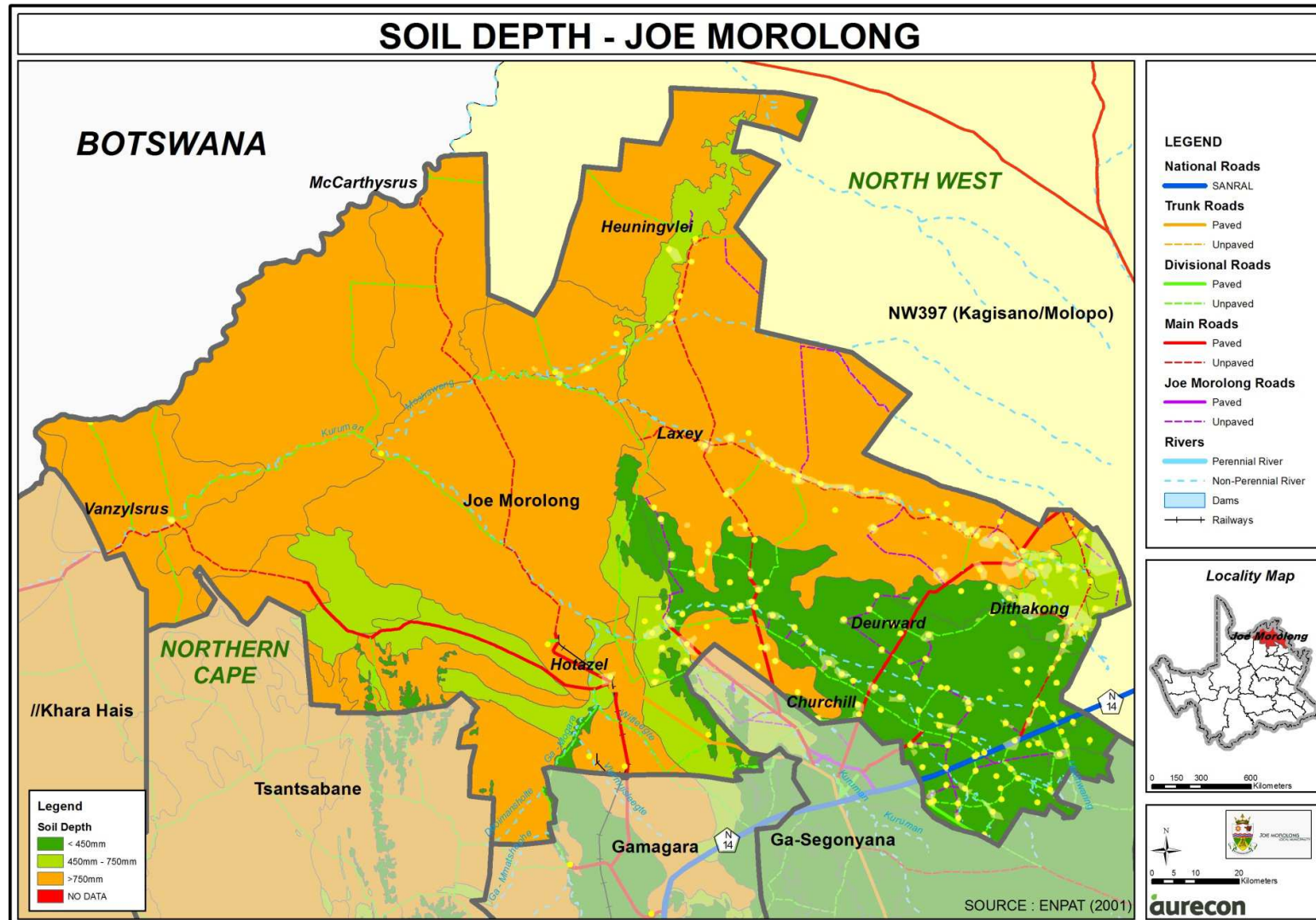
Map 6:Economic minerals - Joe Morolong LM



4.1.3.2 Topography and slopes

The area is characterised by undulating to flat sandy plains. The sensitivity that can be derived from the above mentioned aspects is directly linked to the erosion prone character of the area under contention.

Map 7: Soil Depth - Joe Morolong Local Municipality (Source: ENPAT)



SOIL POTENTIAL - JOE MOROLONG

BOTSWANA

NORTH WEST

NORTHERN CAPE

Joe Morolong

McCarthy'srus

Heuningvlei

Laxey

Vanzylsrus

Hotazel

Deurward

Dithakong

Churchill

Gamagara

Ga-Segonyana

NW397 (Kagisano/Molopo)

N14

LEGEND

National Roads

Trunk Roads

Divisional Roads

Main Roads

Joe Morolong Roads

Rivers

Soil Potential

Waterbodies

Locality Map

0 150 300 600 Kilometers

0 5 10 20 Kilometers

SOURCE : ENPAT (2001)

aurecon

4.1.3.3 Climate

Annual rainfall varies from 500 mm to 200 mm, which is below the generally accepted average of 500 mm for dry land cropping. Rainfall occurs mainly during late summer (February) and can be highly erratic.

Mean annual temperatures range between 16°C and 20°C, and the mean annual minimum/maximum temperatures are estimated to range between 8°C and 28°C ⁴⁴.

4.1.3.4 Asbestos⁴⁵

The redundant Asbestos Mines and the Asbestos Industry left a huge scar in the area. Asbestos is the collective mineralogical term given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite and anthophyllite) that occur naturally in the environment. Asbestos fibres enter the air from the breakdown of natural deposits or man-made asbestos products. Fibres may remain suspended in the air for a long time, and can be carried a fair distance by the wind before settling. Asbestos fibres are not able to move through soil, are not broken down to other compounds, and will remain virtually unchanged over long periods of time.

Environmental exposure is still a concern as fibres from un-rehabilitated mine dumps can become airborne and may be inhaled by humans. The concentration of asbestos in ambient air is not known, as no monitoring is currently undertaken. In addition, very little is known about the impact of asbestos (prevalence of asbestosis and mesothelioma) in the Northern Cape. The Provincial Department of Health does not keep any statistics on these diseases, other than those from occupational exposure.

There are currently no operational Asbestos Mines in the Northern Cape and therefore no occupational exposure. However, asbestos is still perceived as an important issue because of the many un-rehabilitated mine dumps that still have the potential to pollute the environment and cause asbestosis or mesothelioma. The public also still has access to some of these dumps, and

some individuals recover the asbestos for resale further increasing the potential hazard.

Secondary impacts of asbestos pollution are likely to occur in the Northern Cape, considering the use of materials contaminated with asbestos for a variety of purposes, including school playgrounds and sports fields, roads and buildings.

An indicator, “Rehabilitation of Asbestos Mines” is used to measure the number and location of un-rehabilitated asbestos mine dump sites in the Northern Cape. This was done by recording the Government’s response to issues of asbestos raised by stakeholders, because there is no existing state data in this regard. This indicator monitors the mitigation methods currently in place for the impacts of the previously high demand for asbestos.

The poor state of rehabilitation of the asbestos industry made all previously contaminated areas a serious constraint for development due to the associated health risks.

The area at risk is approximately 1500 km² in the Joe Morolong Local Municipality (GIS calculation).

The need for rehabilitation of asbestos pollution by quantifying the risk associated with a specific pollution site is a prerequisite for development in any asbestos polluted region. It is important to realise that the success of rehabilitation necessarily depends on the sustainability of the rehabilitative measures applied. The trend is in-situ rehabilitation. The main reason is associated with the disturbance of the asbestos, and the fact that the particles become loose again and the associated health risks.

The high risk areas are the areas where asbestos were:

- Mined,
- Stored,
- Used in industrial processes, and
- Transported

Therefore a project in the area should be subject to a screening process which is specifically designated to identify high risk areas.

⁴⁴ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

⁴⁵ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

Findings from the Kalahari Asbestos Polluted Roads Prioritisation System report:⁴⁶

Areas that had been identified as polluted:

- Greater JTG area is polluted
- 300 km of roads are polluted
- 32 schools are polluted
- Government property are polluted
- Private property (residential and others) are polluted
- Some mines are rehabilitated others not

The KAPI (Kalahari Asbestos Polluted Roads Index) database serves as a good starting point from where one can address issues relating to the asbestos contamination problem. The survey to the communities included:

- Communities within a 5 kilometer radius of known sites.
- Communities within 1-2 kilometers of sources, downwind, or with defined flow paths of (water, roads, topography) and where population densities were greatest.
- These locations were discussed with local community groups or residents to verify locations

Conclusions and recommendations of these studies were:

- That the study did not survey all areas of potential contamination. Additional screening level surveys should be completed in communities not assessed as part of this effort.
- There is a need for site specific surveys, inspections and consultations prior to actual remediation of the impacted communities.

⁴⁶ KGALAGADI DISTRICT COUNCIL. 2002. *Kalahari Asbestos Polluted Roads Prioritisation System*. 97 p.

- That a systematic road survey should be completed within communities potentially impacted as a follow-up to this study.
- That a pilot project needs to be implemented to test the work methods, clearance levels, post-remediation air quality and long-term sustainability of remediation efforts.
- That additional community awareness and capacity building is needed.

Further recommendation of the asbestos workshop by the then Dept. of minerals and Energy in 2008:

- All legislation that allows mining of asbestos has been repealed i.e. no more issuing of permits / rights
- Continuous awareness campaigns about the dangers of asbestos.
- Stringent rules against the use of asbestos must be cross-cutting.
- Forging of strong partnerships of the different Departments, NGO's, communities, etc.
- Establish health promotion to exposed communities.
- Critical assessment of the mining of tiger eye-presence of asbestos
- Allow minimal land use activities in all rehabilitated areas.

What is relevant is the recommendation to allow minimal land use activities on rehabilitated areas, which excludes the development of these areas to a great extent.

The following three broad categories are proposed to indicate developmental sensitivity in asbestos areas:

High sensitivity:

- All known areas where asbestos exposure duration potential is high e.g. disused asbestos mines

- The presence of asbestos in material used to construct e.g. roads, buildings etc.
- Presence of contaminated soil e.g. Hotazel Station, Railway line to Kimberley, etc.
- Red dots on map, including the purple buffer zones and railway line.

Medium sensitivity:

- The geological region where the Crocidolite Asbestos is known to be found.
- All areas within the dark blue polygon along the ridge.

Low sensitivity:

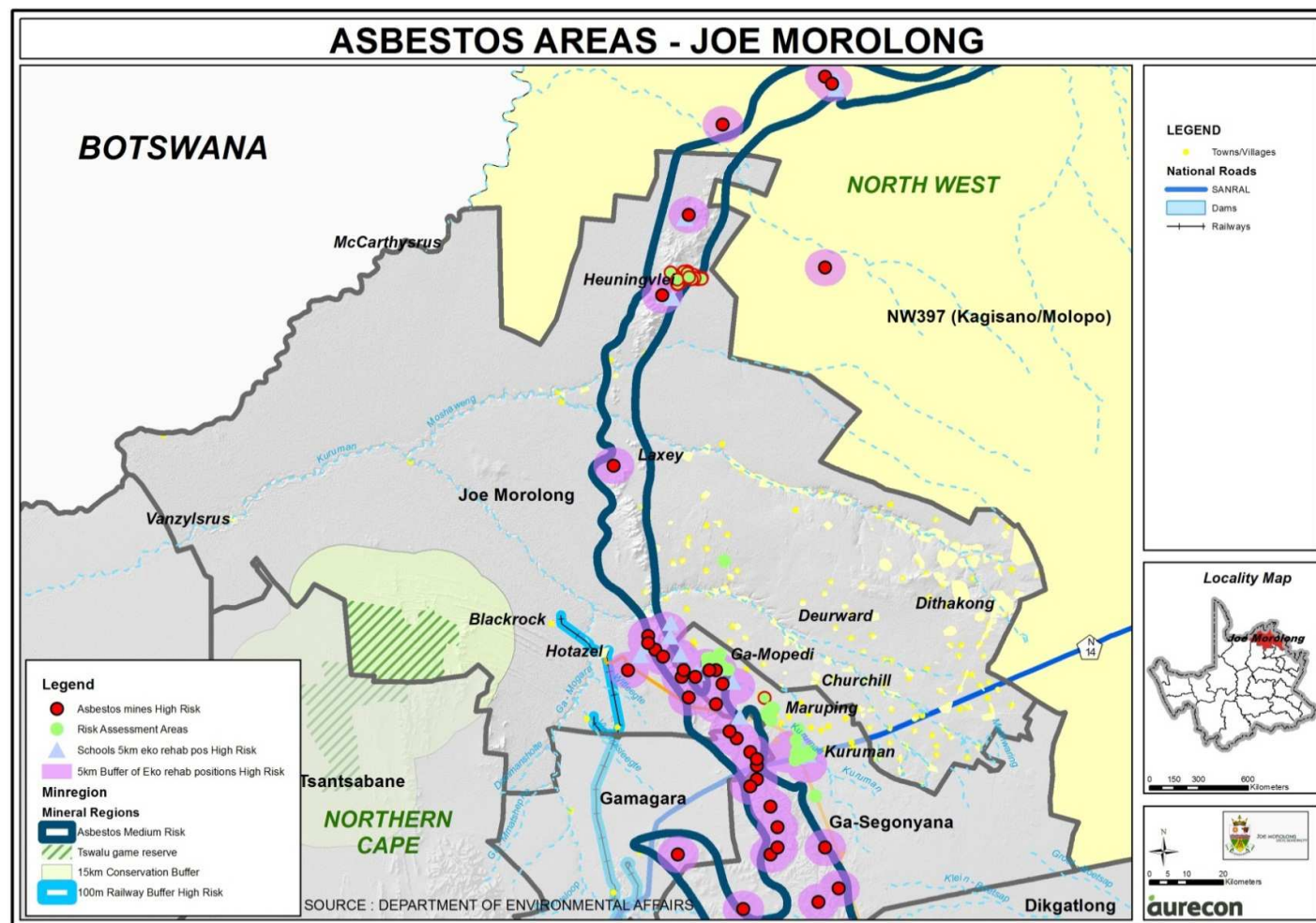
- Areas that does not fall into the above-mentioned categories

To ensure sustainable development in the long run the areas indicated as:

- **High sensitivity:** Zones for development with stringent asbestos mitigation measures.
- **Medium sensitivity:** Zones for development with measures in place to mitigate should the asbestos issue arise.
- **Low sensitivity:** Zones for development with minimal measure in place other than asbestos awareness programs.

It is proposed that the Joe Morolong Land Use Management System provide detailed measures for all development applications or changes of land use in high and medium asbestos sensitivity zones. Development applications within these areas should apply for approval to the local authority and indicate measures to prevent disturbance of the asbestos or further contamination of the area.

Map 9: Asbestos contamination areas⁴⁷



⁴⁷ KGALAGADI DISTRICT COUNCIL. 2002. *Kalahari Asbestos Polluted Roads Prioritisation System*. 97 p.

4.1.3.5 Heritage

The conservation of heritage resources is of vital importance in any society, if only for the benefit of future generations. In the Northern Cape, the presence of several economic activities threatens the conservation and preservation of several heritage resources that can never be regained once lost. The various categories for conservation of heritage include National heritage sites, protected areas, heritage objects, structures over 60 years old, burial grounds and graves, fossils, rock art, archaeology, historical shipwrecks and living heritage.

Due to the extent of disturbance and ignorance in the past, sites have been totally destroyed, or altered to such a state where findings are completely out of context. However various sites still exist that contributes to the area's rich source of heritage sites.

4.1.3.6 Biodiversity⁴⁸

The loss, transformation and degradation of natural habitat are the most important causal mechanisms of biodiversity loss in the region. Conversion of natural habitat types by agriculture (grazing in particular), urban developments, afforestation, mining, industry and alien Plant invasions has resulted in ecosystem degradation and species loss, resulting in significant proportions of South Africa's flora and fauna being threatened with extinction. The primary land use is stock farming and therefore threats to the majority of vegetation types are usually in the form of overgrazing. The Northern Cape emerged as the third most degraded Province in South Africa.

Many invasive alien species are well established, and cause substantial damage. However there may be others that are in the early stages of invasion. Management Programmes must target both these groups of alien species in order to maintain control of spread and to pre-empt emerging problems.

⁴⁸ VAN DER MERWE, S.J. 2010. *Environmental Management Programme: Upgrading of the Heuningvlei Pipeline*. 100 p.

4.1.3.7 Hydrology

Figures for the district Municipality in terms of livestock farming is common, especially cattle (80%), sheep (12%), goats (4%) and game (4%). Water sources are relative scarce in the area, but underground sources are available and could provide irrigation in some areas⁴⁹.

Good quality water and adequate water flow are required to sustain the growth of specific riverine ecosystems. Aquatic habitat integrity and water quality are major determinants of the biological communities in a system. If habitat is lost or degraded for any number of reasons, the biological integrity of the system will be adversely affected. Thus, habitat availability and diversity are important in supporting diverse biological communities and provides an indication of the current ecological integrity of an ecosystem

There are no perennial rivers occurring in the study area. Intensive degradation/transformation of the riverine habitats takes place in the form of formal development such as roads and infrastructure, as well as land use practices such as riverbed agricultural cultivation and overgrazing. Invasive alien species have also colonized localized sections of water courses, and have the potential to spread as their seeds are dispersed by water or bird species. Drainage lines are important habitat for Red List bird species such as Kori Bustard and Secretary birds. After good rains, standing water may attract species such as Black Stork, as well as large Raptors such as White-backed Vulture, Lappet-faced Vulture, Tawny Eagle, Martial Eagle, and even Namaqua Sandgrouse⁵⁰.

4.1.3.8 Wetlands⁵¹

Wetlands occur both as linear riverine systems and as individual endorheic pans. All wetlands, except Heuningvlei, are ephemeral – i.e. filling up briefly after summer rains. Pans are of ecological importance in arid regions for their water holding ability and often unique associated biota.

⁴⁹ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

⁵⁰ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

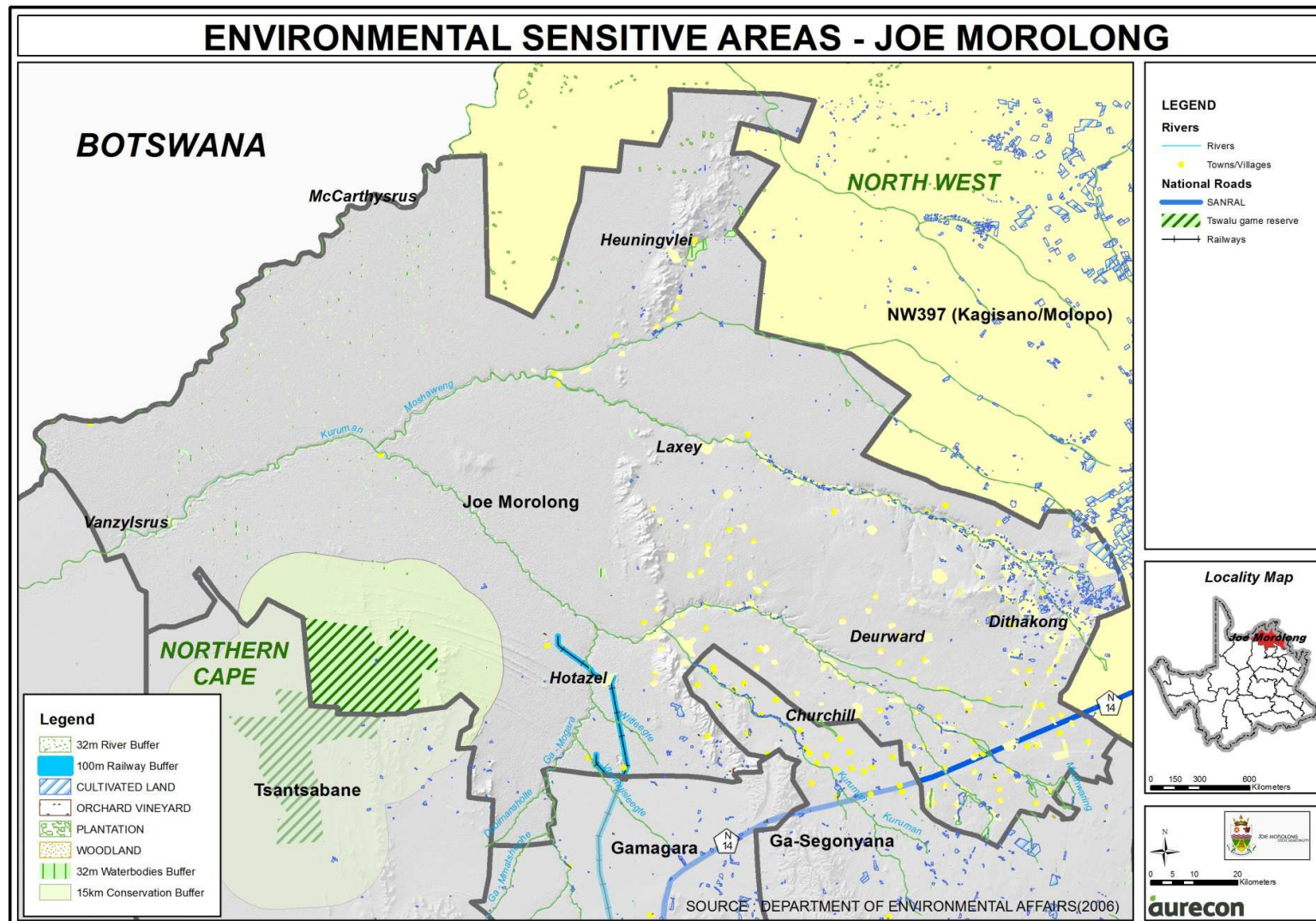
⁵¹ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

The Heuningvlei saltpan in the far North is fed by a number of permanent freshwater springs with the north-western corner a perennial marsh-type wetland with brackish water (Hudson & Bouwman 2006). A relatively high diversity of water-associated birds has been recorded for the Heuningvlei wetland, including migratory waders such as Ruff, Curlew Sandpiper, Greenshank and Common Sandpiper, as well as note-worthy species such as Greater Flamingo, African Spoonbill and the larger herons (Hudson & Bouwman 2006). Although other pans are ephemeral, after rainfall events they are likely to be utilized by water-associated bird species, both Red List species and many non-threatened species, including those covered by international treaties. Other threatened fauna are likely to utilize these seasonal wetlands, e.g. Giant Bullfrog.

Groundwater is one of the key environmental resources in the Study Area. The water table is found at an average depth of 38m, and boreholes satisfy a lot of the demand for potable and irrigation water. No clear indication is present yet that current level of abstraction is lowering the water table, but overexploitation is always a risk in such a low rainfall area⁵².

⁵² VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

Map 10: Environmental Sensitive Areas - Joe Morolong Local Municipality (Source: Department of Environmental Affairs)



4.1.3.9 Land Cover

In the past, the continued healthy existence of the veld was due to the uneven geographic distribution of grazing pressures. With the increased provision of stock-water points, two trends are evident:

- Grazing pressures are greater, relative to the capacity for the area; and
- Increased vegetative growth

The development of previously undeveloped grazing areas through the increased provision of watering- points has enabled greater numbers of stock to graze over a larger area, reducing the proportion of ungrazed veld. This directly minimizes the ability of certain areas to re-vegetate after drier periods.

Although the overall rate of land degradation is decreasing in the Northern Cape, the Province ranks third highest on the country's land degradation index. Land degradation due to soil erosion is related to a lack of vegetation cover mainly due to overgrazing and deforestation, with wind and sheet erosion being the most common problems.

The fact that a large portion of the rural area used for grazing has been taken over by aggressive encroachers which need to be eradicated, made the utilisation of the woody plants in the production of either charcoal or renewable energy projects more viable.

Land rehabilitation of areas disturbed by mining activities is still not complete to the best practice standards of the Department of Minerals and Energy (now the Department of Mineral Resources). The sterilisation of soil under the footprint of mine residue dumps remains a serious concern.

4.1.3.9.1 Flora

There are two Red List Plant species occurring in the Study Area according to South African National Biodiversity Institute (SANBI) Plants of Southern Africa (POSA) site, namely *Acacia erioloba* and *Hoodia gordonii*, which are listed as "Declining". Both are relatively widespread and abundant in the study area, with *Acacia erioloba* being at dominant species in the tree layer. *Acacia erioloba* also counts as one of the three protected tree species present in the study area, along with *Acacia haematoxylon* and *Boscia albitrunca*. A distinct threat to *Acacia erioloba* is that it is heavily targeted for utilization as firewood and charcoal making.

Unless a vegetation type is considered under severe threat from impacts on a regional or National scale, certain biomes are threatened by development and large-scale agriculture, the regional vegetation is generally not considered as particularly sensitive. However, even within areas that is not considered as particularly atypical and localised, variations exist that are considered sensitive, as the species composition within these areas is atypical to the surrounding vegetation. In addition, the association of these areas with Red Data Flora Species has been indicated in various scientific reports. Such habitat types include rocky outcrops, riparian areas and any habitat type that is topographically or environmentally distinctly dissimilar to the general surrounds⁵³.

The rationale behind sensitivity associated with these areas and the contributing environmental features is a result of micro-habitats that are created, which are not abundantly represented in the general area. Changes in vegetation characteristics over short distances will cause variation in species composition and vegetation structure, resulting in an increase in the diversity of species that occupies the area.

The Kathu Forest (outside Study Area) of the Northern Cape has been declared protected woodland.

The woodland extents into the Study Area are of exceptionally large Camel Thorn Trees (*Acacia erioloba*) is approximately 4000 hectares in extent, and is one of only two such woodlands in the world. It was originally recognised for its uniqueness in 1920 when it was proclaimed a state forest. With such a long and rich history of human utilisation dating back to 800 000 years ago, it contains billions of artefacts and has been described as one of the richest archaeological sites in the world⁵⁴.

Threats to the forest are not new, and in recent times concerns have been raised about harvesting these protected trees for the fuel-wood market. In addition, there are a number of threats to the forest's ecological integrity and the potential loss of biodiversity.

⁵³ VAN DER MERWE, S.J. 2010. *Environmental Management Programme: Upgrading of the Heuningvlei Pipeline*. 100 p.

⁵⁴ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

These areas thus represent areas of high biodiversity and because of the restricted distribution, any adverse impact on these areas is considered significant.

4.1.3.10 Fauna

A total of 27 Red List Mammal Species have been recorded in and around the Study Area. A number of Red List species that are not endemic to the region have also been introduced into various game reserves, hunting farms and lodges, most notably: Black Rhino, White Rhino, Sable Antelope, Roan Antelope and Hartman's Mountain Zebra. Free-roaming Cheetah and Wild Dog, both endangered species, have been recorded as transient species in the Study Area. Both these species also occur as re-introduced species in various private reserves, most notably in the nearby Tswalu Kalahari Reserve, although outside the study area. Other resident Red List Species at the Reserve include the Honey Badger, Brown Hyaena and Small Spotted Cat.

Most of the recorded bird species in the study area have widespread distributions across the Savannah Biome. There are only two species that can be considered as Kalahari endemics, namely the Fawn-coloured Lark (*Calendulauda africanoides*) and the Kalahari Scrub-Robin (*Cercotrichas paena*). A total of 32 conservation-worthy bird species have been recorded in the study area. Six are listed as Red Data species, namely Kori Bustard (VU), Ludwig's Bustard, Secretary Bird (NT), Martial Eagle (VU), Lappet-faced Vulture (VU), Lanner Falcon (NT) and Black Stork (VU). The other species are considered priority species because they a) have conservation status under the Africa-Eurasian Waterbird Agreement, b) are raptors and/or c) have special regional significance, e.g. the Social Weaver, Fawn-coloured Lark and the Kalahari Scrub Robin⁵⁵.

A total of 46 reptile species have been recorded in the study area. Two of these species are considered to be of conservation concern, namely the African Rock Python (*Python natalensis*) and the Rock / White-throated Monitor (*Varanus albigularis*). Both these species have been exploited for local trade in traditional medicine, and are now classified as vulnerable. Rocky habitats of the study area, particularly those associated with ridges

and hills provide suitable habitat for reptile species (skinks, snakes and geckoes). The Acacia woodlands also offer favourable habitat for arboreal reptile species, e.g. chameleons, snakes, agamas, geckos and monitors.

Termite mounds are a common feature in the landscape of the study area, and are important refuge for numerous frog, lizard and snake species. It is also an important source of food as a large number of mammals, birds, reptiles and amphibians feed on the emerging alates (winged termites).

The only threatened amphibian species that is known to occur in the study area is the Giant Bullfrog, *Pyxicephalus adspersus* (NT). This species is likely to utilize, as breeding habitat, any of seasonal wetlands that are scattered across the study area. Destruction or degradation of these essential breeding habitats will therefore negatively impact on Giant Bullfrog and may act synergistically with factors such as fragmentation, deterioration of water quality (due to pesticides and pollutants) and human predation, resulting in local populations declines. Roads that cut across ecological corridors used by this species can result in significant fatalities of migrating adult and juvenile bullfrogs⁵⁶.

4.1.3.11 Regional Influences

Sensitivity aspects relating to regional influences are minimal on the biophysical environment. Lack of specialized service delivery, e.g. hospitals, shopping centres, universities, Government and parastatal offices, etc., causes the people of the local municipal area to source relevant services in other areas.

Cross-border services and pressure are limited to the Heuningvlei area where citizens from North-West Province rely on the capacity of administration and services.

⁵⁵ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

⁵⁶ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

4.1.3.12 Vegetation

The main vegetation type found within the borders of the Joe Morolong Municipal area is the Kalahari Plains Thorn Bushveld. On the western side of Joe Morolong the Shrubby Kalahari Dune Bushveld is found and on the southern side the Kalahari Plateau Bushveld.

Kalahari Plains Thorn Bushveld

Climate:

The average annual rainfall is 300 mm, which falls in summer and early autumn. Temperatures vary between -9°C and 42°C, with an average of 18°C.

Geology & Soil:

Deep sandy to loamy sands of aeolian origin, underlain by calcrete.

Vegetation:

Characterised by a fairly well-developed tree stratum with Camel Thorn *Acacia erioloba* and Shepherd's Tree *Boscia albitrunca* as the dominant trees, along with scattered individuals of Belly Thorn *Acacia luederitzii* and Silver Clusterleaf *Terminalia sericea*, which may be locally conspicuous. The shrub layer is moderately developed and individuals of Black Thorn *Acacia mellifera*, Weeping Candle Thorn *A. hebeclada*, Karee-thorn *Lycium hirsutum*, *Grewia flava* and *Acacia haematoxylon* dominate this layer. The grass cover depends on the amount of rainfall during the growing season. Grasses such as Lehmann's Lovegrass *Eragrostis lehmanniana*, Sour Bushmangrass *Schmidtia kalihariensis* and Silky Bushman grass *Stipagrostis uniplumis* are conspicuous.

Key Environmental Parameters:

The low rainfall on sandy plains and grazing by livestock influence the structure of this vegetation type.

Economic Uses:

Livestock and game farming are the major activities, but important mines occur within this type.

Conservation Status:

Very poorly conserved.

Kalahari Mountain Bushveld

Climate:

The rainfall is extremely erratic, with about 350 mm per year falling in summer. Temperatures vary between -8°C and 40°C, with an average of 19°C.

Geology & Soil:

Largely confined to acid banded ironstone and lava of the hills within the region.

Vegetation:

More open than Kalahari Plateau Bushveld and dominated by Camphor Tree *Tarchonanthus camphoratus*. In the south the Camphor Tree may become very sparse, and Kunibush *Rhus undulata* and Broom Karee *Rhus dregeana* become the principal shrubs. The tree layer is poorly developed and individuals of Wild Olive *Olea europaea* subsp. *africana* and Black Thorn *Acacia mellifera* subsp. *detinens* are widely scattered. The grass layer is moderately developed depending on the rockiness of the area. The grass becomes more sour to the north and includes Broadleaf Bluestem *Diheteropogon amplexans*, Hairy Bluegrass *Andropogon schirensis* and Velvet Signalgrass *Brachiaria serrata*. Southwards Copperwire Grass *Aristida diffusa*, Lehmann's Lovegrass *Eragrostis lehmanniana*, Thimblegrass *Fingerhuthia africana* and *Digitaria eriantha* become dominant in sheltered areas.

Key Environmental Parameters:

This bushveld type is confined to the ironstone and lava hills of the region.

Economic Uses:

Livestock farming of cattle, goats and sheep.

Conservation Status:

Very poorly conserved.

Kalahari Plateau Bushveld**Climate:**

The rainfall occurs mainly in summer, varying from 250 mm in the south, to 450 mm in the north. Temperatures vary between -9°C and 42°C, with an average of 18°C.

Geology & Soil:

This bushveld is encountered on different types of soils, such as calcareous tufa, dark brown to red sands and acid gravels, all underlain by dolomite.

Vegetation:

In general, this is a fairly dense bushveld composed of shrubs, and sometimes small trees, in a mixed grassland. The principal shrubs are Camphor Tree *Tarchonanthus camphoratus*, Threethorn *Rhigozum trichotomum*, Puzzle Bush *Ehretia rigida*, *Grewia flava* and *Maytenus heterophylla*. The tree layer is not dominant but the following species do occur sparsely: Wild Olive *Olea europaea* subsp. *africana*, Umbrella Thorn *Acacia tortilis* and Shepherd's Tree *Boscia albitrunca*. The grass is by nature tall and dominated by Redgrass *Themeda triandra* and other grasses such as Copperwire Grass *Aristida diffusa* and Silky Bushman Grass *Stipagrostis uniplumis*. Karoo dwarf shrubs are sometimes accompanied by the development of thickets of shrubs and trees including Fringed Karee *Rhus ciliata*, Spikeflower Black Thorn *Acacia mellifera* subsp. *detinens* and Umbrella Thorn *A. tortilis*.

Key Environmental Parameters:

This bushveld occurs on the sandy plateau underlain by dolomite with calcrete deposits. Grazing is a major ecosystem pressure.

Economic Uses:

Livestock and game farming, and mining.

Conservation Status:

Extremely poorly conserved - the only Savanna Biome vegetation type which is not represented in any sizeable nature reserve.

Shrubby Kalahari Dune Bushveld**Climate:**

The average annual rainfall for the area is about 200 mm, which falls mainly from November to April (summer to autumn), with a peak in March. Temperatures vary between -10°C and 45°C, with an average of 20°C.

Geology & Soil:

Deep aeolian sandy soils, underlain by calcrete.

Vegetation:

Characterised by scattered shrubs of mainly Grey Camel Thorn *Acacia haematoxylon*, with a few individuals of Camel Thorn *Acacia erioloba* and Shepherd's Tree *Boscia albitrunca*. The shrub layer is poorly developed and individuals of Bastard Roughleaf Raisin *Grewia retinervis* and Kalahari Currant *Rhus tenuinervis* occur as widely scattered individuals. The grass layer is well developed and gives the impression of a grassland. Grasses such as Kalahari Coach *Stipagrostis amabilis*, Lehmann's Lovegrass *Eragrostis lehmanniana*, Giant Stick Grass *Aristida meridionalis* and *Centropodia glauca* are conspicuous on these plains.

Key Environmental Parameters:

Grazing by game and livestock in a low rainfall zone on sand dunes.

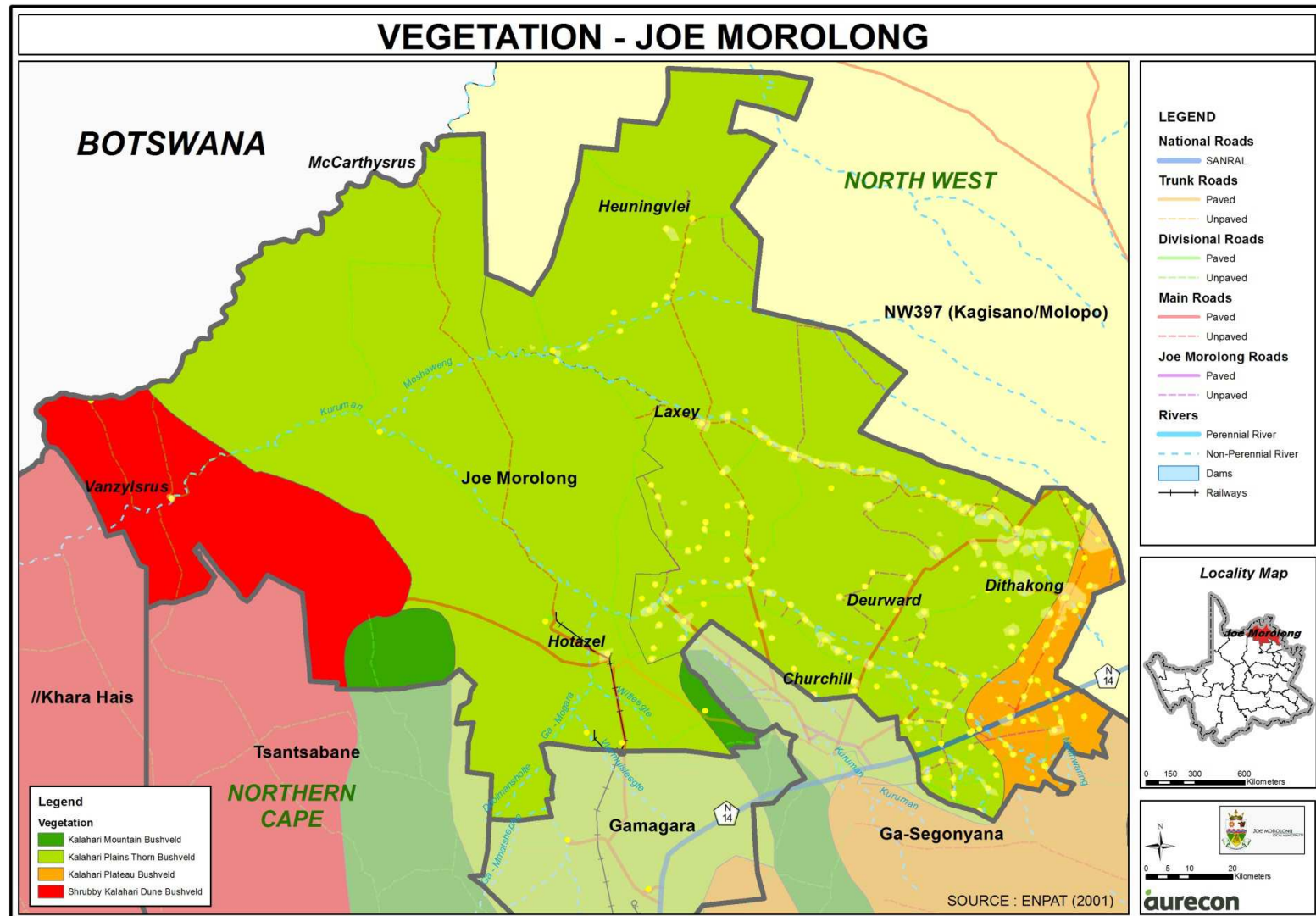
Economic Uses:

Ecotourism in the Kalahari Gemsbok National Park, with livestock and game farming in neighbouring areas.

Conservation Status:

Well conserved in the Kalahari Gemsbok National Park.

Map 11: Vegetation - Joe Morolong Local Municipality



4.1.3.13 Biome

The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the low-veld and Kalahari region of South Africa and is also the dominant vegetation in Botswana, Namibia and Zimbabwe. The whole Joe Morolong Municipal area is also occupied by Savanna Biome, see the map below.

It is characterized by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense as Woodland, and the intermediate stages are locally known as Bushveld.

The environmental factors delimiting the biome are complex: altitude ranges from sea level to 2 000 m; rainfall varies from 235 to 1 000 mm per year; frost may occur from 0 to 120 days per year; and almost every major geological and soil type occurs within the biome. A major factor delimiting the biome is the lack of sufficient rainfall which prevents the upper layer from dominating, coupled with fires and grazing, which keep the grass layer dominant. Summer rainfall is essential for the grass dominance, which, with its fine material, fuels near-annual fires. In fact, almost all species are adapted to survive fires, usually with less than 10% of plants, both in the grass and tree layer, killed by fire. Even with severe burning, most species can re-sprout from the stem bases.

The grass layer is dominated by C 4-type grasses, which are at an advantage where the growing season is hot, but where rainfall has a stronger winter component, C 3-type grasses dominate.

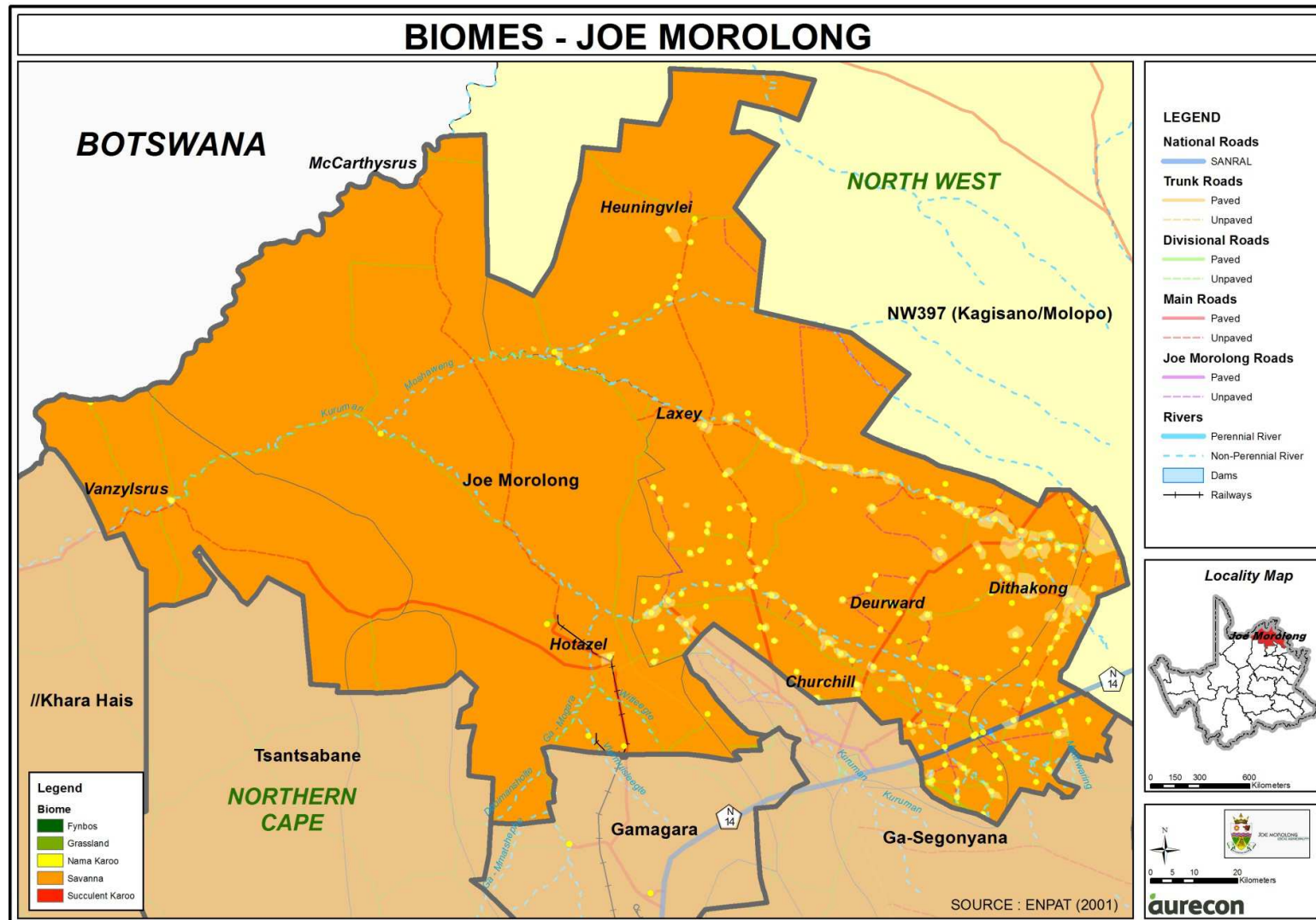
The shrub-tree layer may vary from 1 to 20 m in height, but in Bushveld typically varies from 3 to 7 m. The shrub-tree element may come to dominate the vegetation in areas which are being overgrazed.

Most of the savanna vegetation types are used for grazing, mainly by cattle or game. In the southernmost savanna types, goats are the major stock. In some types crops and subtropical fruit are cultivated. These mainly include the Clay Thorn Bushveld (14), parts of Mixed Bushveld (18), and Sweet Lowveld Bushveld (21). Urbanization is not a problem, perhaps because the hot, moist

climate and diseases (sleeping sickness, malaria) hindered urban development.

Conservation of savanna is good in principle, mainly due to the presence of the Kruger and Kalahari Gemsbok National Parks within the biome. Similarly, in neighbouring countries, large reserves occur, such as Etosha, Gemsbok, Chobe and Hwange National Parks and the Central Kalahari Game Reserve. However, this high area conserved in South Africa, belies the fact that half of savanna vegetation types are inadequately conserved, in having less than 5% of their area in reserves. However, much of the area is used for game-farming and can thus be considered effectively preserved, provided that sustainable stocking levels are maintained. The importance of tourism and big game hunting in the conservation of the area must not be underestimated.

Map 12: Biomes - Joe Morolong Local Municipality



4.1.4 Analysis

Sensitive habitats are considered as important topographical and ecological features on the basis of the following criteria:

- Areas in the study area which is not earmarked for densification;
- Association with riverine or wetland regimes;
- Prime examples of natural vegetation types, particularly those that are under pressure from urbanisation, agriculture or development;
- Habitat associated with Red Data Plant or Animal Species;
- Topographical features and habitat that occur naturally, but infrequently, in a given area;
- Habitat or areas that are considered biodiversity or conservation "hotspots"; and
- Areas classified as hills or ridges.

In addition to the above the following features, should they be present, must prevent development within a given buffer:

- Asbestos polluted areas
- Large Heritage sites

The following datasets were used to determine the sensitivity of the Joe Morolong Municipal area in terms of the bio-physical environment:

| Aspect of the bio-physical environment | Data |
|--|---|
| Geology and soils | <ul style="list-style-type: none"> • Geological Survey Dataset |
| Hydrology aquatic system | <ul style="list-style-type: none"> • Surveyor General Directorate Mapping • CSIR Land cover Database • SANBI GIS Dataset |

| | |
|-----------------------------|--|
| Topographical | <ul style="list-style-type: none"> • Surveyor General Directorate Mapping |
| Biodiversity and vegetation | <ul style="list-style-type: none"> • SANBI GIS Dataset |
| Asbestos | <ul style="list-style-type: none"> • John Taolo Gaetsewe District Municipality Asbestos Study |

Information resulting from the Study serves as a broad guideline to the Local Municipality regarding the geographical location of selected sensitive environmental components. It is advised that in addition, more detailed information should be obtained when specific development actions are planned in sensitive areas.

4.2 Socio-Economic Environment

4.2.1 Demographic Profile

4.2.1.1 Data Sources

Information was obtained from statistics provided by Quantec and Statistics South Africa (Stats SA) Census 2001 & Community Survey 2007. Both sources are used to make comparisons for accuracy purposes.

The Community Survey (CS) is a large-scale household survey conducted by Statistics South Africa to bridge the gap between censuses. Historically, the census took place at a 5 year interval (1996 and 2001), but this has been extended to a 10 year interval.

Quantec Research (Pty) Ltd is a South African based consultancy. Quantec focuses on the marketing, distribution and support of economic and financial data, country intelligence and quantitative analytical software. Quantec is widely used by professionals and trusted as a source of information.

Quantec has launched the South African Regional Market Indicators, a unique analytical tool providing reliable data on market size and potential for key markets in South Africa.

Regional Market Indicators gives a consistent, accurate and timely data and estimates on everything needed know to make more effective decisions.

The South African Regional Market Indicators provide a unique, disaggregated and consistent view of South Africa's socio-economic structure on a regional basis down to district and town council level. The data is compiled by combining a regional demographic and industry Framework, spanning more than three decades, with a comprehensive set of census, survey and time-series indicator data. The result is a systematic and up-to-date set of actual and standardised regional indicators for the South African regions.

- Comprehensive coverage of consumer demographics, income, expenditure, housing and infrastructure.
- Aggregate data covering Provinces, metropolitan areas, and user defined areas based on district and town council.
- The database is updated and expanded continually as new and primary data becomes available.

The database consists of two main legs. The first dataset will disseminate all the relevant electronically available industry and population censuses and surveys published by Statistics South Africa to date. This will reflect the actual values as published by Statistics South Africa. The second database combines the actual data as reflected in the first database in a standardised format to conform to the National accounts, a long-term demographic model of South Africa and other socio-economic National and regional benchmark time-series. As such, it can be called a standardised version of the first database - this will facilitate comparisons over time and with known macro or other National indicators.

The "as published" database will cover a broad spectrum of the actual indicators published in the various surveys and censuses. The "standardised" database will narrow the number of variables covered to those most useful for decision making and Policy analysis. A broad selection of derived indicators will also be presented.

Primary data sources

- Statistics South Africa Population Censuses from 1970 to the present

- Statistics South Africa Industry Censuses & Surveys
- Statistics South Africa Household Surveys including Income & Expenditure Surveys since 1990
- Statistics South Africa Labour Force Surveys since 1999
- AMPS Household Surveys since 1992
- Quantec Research Standardised Industry Database

Information from Stats SA namely the 2001 Census and the 2007 Community Survey is therefore included in the Quantec information. The SDF will use Quantec as a source of information in addition to the two benchmark Stats SA datasets, namely census 2001 and CS 2007.

Disadvantages of using mainly the 2001 census and 2007 Community Survey information is that trends are interpreted using only information from two points in time. It may seem that for instance a population is decreasing while it may in fact be in an upward trend (albeit less than in the first measured point), when only two sets of data are compared.

Refer to Figure 13 to see how the Joe Morolong population may be in upward trend, whilst the Census and Community Survey will indicate a downward trend.

Trends are in many cases more important than the actual values, when it comes to future Planning. For instance for Planning purposes it is more important to know whether a settlement is expanding or depopulating than knowing the actual number of persons residing in it.

To forecast possible trends, the Quantec data may be more used, although the Stats SA data will also be used so as to compare they SDF information with other Planning documents, especially the IDP, which is also largely based upon the Stats SA data.

Therefore care should be taken when interpreting and projecting trends using the Stats SA data.

Please note that the Joe Morolong Local Municipality data have been adjusted to compensate for the newly demarcated boundaries. Information from the John Taolo Gaetsewe District Management Area and the former Moshaweng Local Municipality had been combined to form the newly established Joe Morolong Local Municipality.

4.2.1.2 Population and Household Size

According to the 2011 mid-year estimates, the Northern Cape has a population of approximately 1.1 million people (2.2%), remaining the Province with the smallest share of the South African population.

Joe Morolong Municipal Area had a total population of approximately 97 948 persons in 2001 and 75 609 in 2007. The total population of Joe Morolong Local Municipality decreased with 22 339 persons over 6 years from 2001 to 2007. The DWA Geo-Database of December 2011 however indicates an increase in the total population to 112 442 in December 2011.

Table 1: Total Population of Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007)

| Total Population | |
|------------------|--------|
| 2001 | 97 948 |
| 2007 | 75 609 |

According to the table below, the total number of households decreased with 4 343 households over 6 years between 2001 to 2007. In many instances, the size of the settlements is increasing with the formation of new households.

Table 2: Total Households in Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007)

| Total Households | |
|------------------|--------|
| 2001 | 21 749 |
| 2007 | 17 406 |

The average household size in Joe Morolong is 4.3 persons per household. This decline in the household size can be attributed to households being split when the younger generations move to their own homes.

Figure 4: Household Sizes of Joe Morolong Local Municipality (Source: Stats SA: Census 2001 & Community Survey 2007)

| Household Sizes | |
|-----------------|-----|
| 2001 | 4.5 |
| 2007 | 4.3 |

4.2.1.3 Population projections

The Stats SA data indicates an annual decrease of -4.22% between 2001 and 2007. Based on this negative growth rate, it is projected that the population will decrease to 43 166 in 2020. However data derived from the Quantec database indicates different values. Based on a -0.9% negative growth rate per year, it is projected that the total population figure will decrease to 72 826 in 2020.

Figure 5: Joe Morolong Population (Source: Quantec and Stats SA: Census 2001 & Community Survey 2007)

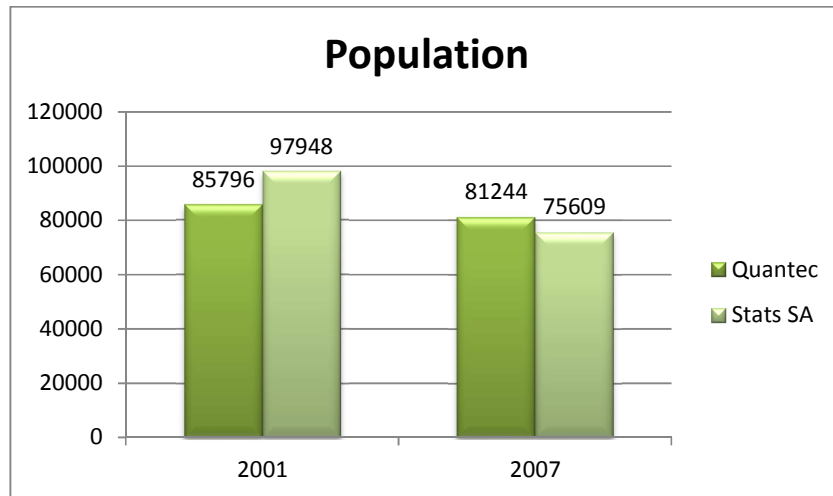
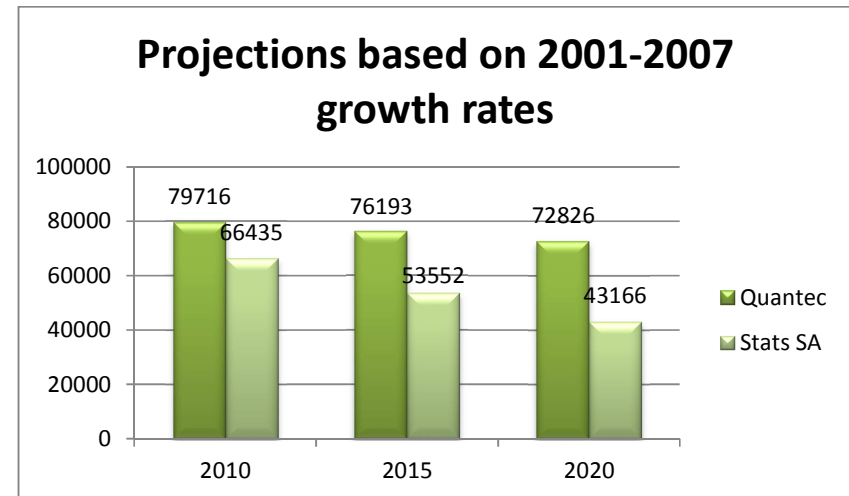


Figure 6: Projections based on the 2001-2007 growth rates (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007)



4.2.1.4 Household Projections

The Stats SA data indicates an annual -3.65% negative growth rate for the total number of households from 2001 to 2007. Based on this growth rate, it is projected that the number of households will decrease to 13 413 in 2020.

The Quantec data does not reflect such a steep decrease in the number of households as compared to the Stats SA data. Based on the -0.73% growth rate per year, it is projected that the number of households will decrease to 17 291 in 2020.

Figure 7: Total Households (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007)

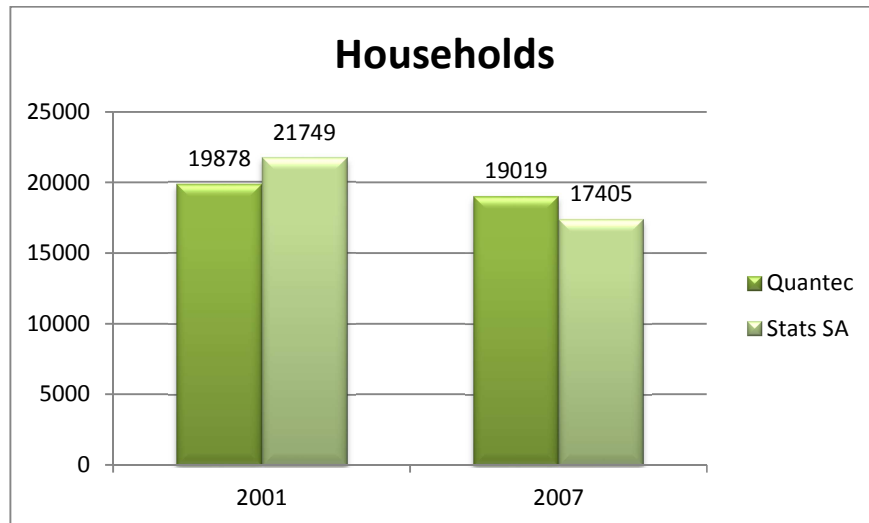
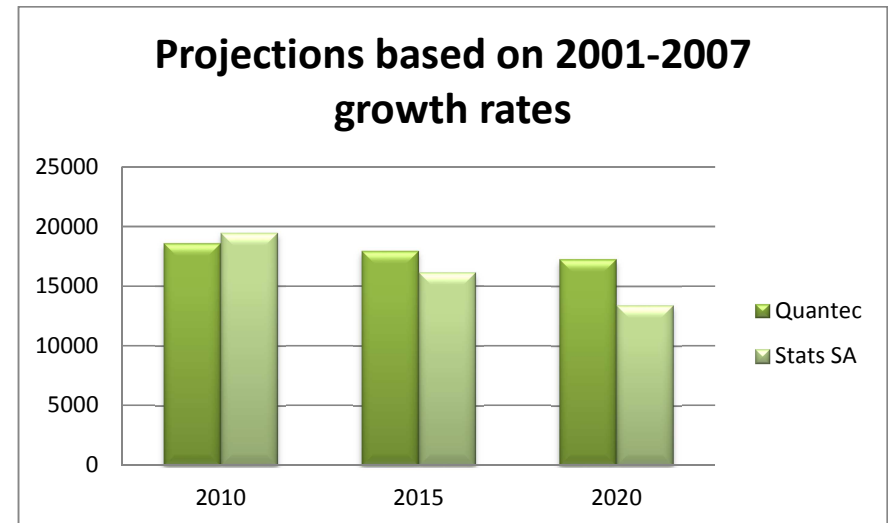


Figure 8: Projected Household Growth (Source: Quantec 2012, Stats SA: Census 2001 & Community Survey 2007)



4.2.1.5 Population composition and growth trends

According to the SA Census 2001 and the Community Survey 2007, the population race and sex composition for Joe Morolong Local Municipality is summarized in the table below.

Table 3: Population composition of Joe Morolong Local Municipality (Source: Stats SA: SA Census 2001 & Community Survey 2007)

| Race | Sex | 2001 | | 2007 | |
|--------------|--------|-----------------|----------------------------------|-----------------|-------------------------|
| | | Population | Combined and percentage of total | Population | Combined and percentage |
| Black | Male | 44 888 | 95 581 (97.58%) | 33 099 | 72 939 (96.47%) |
| | Female | 50 693 | | 39 840 | |
| Coloured | Male | 611 | 1 186 (1.21%) | 760 | 1 299 (1.72%) |
| | Female | 575 | | 539 | |
| Indian/Asian | Male | 6 | 18 (0.02%) | 21 | 21 (0.03%) |
| | Female | 12 | | 0 | |
| White | Male | 627 | 1 164 (1.19%) | 656 | 1 350 (1.79%) |
| | Female | 537 | | 694 | |
| Total | Male | 46 132 (47%) | 97 949 | 34 536 (46%) | 75 609 |
| | Female | 51 817 (53%) | | 41 073 (54%) | |

Changes in population according to the Stats SA:

| | |
|--------------|--------|
| Black | -1.11% |
| Coloured | 0.51% |
| Indian/Asian | 0.1% |
| White | -0.6% |

The largest net decrease took place amongst the black population. It may seem that the Local Municipality is depopulating, but the figure below indicates an upward trend from 2007 onwards in the population growth.

When the population growth of the Joe Morolong Local Municipality is compared with the growth patterns of the Province and of the country as a whole, it can be seen that the population growth in the Joe Morolong Local Municipality has overtaken the growth rate of the broader Province, whilst it previously had a much lower growth rate over the past 13 years. It can also be deducted that the Joe Morolong LM follows the pattern of the broader Province growth path, namely a slower than National growth rate.

Table 4: Population composition of South Africa (Source: Stats SA: SA Census 2001 & Community Survey 2007)

| South Africa | | | | | |
|--------------|--------|------------|----------------------------------|------------|-------------------------|
| Race | Sex | 2001 | | 2007 | |
| | | Population | Combined and percentage of total | Population | Combined and percentage |
| Black | Male | 16 887 830 | 35 416 165 (79.04%) | 18 417 423 | 38 255 152 (82.19%) |
| | Female | 18 528 335 | | 19 837 729 | |
| Coloured | Male | 1 909 511 | 3 983 588 (8.89%) | 2 117 622 | 2 417 119 (5.19%) |
| | Female | 2 074 077 | | 299 497 | |
| Indian/Asian | Male | 545 046 | 1 115 472 (2.49%) | 615 985 | 1 244 670 (2.67%) |
| | Female | 570 426 | | 628 685 | |
| White | Male | 2 080 732 | 4 293 637 (9.58%) | 2 261 067 | 4 626 744 (9.94%) |
| | Female | 2 212 905 | | 2365677 | |

| | | | | | |
|-------|--------|------------------------|------------|------------------------|------------|
| Total | Male | 21 423 119 (47.81%) | 44 808 862 | 23 412 097 (50.30%) | 46 543 685 |
| | Female | 23 385 743 (52.19%) | | 23 131 588 (49.70%) | |

Figure 9: Comparative population growth (Source: Quantec)

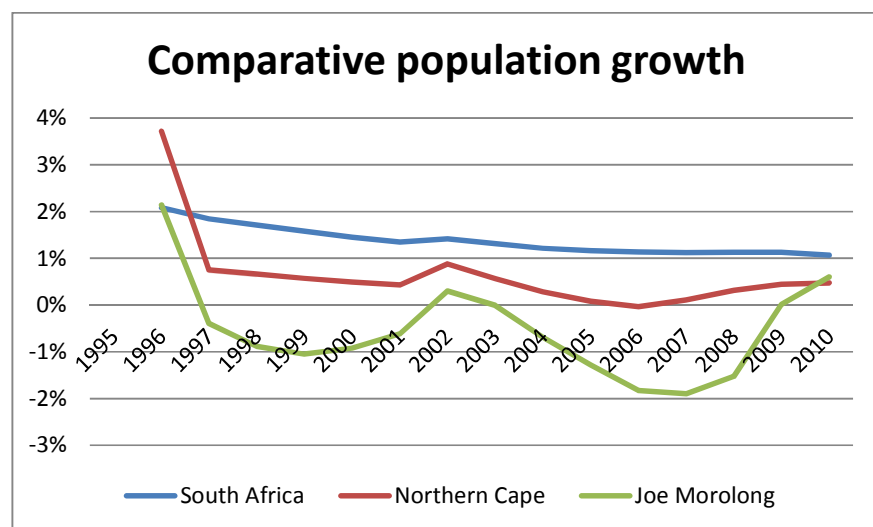
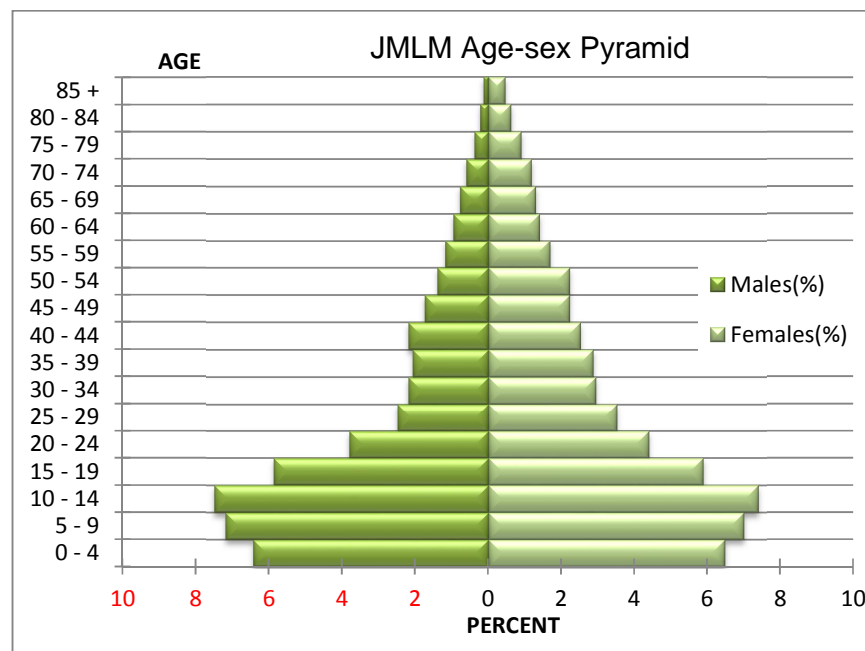
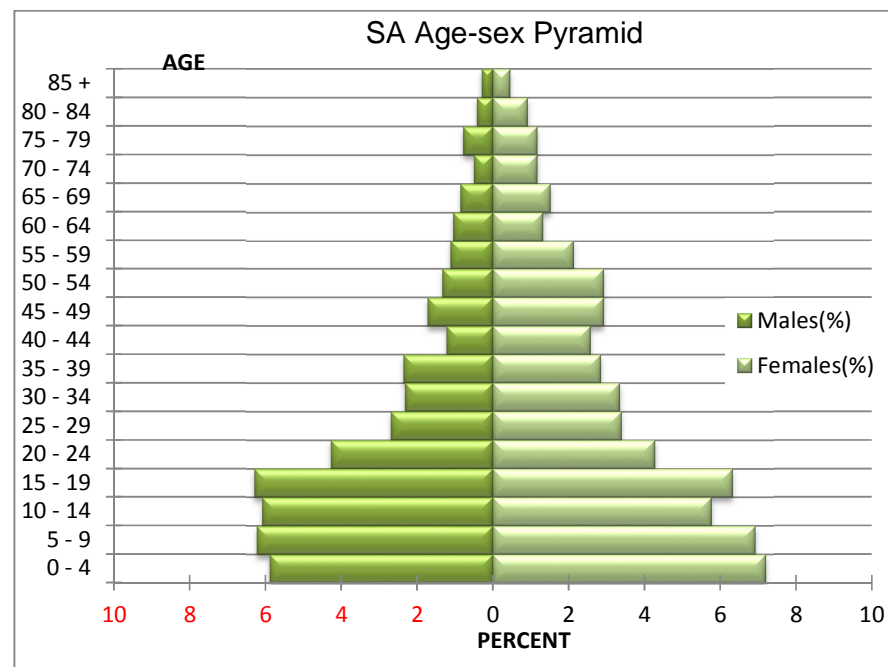


Figure 10: Population Pyramid of the Joe Morolong Local Municipality, 2001 (Source: Stats SA: Census, 2001)



From the above population pyramid it can be seen that birth rates had decreased quite substantially during the 14 years up to 2001 with the base of the pyramid becoming narrower. The sharpest decrease in numbers takes place between the 14 year old and 29 year old age groups. This could be due lower birth rates during those years or higher mortality and/or migration rates in those age groups. The figure above also shows that the majority of the population is aged between 0 and 24, possibly indicating a low life expectation of the population.

Figure 11: Population Pyramid of the Joe Morolong Local Municipality, 2007 (Source: StatsSA, Community Survey, 2007))



When the same information sourced from the Community Survey 2007 is viewed, it can be seen that the information was based upon a sample. The consistency of the information is poorer and care should be taken to predict trends. Basically similar trends can be seen from the above data.

In 2001, the municipal population was fairly young with 54% of the population under the age of 20. In 2007 this group decreased to 51%, but this age group still account for more than 50% of the municipal population.

Table 5: Age Distribution (Source: SA Census, 2005 & StatsSA, Community Survey, 2007)

| Age Groups | 0 - 19 | | 20 - 59 | | 60 and Above | |
|--------------|--------|------|---------|------|--------------|------|
| | 2001 | 2007 | 2001 | 2007 | 2001 | 2007 |
| Joe Morolong | 54% | 51% | 39% | 40% | 8% | 9% |

Factors that influence the municipal population size are mortality rates, birth rates and migration patterns.

The figures indicate percentage change as measured to the previous year, therefore 0% means that the rate of expansion or contraction had remained fixed over that period. The purpose of the figures is only to indicate rates at a scale that is comparable with National numbers and the actual numbers are not shown.

Indicated in the figure below the rate of HIV infections in the Municipality can be seen. HIV infections will affect possible future mortality rates, if not addressed properly. It can be seen that infection rates has steadily decreased. Various reasons can be provided for the decrease e.g. the potential target group of the disease had become mostly saturated or greater awareness and lifestyle changes, better health practises preventing mother to baby infections etc. It must be noted that a lower infection rate does not mean that less persons are currently infected; therefore the impact of the past infections may still have an adverse effect on the population composition and size.

When the infection rate is compared to the broader infection rates for South Africa, it can be seen that the municipal rate largely correlates positively with the National trend.

Figure 12: HIV infected persons (Source: Quantec)

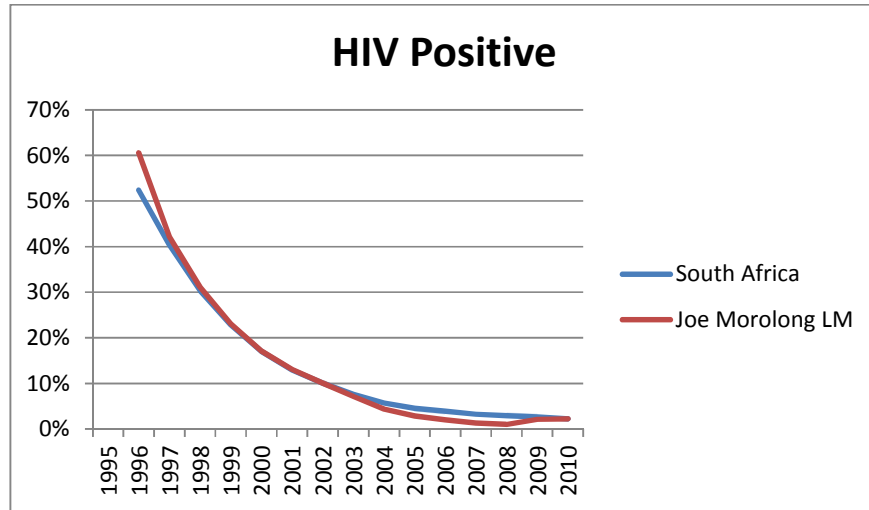
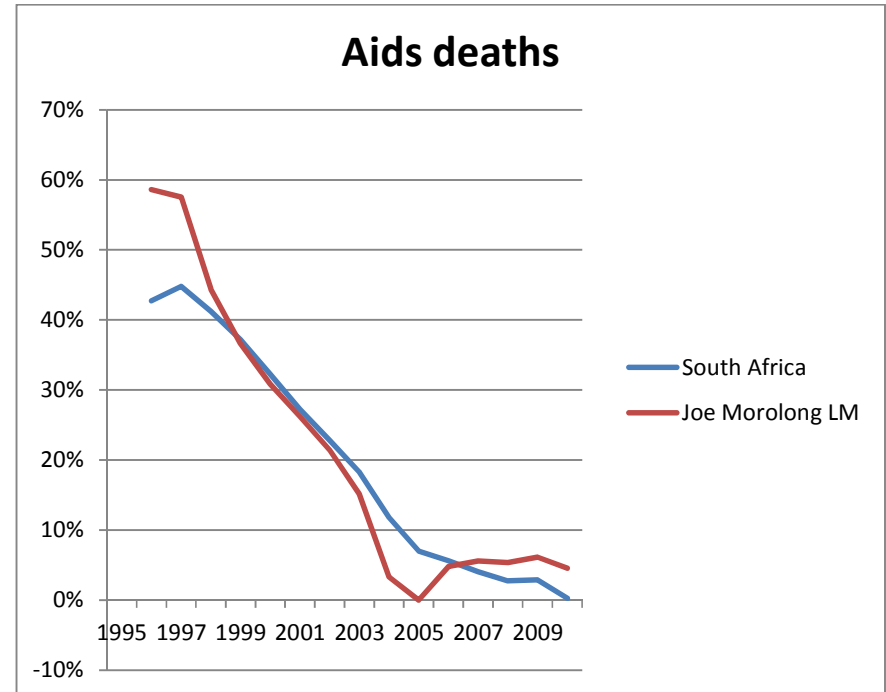
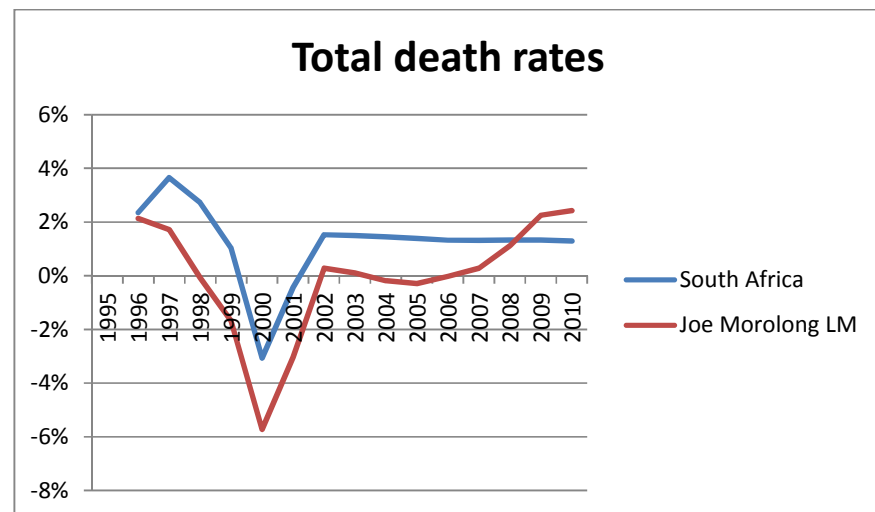


Figure 13: Aids related deaths (Source: Quantec)



It is clear that the number of deaths from Aids has decreased dramatically over the past 15 years in South Africa. It seems that the Aids deaths in 2005 in Joe Morolong Local Municipality has decreased at a faster pace than the National Norm, but has since increased to above the National Norm.

Figure 14: Total death rate (Source: Quantec)



The above figure indicates the total death rate from all causes in South Africa and in the Joe Morolong Local Municipality. The two trends mostly correlate, with the difference that the municipal death rate had been consistently lower than the National Norm until approximately 2006. Since 2006, it can be seen that death rates had been rising and has surpassed the National Norm and may still be increasing. The higher than National Norm Aids Related Death Rates contribute to this trend.

The main causes of death in John Taolo Gaetsewe District Municipality are natural causes, which is where the cause of 55.5% of all deaths in 2008.

Table 6: Causes of Death in John Taolo Gaetsewe District Municipality, 2008⁵⁷

| John Taolo Gaetsewe | No | % |
|--|------|-------|
| Influenza and pneumonia | 281 | 9.8% |
| Intestinal infectious diseases | 211 | 7.4% |
| Tuberculosis | 166 | 5.8% |
| Other acute lower respiratory infection | 121 | 4.2% |
| Other forms of heart diseases | 95 | 3.3% |
| Cerebrovascular diseases | 74 | 2.6% |
| Other diseases of the respiratory system | 54 | 1.9% |
| Other disorders originating in the perinatal period | 54 | 1.9% |
| Respiratory and cardiovascular disorders specific to the perinatal | 38 | 1.3% |
| Hypertensive disease | 32 | 1.1% |
| Other natural causes | 1587 | 55.5% |
| Non-natural causes | 149 | 5.2% |
| All causes | 2862 | 100% |

⁵⁷ Provincial Department of Health

4.2.1.6 Migration Pattern

The term permanent “migration” refers to both internal, i.e. between Provinces within the country, as well as international migration, indicating people moving to the country and to a specific Province (Department of Social Development, 2010:23)⁵⁸.

The Stats SA Community Survey of 2007 indicates that the population in Joe Morolong Local Municipality decreased from 97 968 in 2001 to 75 609 in 2007, although the trend may be in an upward phase (see Comparative population growth figure above). This may be due to various reasons as mentioned, but is also be contributable to migration patterns.

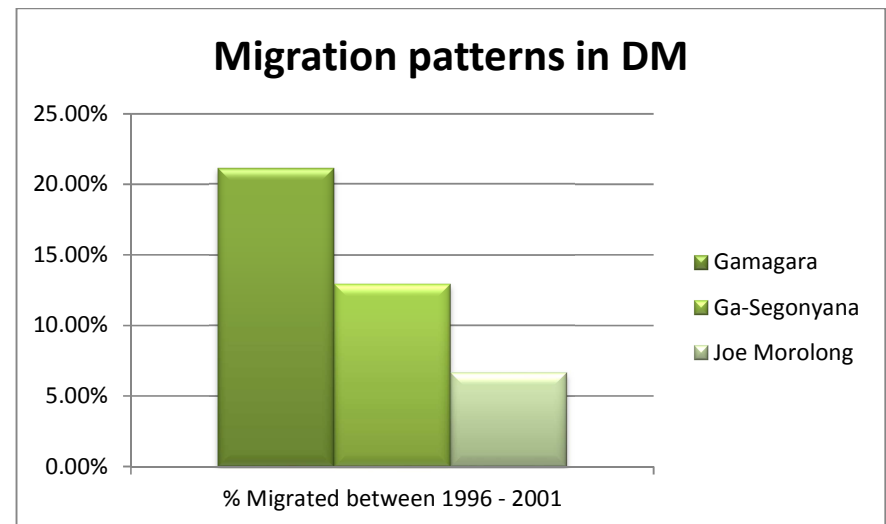
Temporary migration occurs when persons work elsewhere and return on a regular basis back to the Municipality. These patterns do not affect the numbers mentioned or the net decreases in population.

The table below indicates the comparative migration patterns for the municipalities located within the John Taolo Gaetsewe District Municipality. It can be seen that the Joe Morolong Local Municipality has relatively less migration than adjacent Municipalities in the District.

Table 7: Population in the District Municipality living in the same place for the past five years (Northern Cape Human Development Report, 2010:25 as cited in SA Census, 2001)

| | Lived in the same place since 1996 | Moved between 1996 and 2001 | Total | % Live in the same place | % Migrated between 1996 - 2001 |
|--------------|------------------------------------|-----------------------------|--------|--------------------------|--------------------------------|
| Gamagara | 18,304 | 4,901 | 23,205 | 78.88% | 21.12% |
| Ga-Segonyana | 61,280 | 9,133 | 70,416 | 87.03% | 12.97% |
| Joe Morolong | 92,272 | 6,593 | 98,868 | 93.33% | 6.67% |

Figure 15: Migration patterns in the John Taolo G. District Municipality (Source:Stats SA: Census 2001)

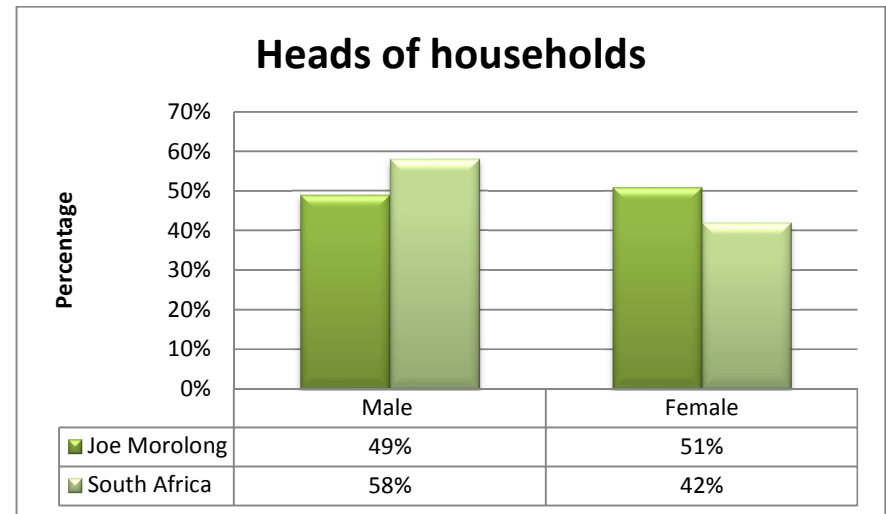


⁵⁸ SQUIRES, A & WELLMANN, G. 2010. Northern Cape Human Development Report. Department of Social Development, Northern Cape. 211 p.

4.2.1.7 Heads of households

Heads of households gives an indication of the migration that occurs in households. Female led households may be single or divorced mother households or may be households where the male works elsewhere and returns on a regular basis. Looking at the National Trend, it can be seen that 58% of households are headed by men, whilst only 49% of households in Joe Morolong are headed by men. This discrepancy may be attributable to men who work elsewhere e.g. on mines in surrounding municipalities and return to the villages during holidays etc.

Figure 16: Heads of households (Source: Stats SA: Census 2001)



4.2.2 Education

4.2.2.1 Level of Education

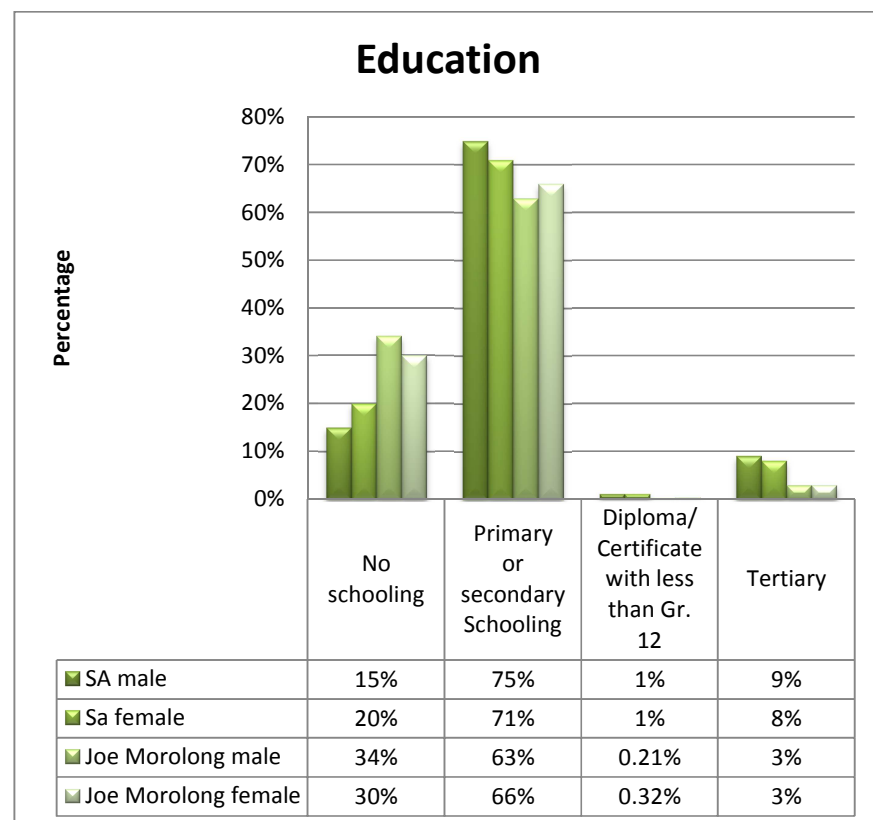
The Millennium Declaration states a commitment “to making the right to development a reality for everyone and to freeing the entire human race from want.”⁵⁹ The declaration specifies a set of eight goals with a set of targets to fully define these goals.

The following targets are specified which is related to education:

- Millennium Development Goals, Target 3: Ensure that, by 2015, all boys and girls complete a full course of primary schooling.
- Millennium Development Goal, Target 4: Eliminate gender disparities in primary and secondary education preferably by 2005, and at all levels no later than 2025.

⁵⁹ PERKINS, D.H et al. *Economics of Development: Millennium development Goals*. 6th edition. 50p.

Figure 17: Percentage people in Joe Morolong Local Municipality by level of education (Source: SA Census, 2001)



The above figure indicates the education level of the population aged 20 years and older. It is clear that $\pm 30\%$ of the economically able population had no schooling in 2001 and $\pm 65\%$ have primary or secondary education. It can therefore be said that the above mentioned target 3 of primary schooling for all has not yet been met.

Furthermore the figure above reflects a lack of skilled professionals which places a constraint on the development of the Municipality. With regards to

Target 4: Elimination of gender disparities in schooling, it can be seen that small gender disparities exist and it seems not to be a problem in Joe Morolong Local Municipality.

4.2.2.2 Educational Facilities

The table below indicates Joe Morolong Municipality's compliance with the quantitative guidelines for educational facilities, according to the Guidelines for Human Settlement and Planning.

In terms of the mentioned standards provided by the CSIR, the Joe Morolong has a sufficient number of schools, although it seems like there is a shortfall of 5 Secondary Schools, there are actually an additional 3 Intermediate Schools and 8 Middle Schools, making up for the shortfall.

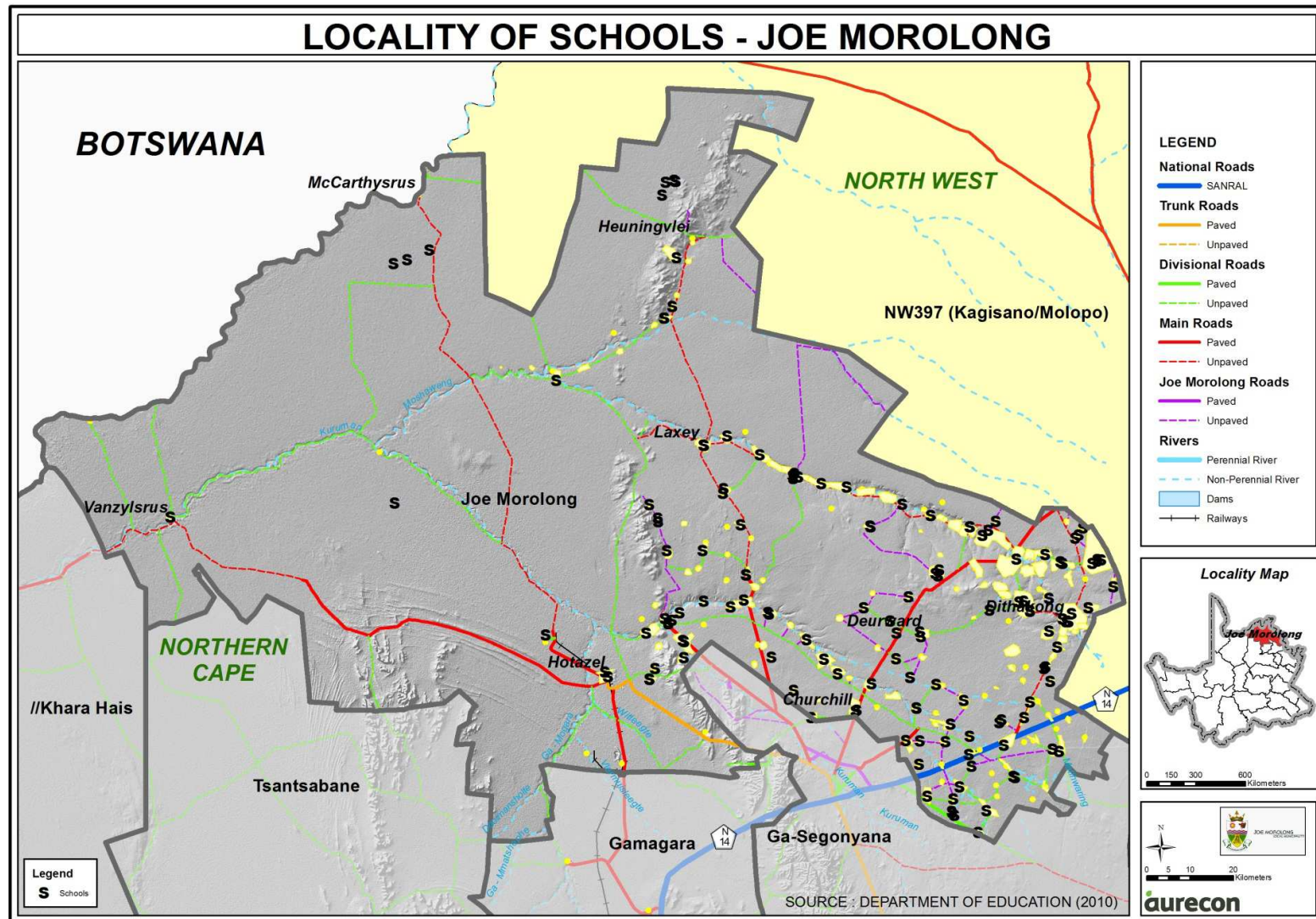
Table 8: Educational facilities

| Facility | Use capacity and thresholds ⁶⁰ | Schools required based on 2011 population figures | Current status | Shortfall/ Surplus |
|--|---|---|----------------|--------------------|
| Primary School | Estimate minimum population: 3000-4000 | 28 | 39 | +11 |
| High School | Estimate minimum population: 6000-10000 | 11 | 6 | -5 |
| Intermediate School (Gr. 8 & 9) | - | - | 3 | +3 |
| Middle School (Gr. 4 – 7 or Gr. 8- 10) | - | - | 8 | +8 |

⁶⁰ CSIR. 2000. Human Settlement Planning and Design: Quantitative Guidelines. CSIR Building and Construction Technology. Pretoria. 1(5). 199 p.

The map below indicates the spatial distribution of schools. It is clear that some of the villages are situated far from the educational facilities. The long distances between some of the smaller settlements and schools are challenging for most of the children who do not have access to transport facilities.

Map 13: Locality of Schools - Joe Morolong Local Municipality



4.2.2.3 Learner: Educator ratio

The accepted ratio between Learner and Educator is 1 Educator for every 40 Learners⁶¹. Only 3% of the Schools in Joe-Morolong have exceeded the norm.

Table 9: Learners and Educators per School (Source: DWA Geo-Database, 2008)

| | School name | Learner enrolment total | Educator Total | Learner: Educator ratio |
|---------------|---------------------------|-------------------------|----------------|-------------------------|
| Bendel | Frank Tire Primary | 159 | 6 | 1 : 26.50 |
| | Itlolteng High School | 308 | 13 | 1 : 23.69 |
| Bojelapotsane | Kgomotsego Primary School | 33 | 3 | 1 : 11.00 |
| Bosra | Thae Primary | 90 | 3 | 1 : 30.00 |
| Bothetheletsa | Monoketsi Middle School | 125 | 5 | 1 : 25.00 |
| Bothithong | Sengae Primary School | 347 | 11 | 1 : 31.55 |
| Cardington | Cardington Primary | 122 | 5 | 1 : 24.40 |
| Cassel | Nametsegang High School | 527 | 18 | 1 : 29.28 |
| Deurward | Rebone Middle School | 50 | 3 | 1 : 16.67 |
| Dikhing | Ikakanyeng Secondary | 213 | 8 | 1 : 26.63 |
| Dithakong | Motshwarakgole | 633 | 20 | 1 : 31.65 |

⁶¹ SQUIRES, A & WELLMANN, G. 2010. Northern Cape Human Development Report. Department of Social Development, Northern Cape. p96.

| | School name | Learner enrolment total | Educator Total | Learner: Educator ratio |
|-------------------|-------------------------------|-------------------------|----------------|-------------------------|
| | Intermediate | | | |
| Ellendale | New Semauswane Primary School | 102 | 4 | 1 : 25.50 |
| | Reratile Middle School | 43 | 3 | 1 : 14.33 |
| Gahuhuwe | Gahuhuwe Intermediate | 337 | 11 | 1 : 30.64 |
| Gamasepa | Gamasego Primary | 192 | 4 | 1 : 48.00 |
| Gamothibi | Obontse Primary School | 72 | 3 | 1 : 24.00 |
| Ganap 2 | Ganap Primary | 10 | 1 | 1 : 10.00 |
| Ganghai | Ganghai Primary School | 34 | 2 | 1 : 17.00 |
| Gasehunelo Wyk 10 | Oarabile Middle School | 54 | 3 | 1 : 18.00 |
| Gasehunelo Wyk 2 | Baviaanskranz Primary School | 32 | 2 | 1 : 16.00 |
| Gasehunelo Wyk 7 | Ratanang Primary School | 26 | 1 | 1 : 26.00 |
| Gasehunelo Wyk 9 | Motabogi Primary | 30 | 3 | 1 : 10.00 |
| Golothlare | Galore Primary School | 231 | 6 | 1 : 38.50 |
| Goodhope | Goodhope Primary School | 145 | 6 | 1 : 24.17 |
| Heiso | Keattholela Primary | 141 | 5 | 1 : 28.20 |

| | School name | Learner enrolment total | Educator Total | Learner: Educator ratio |
|--------------|-------------------------------|-------------------------|----------------|-------------------------|
| Heuningvlei | Ba-Galotlhare High School | 523 | 21 | 1 : 24.90 |
| | Oreeditse Primary School | 104 | 5 | 1 : 20.80 |
| | Tsoe Primary School | 362 | 10 | 36.20 |
| Khuis | Khuis Primary | 72 | 3 | 1 : 24.00 |
| Kleineira | Marataditse Primary School | 65 | 3 | 1 : 21.67 |
| Kokonye | Florina Primary School | 34 | 2 | 1 : 17.00 |
| Madibeng | Madibeng Primary School | 271 | 6 | 1 : 45.17 |
| Madula Ranch | Kegomoditswe Secondary School | 425 | 15 | 1 : 28.33 |
| | Thaganyane Primary School | 523 | 16 | 1 : 32.69 |
| Mahukubung | Mahukubung Primary | 55 | 2 | 1 : 27.50 |
| Maipeing | Reaeteka Middle School | 135 | 6 | 1 : 22.50 |
| Makhubung | Makhubung Primary School | 107 | 4 | 1 : 26.75 |
| Manyeding | Manyeding Primary School | 220 | 8 | 1 : 27.50 |

| | School name | Learner enrolment total | Educator Total | Learner: Educator ratio |
|-------------------|---------------------------------|-------------------------|----------------|-------------------------|
| Maologane | Bogale Primary School | 13 | 2 | 1 : 6.50 |
| Mentu | Mentu Primary | 44 | 2 | 1 : 22.00 |
| Metswatsaneng | Mecwatsaneng Primary School | 94 | 4 | 1 : 23.50 |
| Mosakong | Dibotswa High School | 792 | 21 | 1 : 37.71 |
| Ntswelengwe | Gasebonwe Jantjie Middle School | 144 | 5 | 1 : 28.80 |
| | Ncwelengwe Primary School | 440 | 12 | 1 : 36.67 |
| Padstow | Maremane Primary | 189 | 7 | 1 : 27.00 |
| Perth | Gatalwatlou Middle School | 106 | 5 | 1 : 21.20 |
| Pietersham | Marumo Middle School | 127 | 5 | 1 : 25.40 |
| Rusfontein Wyk 10 | Rusfontein Primary | 83 | 3 | 1 : 27.67 |
| Segwaneng | Segwaneng Primary School | 171 | 7 | 1 : 24.43 |
| Shalaneng | Shalana Primary School | 111 | 4 | 1 : 27.75 |
| Skema | Rebogile Primary School | 46 | 2 | 1 : 23.00 |
| Tsaelengwe | Tsaelengwe GET Institution | 201 | 8 | 1 : 25.13 |

| | School name | Learner enrolment total | Educator Total | Learner: Educator ratio |
|---------------------|-------------------------------|-------------------------|----------------|-------------------------|
| Tsineng | Maoka Primary School | 142 | 6 | 1 : 23.67 |
| Washington/Antinome | Boitshiretso Primary School | 109 | 3 | 1 : 36.33 |
| Kilo Kilo/Sekokwane | Sekokwane Primary | 56 | 2 | 1 : 28.00 |
| Rustfontein Wyk 8 | Itapolosong Primary School | 20 | 2 | 1 : 10.00 |
| Diking | Ikemeleng Primary | 117 | 4 | 1 : 29.25 |
| Zaneen | Tselancho Intermediate School | 169 | 6 | 1 : 28.17 |

Table 10: Compliance with the acceptable learner: educator norm⁶² (Source: DWA, 2008)

| Municipality | Too high | Within norm | Total | % Schools with learner: educator ratio too high |
|--------------|----------|-------------|-------|---|
| Joe Morolong | 2 | 56 | 58 | 3% |

4.2.3 Health

Joe Morolong Local Municipality has 0 Hospitals, 0 Community Hospitals and Community Health Centres (CHC) and 16 fixed Clinics. The nearest Hospitals are in Kuruman and Vryburg.

⁶² SOUTH AFRICA. 2008. Department: water Affairs: School data set.

Table 11: Number of health facilities⁶³

| Municipality | Hospital | CHC & Community Hospitals | Fixed Clinics |
|--------------|----------|---------------------------|---------------|
| Joe Morolong | 0 | 3 | 23 |

The table below indicates Joe Morolong Municipality's compliance with the quantitative guidelines for health facilities, according to the Guidelines for Human Settlement and Planning.

These guidelines indicate that Joe Morolong has sufficient health facilities. The spatial distribution of the existing clinics however creates a problem due to the vast distances between some of the villages and the clinics and the poor road conditions. Also some of the clinics do not have access to running water.

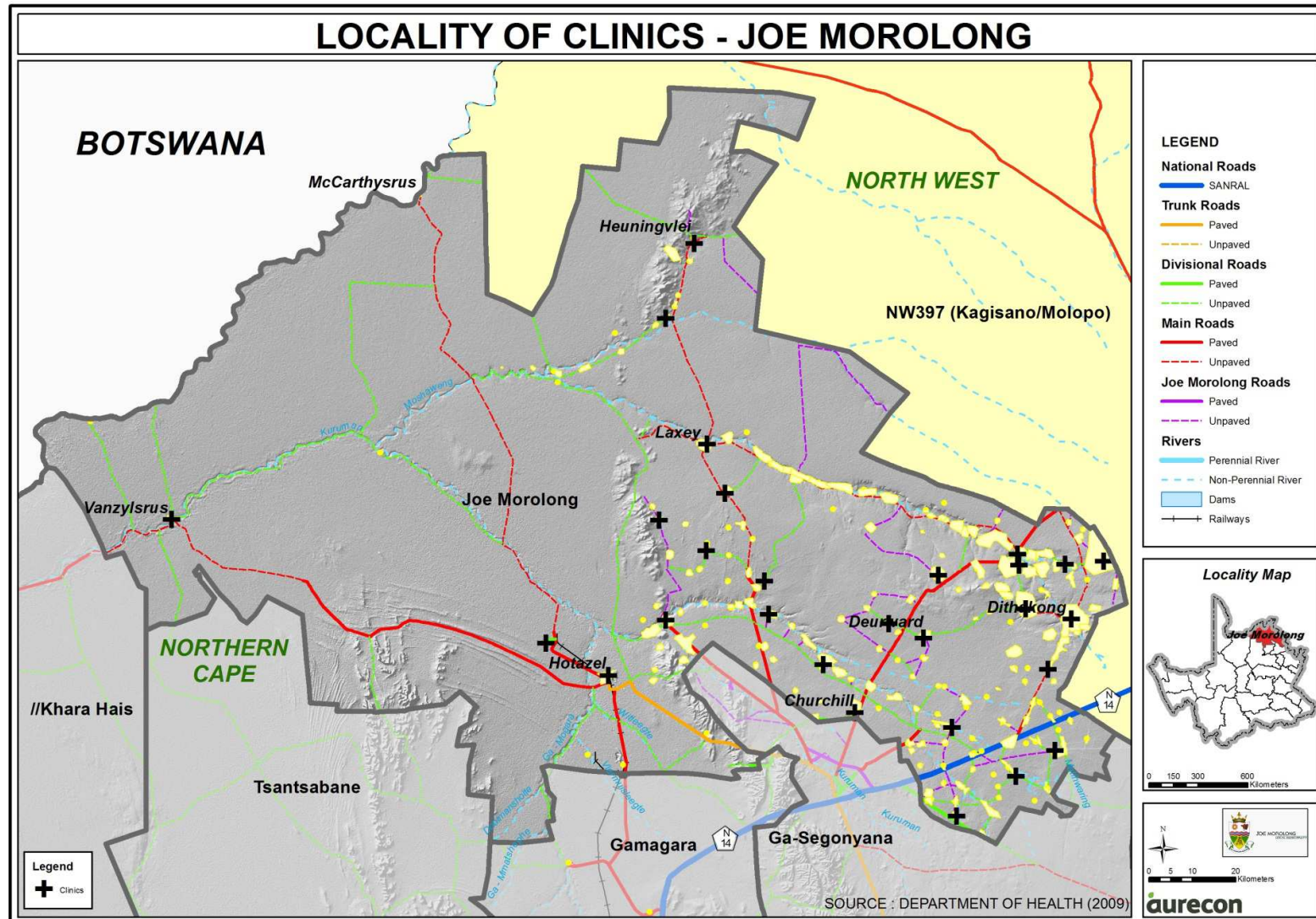
Table 12: Health Facilities

| Facility | Use capacity and thresholds ⁶⁴ | Required based on the 2011 population figures | Current status | Excess |
|----------|---|---|----------------|--------|
| Clinic | Estimate minimum of 5000 people | 22 | 23 | +1 |

⁶³ Department of Health

⁶⁴ CSIR. 2000. Human Settlement Planning and Design: Quantitative Guidelines. CSIR Building and Construction Technology. Pretoria. 1(5). 199 p.

Map 14: Locality of Clinics - Joe Morolong Local Municipality



4.2.3.1 HIV/AIDS Prevalence

The Millennium Declaration set the following target for 2015⁶⁵:

- Millennium Development Goals, Target 7: Halt and begin to reverse the spread.

The Provincial Growth and Development Strategy identified the following target:

- To stabilize the prevalence rate of HIV/AIDS and begin the reverse the rate by 2014.

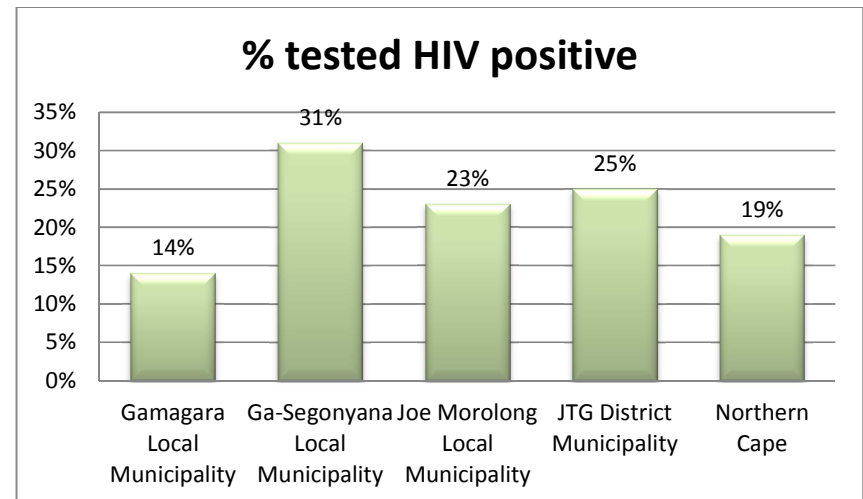
HIV Prevalence (excluding antenatal)

A total of 3 072 Joe Morolong Clients (excluding antenatal) were tested for HIV in 2008/2009 of which 710 tested positive (23%) at Northern Cape health facilities. The HIV prevalence in Joe Morolong is 2% less than John Taolo Gaetsewe District Municipality, but 4% higher than the Northern Cape.

Table 13: HIV tested and % positive 2008/2009⁶⁶

| Municipality | HIV pre-test counselled (excluding antenatal) | HIV client tested (excluding antenatal) | HIV test positive - new (excluding antenatal) | % tested positive |
|---------------------|---|---|---|-------------------|
| Gamagara | 1 812 | 1 771 | 248 | 14% |
| Ga-Segonyana | 4 378 | 3 827 | 1 196 | 31% |
| Joe Morolong | 3 852 | 3 072 | 710 | 23% |
| J T Gaetsewe | 10 042 | 8 670 | 2 154 | 25% |
| Northern Cape | 57 444 | 53 987 | 10 038 | 19% |

Figure 18: Percentage tested HIV positive, 2008/2009



⁶⁵ PERKINS, D.H et al. *Economics of Development: Millennium development Goals*. 6th edition. 50p.

⁶⁶ SQUIRES, A & WELLMANN, G. 2010. *Northern Cape Human Development Report*. Department of Social Development, Northern Cape. p50

Antenatal HIV Prevalence

Since 1990, the South African Department of Health has undertaken a series of annual unlinked and anonymous HIV Surveys amongst women attending antenatal clinics (ANCs) of the Public Health Service. The prevalence in Northern Cape has remained static.⁶⁷

A total of 1 682 Joe Morolong Antenatal Clients were tested for HIV in 2008/2009 of which 238 tested positive (14%) at Northern Cape health facilities. The HIV prevalence in Joe Morolong is 1% less than John Taolo Gaetsewe District Municipality, but 2% higher than the Northern Cape.

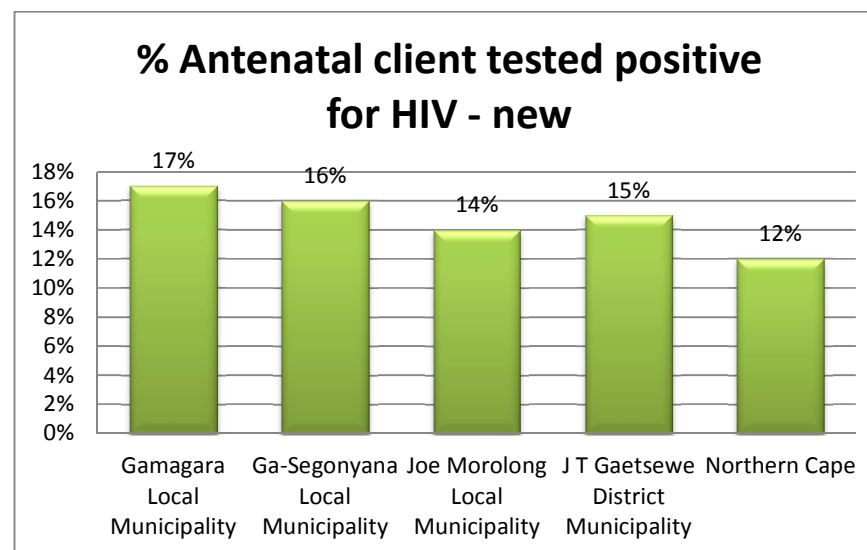
Table 14: Antenatal HIV Prevalence, 2008/2009⁶⁸

| Municipality | Antenatal client tested for HIV - new | Antenatal client tested positive for HIV - new | % Antenatal client tested positive for HIV - new |
|---------------|---------------------------------------|--|--|
| Gamagara | 672 | 116 | 17% |
| Ga-Segonyana | 2 958 | 461 | 16% |
| Joe Morolong | 1682 | 238 | 14% |
| J T Gaetsewe | 5 312 | 815 | 15% |
| Northern Cape | 25 703 | 3 091 | 12% |

⁶⁷ NATIONAL DEPARTMENT OF HEALTH. 2009. *National antenatal sentinel HIV & syphilis prevalence survey - South Africa report*. p. 6

⁶⁸ SQUIRES, A & WELLMANN, G. 2010. *Northern Cape Human Development Report*. Department of Social Development, Northern Cape. p55

Figure 19: % HIV positive Antenatal clients



4.2.3.2 Tuberculosis

All forms of tuberculosis (TB) are prevalent in the Northern Cape. The South African Health Systems Trust found that during the period 1998-2006 TB in the Northern Cape was almost 30% higher than the national average. One of the many results of seasonal and migrant working is the increase of the TB defaulter rate. John Taolo Gaetsewe District Municipality's incidence rate however decreased to 471.4 per 100 000 in 2010 from 546.6 per 100 000 in 2009. John Taolo Gaetsewe has the highest TB incident rates in the Northern Cape.

The management and control of TB in the Northern Cape is a major challenge according to the Northern Cape DoH. The emergence of Extreme Drug Resistant (XDR) TB is a particular concern. While there are gains observed in

TB outcomes in the past two years, an increasing number of patients continue to contract TB.⁶⁹

Poor living conditions, high unemployment rate and high prevalence of HIV exacerbates the situation.

Table 15: TB cases 2009 to 2010 per district⁷⁰

| District | 2009 | 2010 |
|---------------------|-------------------------------|-------------------------------|
| | Number per 100 000 population | Number per 100 000 population |
| Frances Baard | 442.1 | 268.3 |
| Pixley Ka Seme | 386.6 | 297.7 |
| John Taolo Gaetsewe | 546.6 | 471.4 |
| Namakwa | 331.9 | 348.5 |
| Siyanda | 518.7 | 459.1 |

⁶⁹ SQUIRES, A & WELLMANN, G. 2010. *Northern Cape Human Development Report*. Department of Social Development, Northern Cape. 211 p.

⁷⁰ Provincial Department of Health

4.2.4 Economics

4.2.4.1 Employment status and profile

The Provincial Growth and Development Strategy identified the following target for 2014:

- To halve the unemployment rate

The dependency ratio indicates the number of individuals that are below the age of 15 and over the age of 64 that are dependent on economically active persons. According to the Community Survey 2007, 45% of the population is dependent on the 55% that should represent the economically active age groups; but of this 55% economically active segment, only 49% (or 6 716 persons) are employed.

Table 16: Productive Workforce (Source: Stats SA: Census 2001 & Community Survey 2007)

| | Age 0-15 | Age 15-64 | Age 64+ | Total Population | Dependency ratio | % Economic active |
|-------------------|----------|-----------|---------|------------------|------------------|-------------------|
| Joe Morolong 2001 | 41043 | 51440 | 5465 | 97948 | 47% | 53% |
| Joe Morolong 2007 | 28933 | 41824 | 5264 | 76021 | 45% | 55% |

Unemployment refers to people within the economically active (15 - 65 year old age groups) who did not work during the seven days prior to the interview, wanted to work and were available to start work within a week of the interview, and who had taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview.

In 2001, 49% of the Joe Morolong Municipal Population was employed and 51% were unemployed. Joe Morolong LM had the highest level of unemployment in the John Taolo Gaetsewe District Municipality. This high level of unemployment could be due to the high percentage of subsistence farmers located within Joe Morolong LM, who are not looking for work, but are able to provide after dependents.

Unemployment has economic costs that reduce output, waste productive power and may even erode human capital. It has societal costs as well. Such

costs are the reason why a low unemployment rate is typically a high-priority Policy Objective in most societies.

Table 17: Employment Status (Source: SA Census, 2001)

| Municipality | Employed | Unemployed | Economically active | % Employed | % Unemployed |
|---------------------|----------|------------|---------------------|------------|--------------|
| Joe Morolong | 6,716 | 6,993 | 13,709 | 49% | 51% |
| Gamagara | 9,506 | 3,358 | 12,864 | 74% | 26% |
| Ga-Segonyana | 14,579 | 8,758 | 23,337 | 62% | 38% |
| John Taolo Gaetsewe | 30,801 | 19,109 | 49,910 | 62% | 38% |

4.2.4.2 Employment Sector

In 2007, within the spectrum of the employed population the majority of the people worked in the mining and quarrying sector (19.21%), wholesale and retail trade, repairs, hotels and restaurants sector (14.8%) and the community, social and personal services sector (14.21%).

Figure 20: Main Sectors of Employment (Source: Stats SA: Census 2001 & Community Survey 2007)

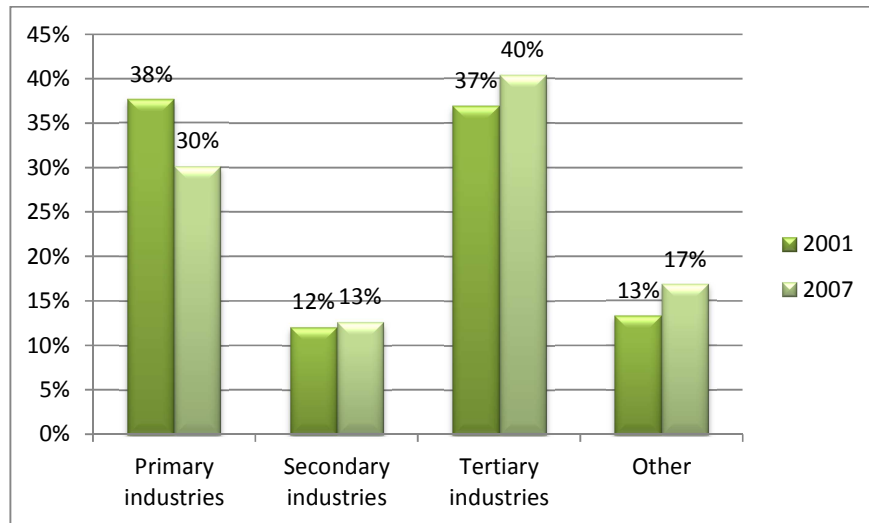


Table 18: Sector of employment (Source: Stats SA: Census 2001 & Community Survey 2007)

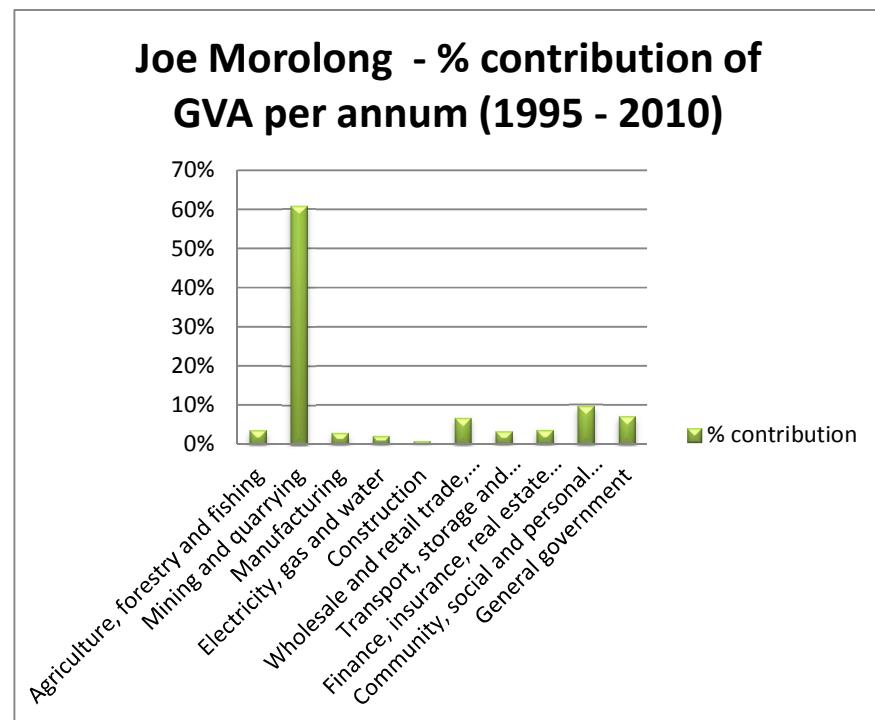
| | 2001 | 2007 |
|--|---------------|---------------|
| Primary industries | 37.66% | 30.11% |
| Agriculture; hunting, forestry and fishing | 21.69% | 10.90% |
| Mining and quarrying | 15.97% | 19.21% |
| Secondary industries | 12.06% | 12.65% |
| Manufacturing | 3.57% | 7.92% |
| Electricity; gas and water supply | 1.69% | 1.83% |
| Construction | 6.80% | 2.90% |
| Tertiary industries | 36.96% | 40.39% |
| Wholesale and retail trade; repairs, hotels and restaurants | 7.75% | 14.80% |
| Transport, storage and communication | 2.11% | 5.11% |
| Financial intermediation; insurance; real estate and business services | 2.34% | 6.27% |
| Community; social and personal services | 24.76% | 14.21% |
| Other | 13.32% | 16.83% |
| Other and not adequately defined | 0.00% | 9.92% |
| Private households | 9.92% | 0.00% |
| Undetermined | 3.40% | 6.91% |

4.2.4.3 Gross Value Added per economic sector

Gross Value Added (GVA) is a measure in economics of the value of goods and services produced in an area, industry or sector of an economy. In

national accounts GVA is output minus intermediate consumption; it is a balancing item of the national accounts' production account.

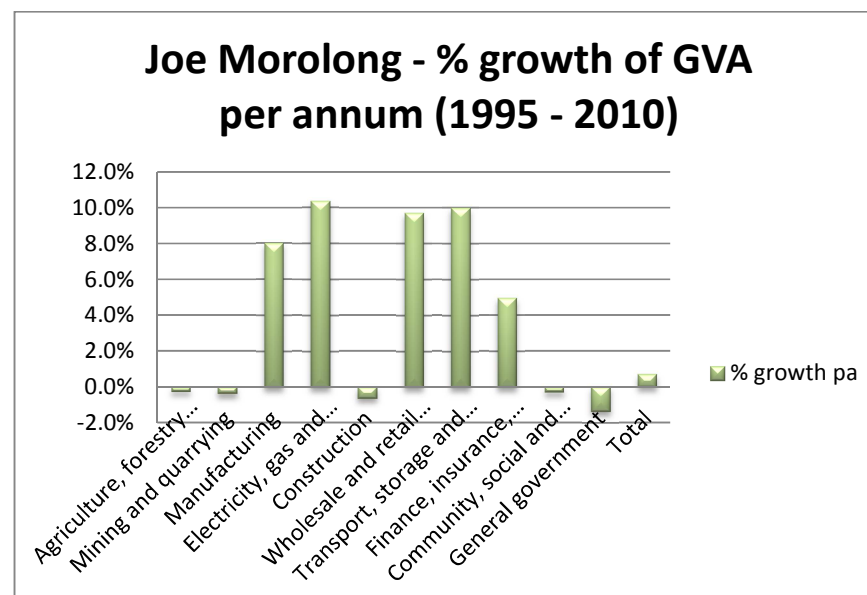
Figure 21: Percentage contribution of GVA per annum (Source: Quantec, 2012)



GVA + taxes on products - subsidies on products = GDP

As the total aggregates of taxes on products and subsidies on products are only available at whole economy level, Gross Value Added is used for measuring Gross regional domestic product and other measures of the output of entities smaller than a whole economy. By far the main GVA contribution per annum in the municipality is the mining sector in the manganese fields in the Hotazel and Black Rock region.

Figure 22: Percentage Growth of GVA per Annum (Source: Quantec, 2012)



The graph indicates the relative growth of the various economic industries, which provides a trend for future growth. It is interesting to note that although the secondary sector is currently the smallest sector, it shows the fastest growth trend in electricity, gas, water and construction. The tertiary sector also indicates much growth in the retail, transport and financial services sections. Mining, the biggest economic driver of the municipality is in decline. These trends may indicate a maturing of the economy as it moves towards the tertiary sector and needs to be supported. Mining employs the largest amount of workers and the decline may have a future impact on unemployment if the tertiary sector does not substitute the losses.

Figure 23: Percentage Sectorial Contribution of GVA per Annum (Source: Quantec, 2012)

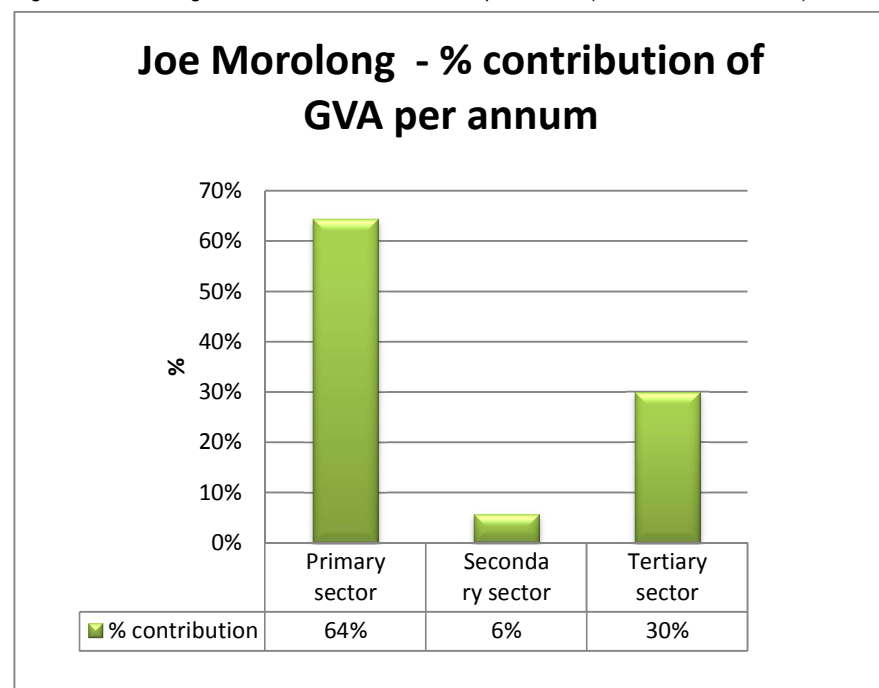
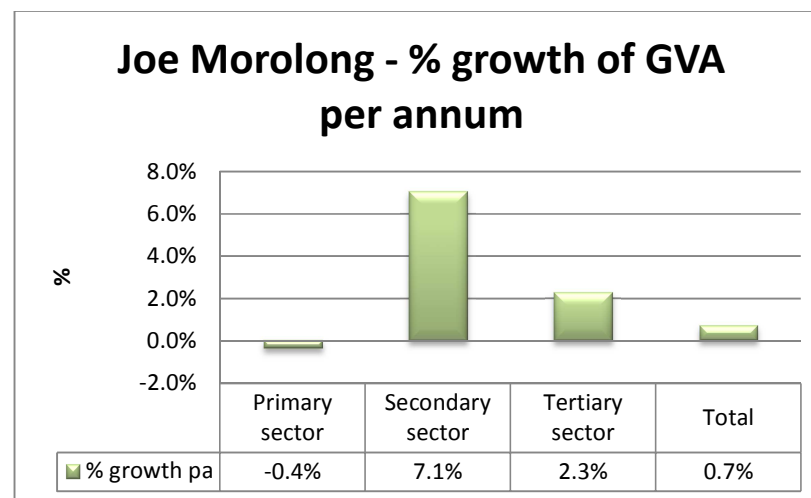


Figure 24: Percentage Sectorial Growth of GVA per Annum (Source: Quantec, 2012)



In terms of the broad economic sectors, the primary sector (driven by mining) leads the municipal economy and is followed by a respectfully large tertiary sector, made of mostly retail. The primary sector is in decline and the secondary and tertiary sectors are expanding.

4.2.4.4 Income levels & Poverty

The Millennium Declaration set the following target for 2015⁷¹:

- Millennium Development Goals, Target 1 and 2: Halt and begin to reverse the spread. To half the proportion of people living on less than a dollar a day and those who suffer.

The Provincial Growth and Development Strategy identified the following target:

⁷¹ PERKINS, D.H et al. *Economics of Development: Millennium development Goals*. 6 ed. 312 p.

- To reduce the number of households living in poverty by 5% per annum

The Human Poverty Index (HPI) introduced in 1996, focuses on three key dimensions⁷².

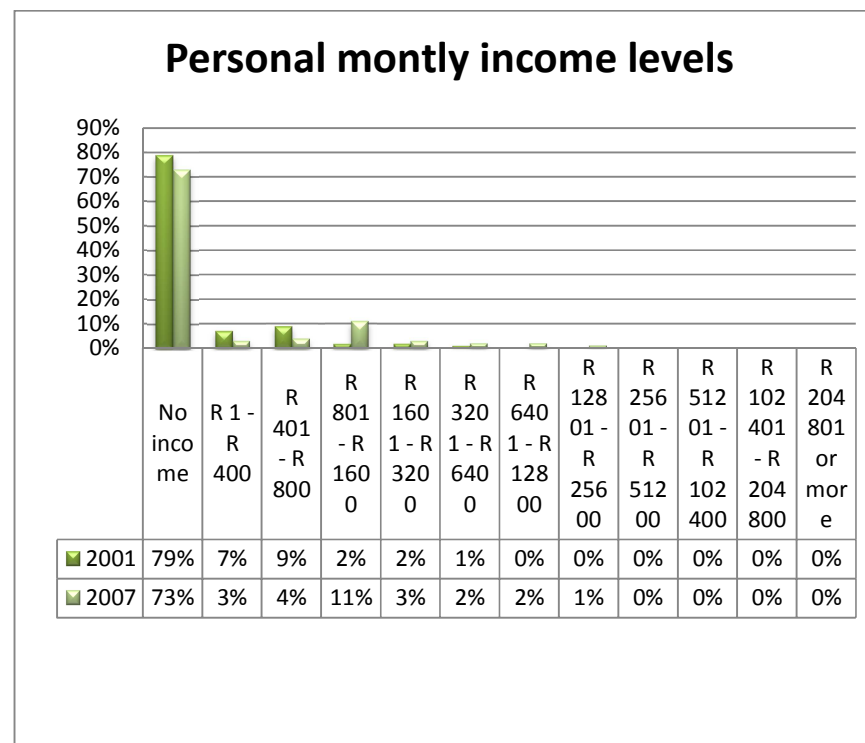
- the capability to survive (which is measured by vulnerability to early death defined as before 40 years)
- the capability to be knowledgeable (measured by the adult illiteracy rate)
- The capability to have access to private income as well as public provisioning (measured by the percentage of malnourished children under five and by the percentage of people without access to safe water).

The South Africa's Human Poverty Index is the population living on an income of less than US\$2 (approximately R14 on 02 July 2007) per day⁷³. Thus according to the Human Poverty Index, approximately 79% of the people lived in poverty in 2001, which declined to 73% in 2007. The amount of persons living in poverty reduces with 1% per annum from 2001 to 2007. Thus Joe Morolong Local Municipality did not reach the Provincial Growth and Development Strategy target yet.

To determine if Target 1 and Target 2 of the Millennium Development Goals have been reached, one needs to determine how many persons have an income of less than a dollar a day (approximately R7 on 02 July 2007) which equals to an amount of R210 p.m. Approximately 86% had an income of less than a dollar p.m. in 2001, which declined to 76% in 2007, therefor not yet reaching the goal to half the proportion of people.

It is thus evident that the socio-economic conditions of the municipal area are extremely poor, although the income per person per month improved with 6% 2001 and 2007.

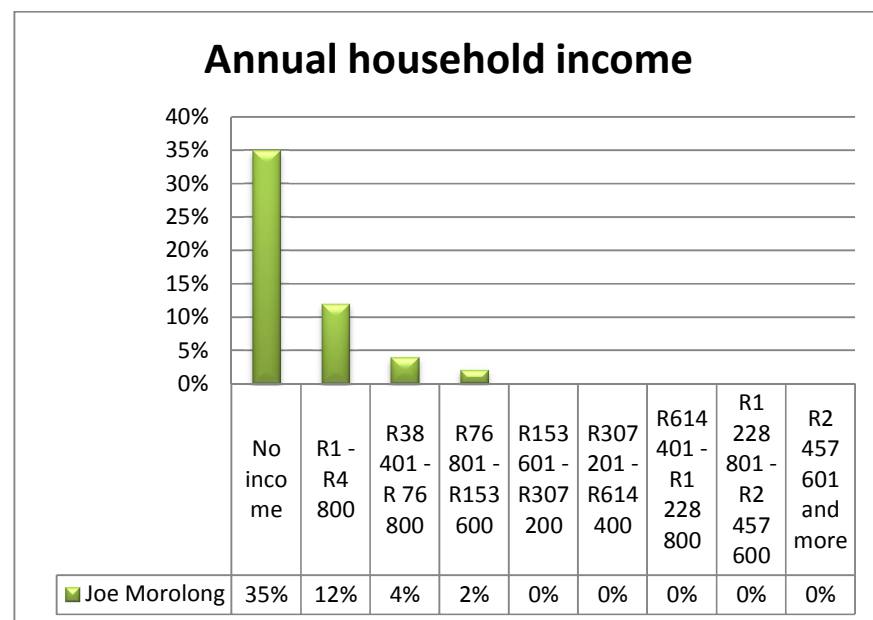
Figure 25: Income per person per month (Source: Stats SA: Census 2001 & Community Survey 2007)



⁷² SQUIRES, A & WELLMANN, G. 2010. Northern Cape Human Development Report. Department of Social Development, Northern Cape. p211

⁷³ SQUIRES, A & WELLMANN, G. 2010. Northern Cape Human Development Report. Department of Social Development, Northern Cape. p211

Figure 26: Annual Income per Household (Source: SA Census, 2001)



4.2.5 Mining

4.2.5.1 Introduction

Mining plays a prominent role in the broader Joe Morolong region. Mines employed 15,000 persons (of an total of 308,000 employed persons) in the Northern Cape.⁷⁴ The mining bioregion influences various municipalities and settlements surrounding the mines and especially so the broader John Taolo G District Municipality. Labour sending communities travel hundreds of kilometres to mines and return to the rural areas over weekends or on a monthly basis. Therefore, mines throughout the Northern Cape may have a direct impact on households in the Joe Morolong municipality.

⁷⁴ ANGLO AMERICAN. 2010. *Kumba Iron Ore Limited: Responsibility Report 2010*. 72 p.

The Northern Cape has a strong and diverse mining sector with a concentration of base metals (iron ore, manganese, zinc and copper) and industrial minerals such as gypsum, salt and building stone. Historically, Kimberley was the centre point of the diamond industry and it still has active mines but diamonds are also found in the Richtersveld, Namaqualand and along the Orange River.

Mining is the biggest contributor to gross regional domestic product (GRDP) at 30%. The South African mining sector as a whole started recovering in 2010; after output declines of more than 7% in 2008 and 2009, production rose by 9.6% year-on-year to November 2010. While the major contributor to this improvement was platinum group metals, the Northern Cape's main minerals – iron ore and manganese – also played their part.

Iron ore is mainly found at Sishen/Kathu, zinc and copper is mined at Okiep, Springbok and Aggeneys, while diamonds are found in several areas. Manganese is found in the Postmasburg and Kalahari regions.

The decision by Anglo American and De Beers to sell many of their South African assets has led to considerable ownership changes to mines in the Northern Cape.

The provincial government of the Northern Cape has signed a cooperation agreement with the Diamond and Jewellery Company of Armenia whereby the company will build and run a diamond cutting and polishing factory in the province, and train potential employees.

Recent finds of diatoms – ancient algae which were protected by shells made of silica – have opened up a whole new industry in the Northern Cape. As Peter Delmar of Business Times reported in September 2010, 18 people currently work at a diatom factory on a farm but when a new facility opens in the tiny town of Deben, there will be 70 employees. The nearby Kumani iron-ore mine run by Assmang paid for the erection of the factory and the local council donated the land. SA Diatomite mines the material, which has a number of uses as fertiliser and pest control among others, and sells it to Diatoms Organic Animal Health. Workers own 25% of the company.

Iron ore

The Northern Cape produces more than 84% of South Africa's iron ore. China spent \$26-billion more in 2010 than it did in 2009 on buying iron ore from the

world's biggest suppliers. It is expected that China, in 2011, will reach a steel-producing capacity of 800 million tons and its own supply of high-grade iron ore is depleted. Iron-ore prices increased by 42% in the second half of the 2010/11 financial year.

The province has two major iron belts, from Postmasburg to Hotazel, and running through Sishen and Kathu. Sishen is the most important iron-ore mine in South Africa, where operations include extraction and four beneficiation plants. The Sishen-Saldanha railway line takes ore to the coast.

Six Mines exist in the Hotazel and Black Rock general area in the manganese belt. The Hotazel outlier is situated in a graben to the east of Black Rock and contains a very high grade Ore (60 to 70 per cent average). Hausmannite with lesser amounts of other minerals and a very low carbonate component are the main constituents of the Hotazel supergrade Ores.

Figure 27: Manganese ore (Source: Wikipedia)⁷⁵



⁷⁵ WIKIPEDIA. 2012. Manganese. <http://en.wikipedia.org/wiki/Manganese>. Date of access: 09 Apr 2012.

Sishen

Employing more than 9 000 people and with an open pit extending more than 12km, everything about Sishen mine is huge. Kumba intends applying new technologies to material that previously was dumped as waste, with the goal of extracting up to 13 million tons of usable ore.

Kolomela (formerly Sishen South)

By early 2011 this large Kumba project was 45% complete and on course for completion in 2012. R3-billion has already been spent with a further R4.8-billion committed for the future. The aim is to mine nine million tons of iron ore per year by 2013. The project has a life of mine of 30 years. More than 700 houses will be built around the town of Postmasburg.

Khumani

Assmang is set to spend R5.5-billion on ramping up production of iron ore at Khumani from 10 million tons per annum (initially planned for the site) to 16 million tons. By June 2010, R2.2-billion of the planned R6.7-billion of capital had been spent. Assmang is a joint venture comprising African Rainbow Minerals and Assore.

Manganese

The overwhelming majority of the world's manganese comes from the Postmasburg and Kalahari regions of the Northern Cape. Assmang has two manganese mines in the province: Nchwaning and Gloria. A new R700-million beneficiation plant was commissioned in May 2010 at Nchwaning because of increased production at No 3 Shaft. In the 2010/11 financial year, the company increased sales volumes by 44% to 3.1 million tons. Vastly reduced prices during this period meant a production volume dip of 37%.

Samancor (a joint venture between BHP Billiton and Anglo- American) runs the Hotazel Manganese Mines comprising Wessels, Mamatwan and a sinter plant.

Planning of a new Manganese Mine

Hotazel is the site of a new manganese mine, Tshipi é Borwa. Tshipi e Ntle Manganese Mining (Tshipi), which is a joint venture between Pallinghurst Co-Investors (led by Brian Gilbertson) and a black empowerment company representing several groups called Ntsimbintle Mining, will spend R1.45-billion on the project. Indications are that Tshipi can produce about 2.2 million tons of ore per year, for about 60 years.

The Kalagadi manganese project involves the construction of a manganese mine and sinter plant near Hotazel, and was initiated by Kalagadi Manganese Ltd, a company with women in many leadership positions. The Industrial Development Corporation is a 10% shareholder in this project by virtue of its investment of about R60-million in start-up costs. In 2010 the IDC announced a further injection of R2.3-billion in the project, which will have total costs when complete of about R12-billion.

The production capacity at the mine will have to be three million tons a year to produce the projected 2.4 million tons of sinter at the plant. About 700 000 tons from the plant will be used to feed a new ferromanganese smelter complex to be built at the Coega Industrial Development Zone in the Eastern Cape. Work on the smelter is expected to begin in May 2011 and is planned to produce 320 000 tons of high-carbon ferromanganese per annum.

Copper, lead and zinc

The Northern Cape is responsible for around 18% of South Africa's total copper production, with the two most prominent mines in Nababeep and Aggeneys. The Carolusberg Mining Complex has copper reserves of 37.5 million tons, while the Nigramoep deposit has 15 million tons.

Aggeneys Namaqualand is responsible for approximately 93% of South Africa's lead production, and 12% of all world lead exports. Zinc is less abundant, but the province is still responsible for about 43% of South Africa's overall zinc production.

Anglo American sold its 74% holding in the Black Mountain zinc operation at Aggeneys in 2010, to Indian company Vedanta for \$332-million. Black empowerment company Exxaro holds the balance of the shares. It is possible that Vedanta will now move on the delayed Gamsberg project, which is

reported to hold about 93 million tons of zinc, and could produce as much as 300 000 tons annually.

Mineral sands

Exxaro's other big exposure in the Northern Cape is at Namakwa Sands, purchased from Anglo American in 2008. Zircon, titania slag and pig iron are produced from facilities at Brand-se-Baai (mineral- sands mine), Koekenaap (a minerals-separating plant) and a smelter at Saldanha in the Western Cape.

Diamonds

The slump which caused the world's foremost producer of uncut diamonds, De Beers, to shut most of its mines in the first half of 2009 is definitively over. Global rough diamond prices rose 26% during 2010.

De Beers expects annual production from its South African operations to be about seven million carats but a smaller percentage of that will be coming out of the Northern Cape Province than used to be the case.

Having sold its underground operations at Kimberley to Petra (in 2007 but the final details were only sorted out in mid-2010), De Beers sold South Africa's second-biggest diamond mine, Finsch, 165km west of Kimberley, to the same company for R1.4-billion in early 2011. This is part of a broader programme of De Beers in which several of its mines have been sold to Petra (for example, Koffiefontein and Cullinan mines in other provinces and a Tanzanian operation). The company's Namaqualand mines have been closed and are expected to be sold in the course of 2011.

De Beers has also stopped trying to recover diamonds from the sea off South Africa and is concentrating its marine efforts on Namibian waters.

Petra Diamonds' recent purchases mean the company now owns eight mines. Finsch will produce 1.5 million carats in its first full year of operation, pushing the company's total production closer to a planned three million carats which it is targeting by the year 2012. London-listed Petra owns the Kimberley mine in a joint venture with Sedibeng Mining, a black empowerment company.

Another active purchaser of mines is Rockwell Diamonds, which is listed on the TSX and JSE. Nieuwejaarskraal (in the Prieska-Douglas area and bought from Trans Hex) and Tirisano Mine (near Ventersdorp in the North West) join

the company's other assets in the Northern Cape: Holpan, Klipdam and Saxendrift. Rockwell is targeting production of 70 000 carats in 2011.

A prospectus for Unimin Diamonds is due to be published in 2011. The company's main asset is the Peiserton mine near Postmasburg, which is very close to the Finsch mine and it has plans to acquire a second project.

Other companies active in the province are Pikwane Diamonds (five sites), Trans Hex (Baken in the Lower Orange region and three mines in the Richtersveld), Namakwa Diamonds and Alexkor, a joint venture between the national government (51%) and the community of the Richtersveld. Dwyka Diamonds, Diamond Core Resources and Tawana Resources are also active.

Away from the underground kimberlite pipes and fissures, river and coastal deposits are also present in the Northern Cape. Diamonds have been recovered along the Orange, Buffels, Spoeg, Horees, Groen, Doom and Swart rivers in the province, while coastal deposits have been found from the mouth of the Orange River to Lamberts Bay.

Other minerals

Other minerals include limestone, gypsum, granite, verdite, mica, rose quartz and various semi-precious stones. PPC Lime has two large plants in the north-eastern corner of the province and Lafarge runs a gypsum mine in Pofadder. Kelgran Africa has several granite and dimension stone quarries and Salt Refiners and Packers gets its salt from Grootwitpan near Upington.⁷⁶

Table 19: Mineral production and pricing for the Northern Cape Province 2007 (Source: LED Strategy)

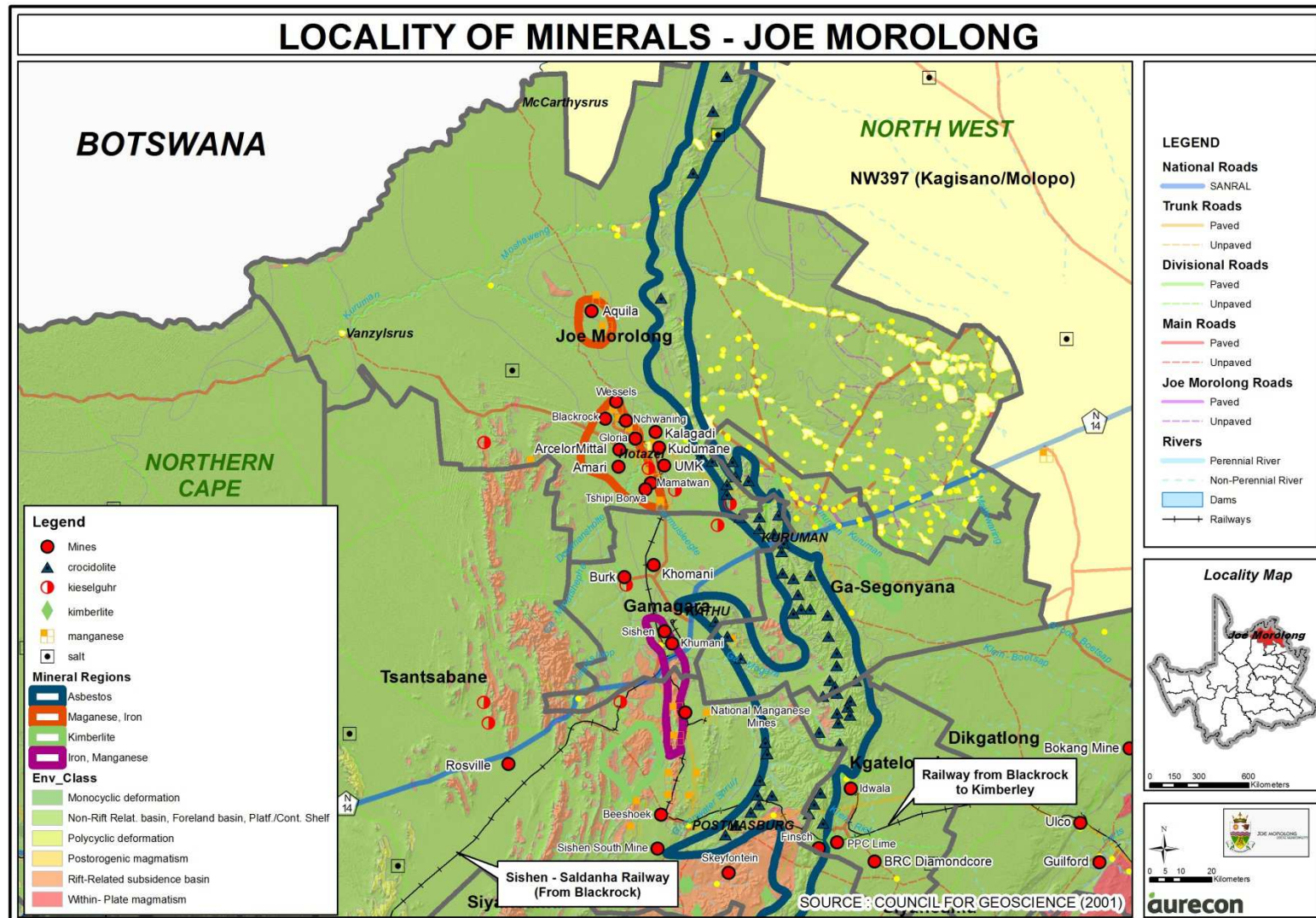
| MINERAL | TOTAL PRODUCT | LOCAL SALES | | | EXPORT SALES | | | TOTAL SALES | |
|-----------------------|------------------|-------------|---------|-------------|--------------|----------|-------------|-------------|---------|
| | | MASS | VALUE | UNIT SALES | MASS | VALUE | UNIT SALES | MASS | VALUE |
| Non Alluvial Diamonds | 14.02 m carats | | | | | | | | |
| Alluvial diamonds | R1.07 m carats | | | | | | | | |
| Marine diamonds | 0.155 m carats | | | | | | | | |
| Silver | 69 800 kg | 3 700 kg | R10.9 m | R2 951 / kg | 76 900 kg | R244.1 m | R2 916 / kg | 80 500 kg | R235 m |
| Copper | 117.1 kt | 76.6 kt | R4.0 b | R52 583 / t | 37.3 kt | R1.8 b | R48 917 / t | 113.8 kt | R5.8 b |
| Iron ore | 42 083 kt | 12 407 kt | R1.7 b | R141 / t | 29 725 kt | R11.7 b | R393 / t | 42 132 kt | R13.3 b |
| Manganese | 5 996 kt | n/a | R0.9 b | n/a | 3 681 kt | R2.6 b | R714 / t | n/a | R3.6 b |
| Zinc | 30.9 kt | 30.1 kt | R0.4 b | R13 959 / t | 0.2 kt | R7.0 m | R44 065 / t | 30.2 kt | R0.4 b |
| Salt | 411.5 kt449.8 KT | 449.8 kt | R0.1 b | R227 / t | 0 | 0 | 0 | 449.8 kt | R0.1 b |
| Natural Gas | 1 234 kt | 1 234 kt | R1.7 b | R1 335/t | 0 | 0 | 0 | 1 243 kt | R1.7 b |

It can be seen from the above table that the sales of iron ore has the highest value in the province. It is also noted that iron ore is predominantly exported. The second and third highest values from minerals mined in the province are copper and manganese. Copper is predominantly sold locally in South Africa, whilst manganese is mostly exported.

It is important to note that the Northern Cape mining value chain is predominantly concentrated around exploration, shaft set-up and mining. Processing does not take place in the province and therefore various value-adding opportunities go lost (LED Strategy).

⁷⁶ NORTHERN CAPE BUSINESS. 2012. *Mining and Metals*.
http://www.northerncapebusiness.co.za/pls/cms/ti_secout.secout_prov?p_sid=19&p_site_id=164
 Date of access: 20 Apr 2012.

Map 15: Locality of Minerals



Concerns noted in the Northern Cape SDF regarding mining in the Johan Taolo G District Municipality

- Lack of beneficiation from mining operation and it has huge impact on local economic development.
- Big mining companies make it difficult for smaller mining operations to function.
- Expansion of iron ore mining can implicate logistical issues for the mining sector in the province.
- The proposed development of iron ore and manganese smelters are extremely capital intensive and the power needed for such an operation might not be feasible.

4.2.5.2 Social and Labour Plans (SLP)

Joe Morolong is a so-called “labour sending community” as is mentioned by the compulsory Social and Labour Plans (SLP) compiled by mines. The Department of Mineral and Resources (DMR) requires that all mines compile a SLP in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002). The SLP is a pre-requisite for the granting of mining or production rights by the DMR. The purposes of the SLP’s are to transform the mining and production industries. The SLP’s needs to address the following aspects:

- Human resources development programme
- Mine community development plan
- Housing and living conditions plan
- Employment equity plan
- Processes to save jobs and manage downscaling or closures

Mine community development plans

The objective of this chapter in the SLP’s is for mines to contribute to the formulation of the IDP’s and PGDS’s of the mining and labour sending communities. Contributions can include infrastructure and poverty reduction

Housing and living conditions plans

This SLP chapter provides information regarding the current status of housing of its employees and within the communities. The plan should promote house ownership, conversion of hostels into single quarters and family units and the reduction of occupancy rates. The plan should be integrated with the local municipality’s housing sector plans.

It is very important to consider the social impacts of mining activities on the surrounding socio-economic environment, affected individuals and communities, to avoid socio-economic marginalisation by mining companies.

4.2.5.3 SIOC Community Development Trust⁷⁷

The Sishen Iron Ore Company (SIOC) Community Development Trust, also known as the “Super Trust”, was established in August 2006 during the unbundling of Kumba resources into two companies.

The Super Trust is the sole beneficiary of 3% of the ordinary shares of SIOC through a special purpose vehicle (SPV) established to hold the shares on its behalf. Kumba Iron Ore funded the purchase of the SIOC shares by issuing R458 million in preference shares.

These shares will be redeemed over time using the dividend flows from the SPV’s 3% shareholding in SIOC.

Kumba’s early modelling of dividend flows to the SPV suggested that all preference shares would be redeemed within 10 to 15 years. Communities around the Sishen, Sishen South and Thabazimbi mines are eligible for benefit and support from the Super Trust.

The Super Trust, so-called to distinguish it from the five beneficiary trusts it supports, has 10 trustees. Four trustees are representatives of Kumba Iron Ore, four represent the beneficiary trusts, and an additional two independent trustees, one of whom is the chairman, complete the board.

⁷⁷ SIOC COMMUNITY DEVELOPMENT TRUST. 2012. SIOC. <http://sioc-cdt.co.za/>
Date of access: 16 May 2012.

Less than four years after its establishment, using the SIOC dividends paid to date, the trust will be in a position to redeem in full the R458m in preference shares issued to pay for its SIOC shares. "This is well ahead of the original projections. Once the redemption process is complete this will free up substantial funds more each year to fund numerous new community development projects," said Kumba in a statement.

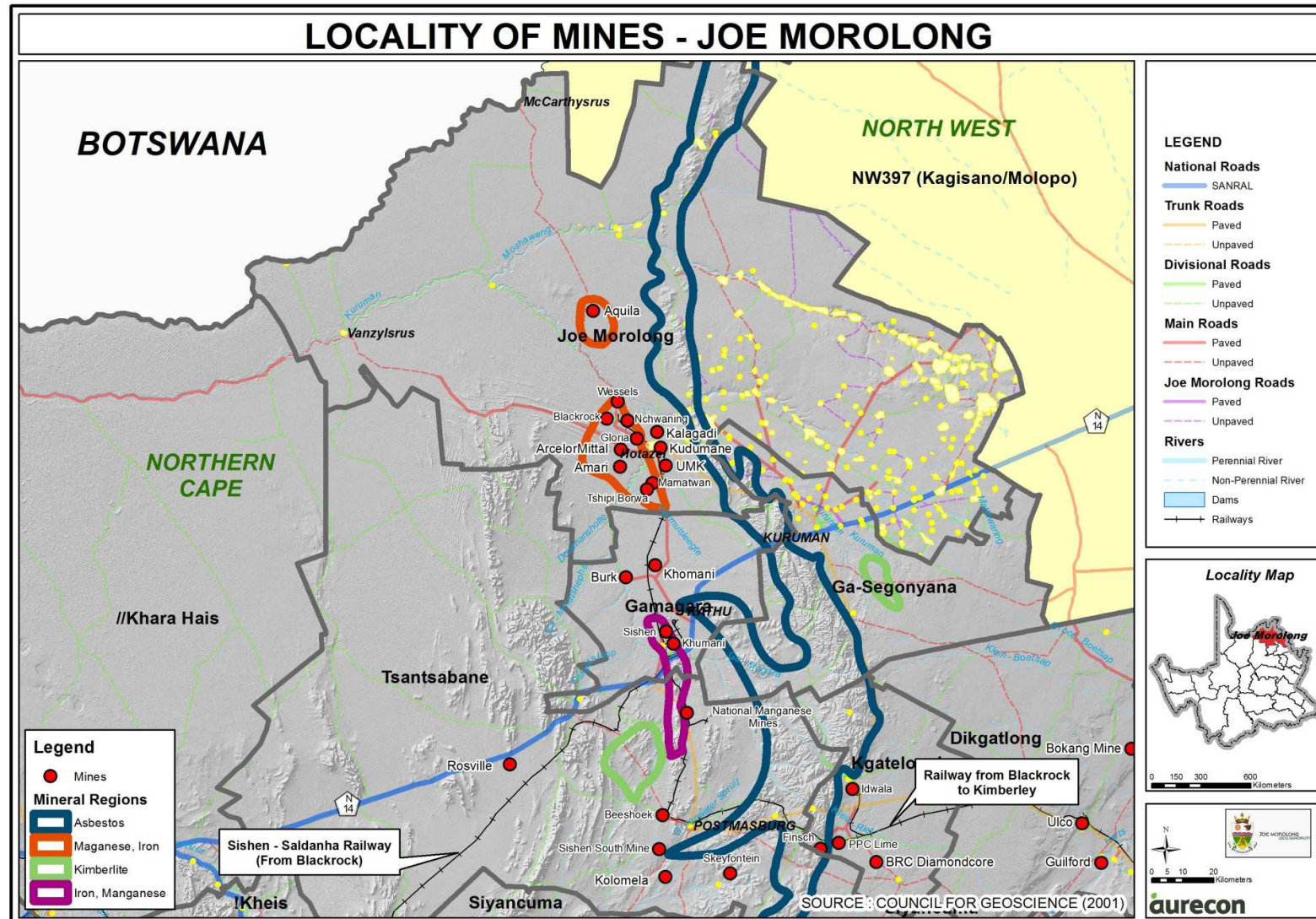
Aside from redeeming a substantial amount of preference shares and declaring preference dividends to Kumba, out of the R570m dividends received from SIOC since 2006, the trust has also invested R22.5m in community development projects up to the end of 2009, and is expected to contribute an additional R8.5m to the communities in 2010.

Besides its work with the trust, the company has made strides to empower employees and build a varied skills development programme. Kumba's employees also benefit from the broad-based employee share participation scheme or 'Envision' which received R189m in dividends from the 2009 final dividend paid by SIOC.

Since 2006 Envision has received 593 million rand in dividends from SIOC, and employees through Envision have received R125m, with R468m used to date to repay funding and interest.

Beneficiary trusts are expected to comply with stipulated financial governance procedures and are audited annually, and need to achieve a minimum rating. Failing this, they have one opportunity to remedy faults, but should they not achieve the desired rating, they will no longer be supported by the Trust.

Map 16: Locality of Mines - Joe Morolong Local Municipality



4.2.5.4 Kumba Sishen Mine - Kathu

The Sishen Iron Ore Mine is the biggest mining employer in the region and draws people from all over, including the Joe Morolong municipality. Situated approximately 40 km south of the Joe Morolong municipality most southern border, Sishen mine has been operating since 1947 as the government owned Iscor mine before being privatised. Ore is processed from in a single pit in two beneficiating facilities, with a lump-to-fine-ore ratio of 60:40, compared with 30:70 globally.

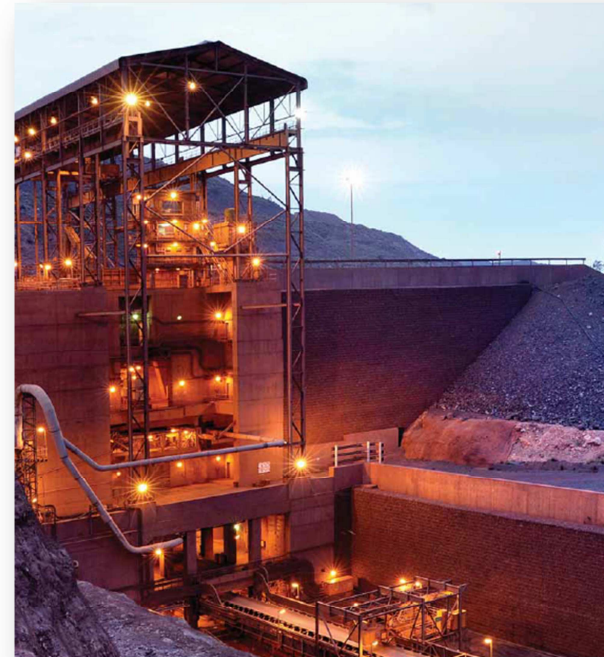
Figure 28: Blasting at Kumba Sishen Iron Ore Mine



Sishen mine is Kumba's flagship operation and one of the seven largest open-pit mines in the world. It operates around the clock, twelve months a year, and in 2010 produced 41.3 million tons of iron ore.

Kumba, a member of the global Anglo American plc Group, is a leading value-adding supplier of seaborne iron ore. In 2010 Kumba exported over 36.1Mt of superior iron ore to customers in a range of geographical locations around the globe including China, Japan, Korea and a number of countries in Europe and the Middle East. Local consumption was 7.0 Mt and export was 36.1 Mt in the 2010 financial year.

Figure 29: Kumba Sishen Iron Ore - Primary Crusher



Consistent product quality is ensured by blending and reclaiming products at the mine before they are dispatched to customers. A state-of-the-art sampling plant at the Port of Saldanha analyses and verifies the composition for further accuracy. With a proven mineral resource in June 2011, of 1,128 million tons, the mine has a life of more than 20 years at the current rate of production.

During the 2010 financial year, Kumba Iron Ore spent R134 million on Social and Community Development.⁷⁸

- Annual production: 41.3Mt (2010)
- Life-of-mine: 20 years
- Ore reserves: 576.3Mt (proved)

Figure 30: Location of Kumba Mines (Source: Kumba Iron Ore Responsibility Report 2010)



⁷⁸ ANGLO AMERICAN. 2010. *Kumba Iron Ore Limited: Responsibility Report 2010*. 72 p.

- Revenue in 2009: R19 473m
- Revenue in 2010: R35 159m
- 4 215 employees and
- 4 217 contractors
- HIV/AIDS prevalence rate 5.8%
- Employment equity:
 - HDSAs in management: 42.4%
 - Women in core disciplines: 10%
- Social and community spend: R77.4 million

4.2.5.5 New Mines

4.2.5.5.1 Kumba Kolomela Iron Ore Mine – Postmasburg⁷⁹

Kolomela mine is situated 130 km south of Kuruman and recently started partial operations in 2012. The mine will only be in full production in 2013.

- Waste material mined in 2010: 18.6Mt
- Full production in 2013: 9Mt per annum
- Life-of-mine: 28 years
- Ore reserves: 118.5Mt (proved)
- 830 employees (at full production)
- Employment equity:
 - HDSAs in management: 51.3%
 - Women in core disciplines: 19.5%
- Social and community spend: R36.4 million

4.2.5.5.2 Tshipi é Ntle Manganese Manganese Mine - Hotazel

Northern Cape-based mining company Tshipi é Ntle Manganese Mining says it will create some 500 new jobs at its new Tshipi Borwa mine, with an additional 100 to be created during the construction phase.

Tshipi é Ntle GM Mkgosi Nkoana states this is good news for the people of the province, especially around the Joe Morolong local municipality, which is one of the poorest in South Africa.

“The mine is near Kuruman, an area where even one new job is good news, which means the mine is going to be beneficial to a number of people in the area. “This becomes even more significant in light of the fact that every employed person helps support several other people. The Tshipi Borwa mine is a truly South African project and we do everything possible to create employment opportunities in the Northern Cape. Apart from directly creating jobs through the establishment of the mine, we are using local suppliers for goods and services whenever we can. This will create opportunities for entrepreneurs.”

He points out the company is in negotiations with a local black economic-empowerment company, which will manufacture bricks for the mine. “This will create even more jobs,” he says. Tshipi é Ntle is committed to training and developing young people from the Northern Cape and this too holds promise for the region. “One of our shareholders is the John Taolo Gaetsewe Development Trust, which is based in Kuruman. It offers bursaries for young people in the area. This provides an opportunity to increase the local skills base,” Nkoana adds.

Tshipi is an openpit operation set to start production in 2012. The mine is designed to produce 2.4-million tons of top-quality manganese ore every year for the next 60 years. It is majority-owned by broad-based black South African entities and has a strong international shareholding through Australian-listed Jupiter Mining and Singapore’s OM Holdings.

The project, located about 20 km south-west of the mining town of Hotazel, has a defined mineral resource estimate of 163-million tons, with a grading of 37.9% manganese. Of the total resource, 62-million tons is classified as an indicated resource, with the remainder classified as an inferred resource.

⁷⁹ ANGLO AMERICAN. 2010. *Kumba Iron Ore Limited: Responsibility Report 2010*. 72 p.

It is currently proposed that the mining of the open pit will be outsourced to a suitable mining contractor, while all other sections of the operation will be run on an owner- operator basis.

Although the Hotazel area has established road, power and rail infrastructure and water supplies, there is currently no other infrastructure in place on the project mine site. Owing to insufficient transmission and distribution infrastructure, there is currently no additional capacity available to supply power to the mine. Diesel-driven generator units will meet the project's power requirements, which are not significant, until power from the national grid can be accessed.

Tshipi will also construct its own dedicated rail loading facility, which will join the existing transport rail line a few kilometres from the project site. Discussions have taken place with State-owned transport utility Transnet about obtaining a long-term allocation of rail and port capacity for the export of manganese from the project.⁸⁰

4.2.5.6 Hotazel and Black Rock

4.2.5.6.1 Assmang manganese mining⁸¹

The Kalahari Manganese Field (close to Hotazel and Black Rock in the Joe Morolong municipality), contains around 80% of the world's known high-grade manganese ore reserves. The district yields about 4Mtpa, mined mainly by two companies: Samancor and Assmang.

Originally established in 1935, Assmang is jointly owned and managed by African Rainbow Minerals and Assore. The company wholly owns Nchwaning and Gloria manganese mines, near the community of Black Rock.

⁸⁰ MINING WEEKLY. 2012. *New Northern Cape manganese mine to create 500 jobs.* <http://www.miningweekly.com/article/tshipi-ntle-to-create-500-jobs-at-new-manganese-mine-2011-09-09> Date of access: 20 Apr 2012.

⁸¹ MINING TECHNOLOGY. 2011. *Assmang Manganese Mines, Northern Cape Province, South Africa.* <http://www.mining-technology.com/projects/assmang/> Date of access: 20 Apr 2012.

Nchwaning was commissioned in three phases. Nchwaning 1 was commissioned in 1972, Nchwaning 2 in 1981 and Nchwaning 3 in 2001. The Gloria mine, to the south, started production in 1978.

Both the mines had processing plants nominally rated to treat 1Mtpa of ore ore. This capacity has gradually been increased over the years through a series of upgrades

Expansion

Early in 2000, Assmang announced an expansion involving the development of a new shaft complex at Nchwaning to add about 2Mt/y of run-of-mine ore capacity, to make Nchwaning the world's lowest-cost underground manganese mine, and to extend its lifetime by about 30 years.

The expansion, including additional treatment capacity, was commissioned in May 2004 and was completed in May 2005 at a capitalised cost of R780m.

In June 2010, Assmang completed the construction of an R500m processing plant and doubled the output from 3 to 6Mtpa. The new plant can process 900t of ore an hour from Nchwaning 2 and 3.

Geology and reserves

The Kalahari Manganese Field lies within a large structural basin that extends approximately 40km south to north and 5km to 15km east to west, dipping gently northwest. At Black Rock, near the northern end of the basin, the Transvaal System rocks lie about 300m from surface, beneath Kalahari Formation sands and calcretes, Karroo System tillites and Waterberg System shales and quartzites.

The sub-horizontal stratabound manganese ore horizons occur in banded ironstone of the Voëlwater Formation at the top of a sequence of Transvaal System rocks. As well as being faulted, the horizons are folded.

The ore is massive and averages 48% manganese; at Nchwaning it is particularly low in phosphorus while Gloria has a higher manganese-to-iron ratio. At the end of 2006 Assmang's reserves totalled 192Mt with mineral resources of 428.4Mt.

As of 2010, Nchwaning's total measured and indicated resources were 30,749Mt. and Gloria's measured and indicated resources were 12,163Mt.

Mining

Both mines are underground operations, using the room-and-pillar method. Nchwaning started with one vertical hoisting shaft, with the 450m-deep No 2 vertical skip shaft added and the plant upgraded in 1981. Gloria combined a vertical shaft for personnel and materials hoisting with a long incline shaft for vehicle access and conveyor hoisting of the ore to a surface crushing, screening and washing plant.

The 2004 expansion follows this design, having a 2,200m-long incline shaft and the 500m-deep Nchwaning No.3 personnel shaft. There is also a ventilation shaft, and a workshop located on the 400 level.

Bolted development entries access rooms that are 7m to 8m wide and 3.2m to 3.5m high, while the pillars are normally 8m x 8m. Low-grade ore is left to form both the floor and roof of the rooms.

The established areas use Boart Longyear hydraulic drilling rigs and Wagner Load-Haul-Dump (LHD) machines and trucks to transport the ore to storage silos, primary crushers and screens that feed the hoisting systems. Roofs are scaled using a modified three-wheeled loader.

For the new area, Assmang requested a three-boom rig fitted with two rock drills for face work plus one for roof-bolting, so the mine can drill holes for roof bolts and face-blast holes from the same set-up. Atlas Copco has supplied four purpose-designed Rocket Boomer M3D rigs.

Assmang also added to its fleet of Atlas Copco Wagner LHDs but opted for an alternative truck brand, ordering three Caterpillar AD 30 machines.

Processing and production

Shaft complex Nchwaning 3 provides access to high quality ore. Production from this complex commenced in May 2004 and became fully operational in February 2006. This new mining operation is serviced by two shafts; a vertical personnel shaft to a depth of 350m and a decline shaft equipped with conveyors, which is the main hoisting shaft. Hoisting capacity is +/- 200,000t per month.

The existing plant has been upgraded and now treats the ore from both Nchwaning 2 and 3 mines. The run-of-mine ore is crushed, washed and screened, with no other processing needed. After the ore has passed through

the plants, it is stacked according to size and grade. The capacities of the stacks vary between 280t and 320t each, and are numbered and sampled.

Exports travel by the main South African Railways route to Port Elizabeth on the Indian Ocean. Lesser tonnages are directed to the domestic steel industry.

The future

Post the 2007-08 recession, Assmang decided to cut back on its steel production and replenish the existing stockpiles.

The company is currently planning projects to increase mine capacity of Nchwaning 2 and 3 from existing 3.6Mtpa (2010) to 4Mtpa of ore by 2013. Along similar lines, Assmang is increasing the ore production at Gloria mine from 0.48Mtpa to 0.96Mtpa.

4.2.5.6.2 Samancor manganese mining⁸²

Samancor Manganese is the world's largest integrated producer of manganese units and is 60 per cent owned and operated by BHP Billiton.

With approximately 5500 employees and contractors, the Manganese operations produce a combination of ores and alloys from sites in Australia and South Africa.

High-grade manganese ore is mined at the Samancor Hotazel Manganese Mines in Hotazel. Approximately 80% of the manganese ore production is sold directly to external customers, while the remainder is used at its own alloy smelters which include the Metalloys plant at Meyerton and at the TEMCO plant in Tasmania, Australia.

Through BHP Billiton Marketing, Manganese supplies ore and ferroalloys to steelmakers and alloyers across the globe, including key markets in China, Japan, South Korea, India and the European Union.

Manganese is an indispensable element in the manufacturing of steel, which in turn is an essential material in many industries including construction and

⁸² BHP BILLITON. 2012. *Businesses*.

<http://www.bhpbilliton.com/home/businesses/manganese/Pages/default.aspx> Date of access: 20 Apr 2012.

transportation. Its use in the steel making process results in increased strength, resistance and machinability.

4.2.5.7 Recommendations from the Northern Cape Mineral Sector Strategy⁸³

The mineral industry has historically been a critical component of the Province's economy. In 2003, the Northern Cape contributed R 10.8 billion (7.8%) by value of total mineral sales nationally. Sales of iron ore, manganese ore, base metal concentrates, and uncut diamonds accounted for most of these sales. The Province contains 103 operating mines and quarries consisting of:

- **Large mines:** There are 10 large mines producing iron, manganese and base metals.
- **Large cement and lime producers:** There are 3 large integrated producers
- **Diamond mines:** There are 64 diamond mines ranging from middle-sized underground operations to small alluvial and marine diamond operations.
- **Industrial minerals:** There are 29 small producers of assorted industrial minerals

One of the challenges facing South African policy makers and development planners at the national and provincial level is to identify the critical factors and the necessary conditions required to shift the country's industrial base from its current dependence on natural resources along a high-technology growth path.

⁸³ OFFICE OF THE PREMIER: NORTHERN CAPE PROVINCE. 2004. *A mineral sector strategy for the Northern Cape Province*. Kimberley: Office of the Premier. 141 p.

Mining industry specific imperatives:

To be able to develop the mineral resource industry the following are required:

- Availability of adequate mineral resources
- Reserves
- Grade(s)
- Accessibility
- Suitable technology
- Competitive capital and operating costs
- Acceptable quality
- Reliable supply
- Market(s)
- Demand
- Market growth
- Prices
- Low entry barriers
- Infrastructure
- Availability of crucial utilities at affordable costs
- Ability to bring in materials at affordable prices
- Ability to get products to market at reasonable costs
- Adequate workforce
- Sufficient outside facilities, e.g. repairs/maintenance
- Political and economic stability
- Favourable fiscal regime

The integrated reforms to the mining legislation, the implementation of the mining charter, and the government's objective of encouraging further value adding beneficiation to South Africa mineral production together with the characteristics of the manganese industry have created a number of significant investment opportunities in the Kalahari manganese industry:

- The Introduction of a Third (BEE) Player into the local industry – There is an opportunity for a third player enter the market, ideally a BEE company.
- The Establishment of a New Manganese Smelter in the Northern Cape Province – The current smelting capacity is not the most efficient. This is an opportunity to establish a world class smelting facility using large efficient furnaces and ore preheaters. If a smelter is situated in the Northern Cape Province, it can benefit from locally sourced ore and reductants as well as relatively low power costs.
- Treatment of Tailings & Waste Dumps – The various waste dumps generated by the mining activities over the years contain significant amounts of manganese ore fines. These represent a source of potential revenue and currently constitute an environmental problem. Mintek is active in this research and is currently carrying out test work.
- Small scale mining – Some areas of the Kalahari Manganese Field contain small pockets of supergene enriched manganese ore (Hotazel type ore). They are too small and irregular to be economically mined by the big mining companies. Their irregularity prevents the use of mechanical equipment but lends itself to labour intensive mining and hand sorting.

The Northern Cape Government should ensure that all stakeholders continue to work together on a pro-active manner to ensure that the upgrading of the manganese export line infrastructure progresses. They should take an in-depth cost benefit study related to the entry of a third party (BEE) producer or a new manganese smelter into the Province. They should attract potential investors, in conjunction with the DTI, to consider investing in establishing a downstream iron and steel industry.

The Chinese market demand for iron ore continues to expand and although the Iron ore mines wish to expand to meet the demand, they are held back primarily by logistical constraints. The expansion programme at the port of Saldanha and the increase in Orex's rail line capacity to 38 Mtpa would allow expansion of ore exports.

The Asbestos Hills subgroup of the Transvaal Supergroup in the Griqualand west sedimentary bas in contain large resources of iron ore There are three major investment opportunities:

Expand iron ore mining to supply the export market. Sishen has the growth potential to expand from its current capacity of 27 Mtpa to 47 Mt pa. Assmang has the capacity to double its production from 5 Mtpa to 10 Mt pa by the end of the decade

Rationalisation of the Industry the major benefit will be the elimination of cross rail Traffic.

Pig iron smelter and steel slab caster: piping of gas for a DRI plant is probably too expensive, however the option of building a smelter should be considered using coalbased smelting technology (Hismelt process) to produce high quality pig iron ingots

The Northern Cape Government should use its facilitating and co-ordinating powers to:

Ensure that all stakeholders (national government, Spoornet, and the manganese ore producers) continue to work together on a pro-active manner to ensure that the upgrading of the manganese export line infrastructure progresses.

Ensure that its regional development plans take cognisance of the potential demand for transport and the ability of the provision of appropriate transport infrastructure in facilitating and encouraging the development of new mineral operations.

Encourage the establishment of a transport forum involving both users and service providers to liaise and co-ordinate transport requirements. In particular, such a forum could help identify those opportunities where transport costs can be lowered by establishing backhaul arrangements. The province is well-endowed with minerals.

4.2.6 Crime ⁸⁴

The Provincial Growth and Development Strategy identified the following target for 2014:

- To reduce crime by 10%.

The number of crimes which was committed within the borders of Joe Morolong Local Municipality decreased from 676 in 2005/2006 to 590 in 2010/2011. 38% of the crimes committed in 2010/2011 were cases of assault.

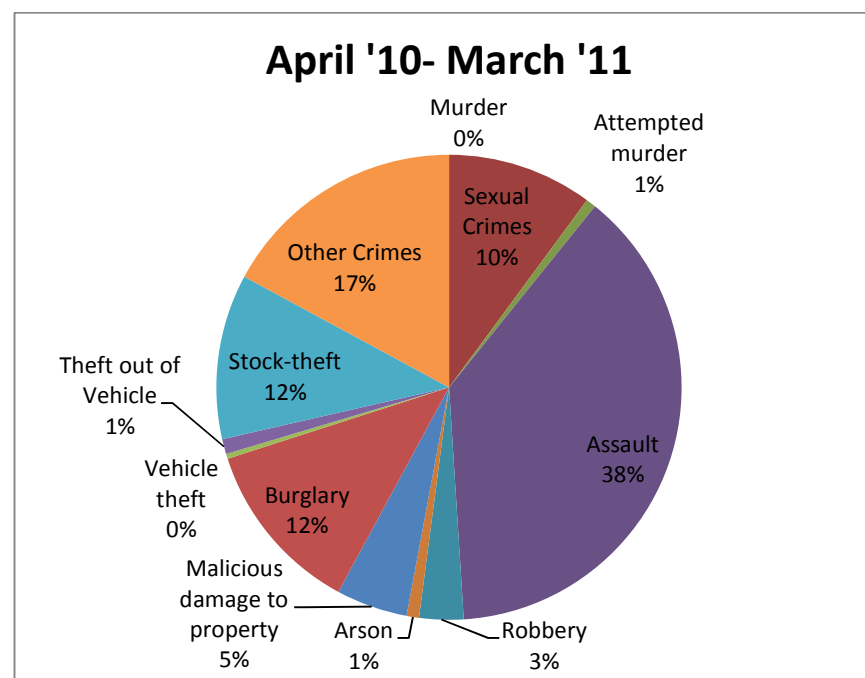
Table 20: Crime in Joe Morolong Local Municipality

| | April '05 - March '06 | April '06 - March '07 | April '07 - March '08 | April '08 - March '09 | April '09 - March '10 | April '10 - March '11 |
|------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Murder | 3 | 5 | 5 | 2 | 7 | 6 |
| Sexual Crimes | 49 | 70 | 55 | 54 | 53 | 60 |
| Attempted murder | 7 | 7 | 1 | 7 | 3 | 4 |
| Assault | 275 | 234 | 248 | 283 | 211 | 228 |
| Robbery | 29 | 29 | 33 | 32 | 25 | 18 |
| Arson | 5 | 7 | 4 | 4 | 5 | 5 |
| Malicious damage to property | 38 | 37 | 39 | 45 | 29 | 29 |
| Burglary | 77 | 74 | 56 | 83 | 93 | 71 |
| Vehicle theft | 5 | 2 | 0 | 3 | 1 | 2 |
| Theft out of Vehicle | 3 | 7 | 4 | 5 | 1 | 7 |

⁸⁴ SOUTH AFRICAN POLICE SERVICES. 2011. *Crime Statistics: April 2010 - March 2011*. http://www.saps.gov.za/statistics/reports/crimestats/2011/Provinces/n_cape/northern_cape.htm#top. Date of access: 23 March 2012.

| | | | | | | |
|--------------|------------|------------|------------|------------|------------|------------|
| Stock-theft | 75 | 89 | 89 | 102 | 89 | 75 |
| Other Crimes | 120 | 95 | 111 | 145 | 126 | 106 |
| TOTAL | 686 | 656 | 645 | 765 | 643 | 611 |

Figure 31: Crime occurrences in Joe Morolong Local Municipality



The Municipality has a much lower general crime rate and murder rate than National, but the National murder rate has decreased over the mentioned 5 years from 40 to 33 murders per 100,000 persons per annum were Joe Morolong Local Municipality's murder rate increased from 4 to 8 murders per 100,000 persons per annum.

Figure 32: Crime per 100 000 people/annum (Source: South African Police Service)

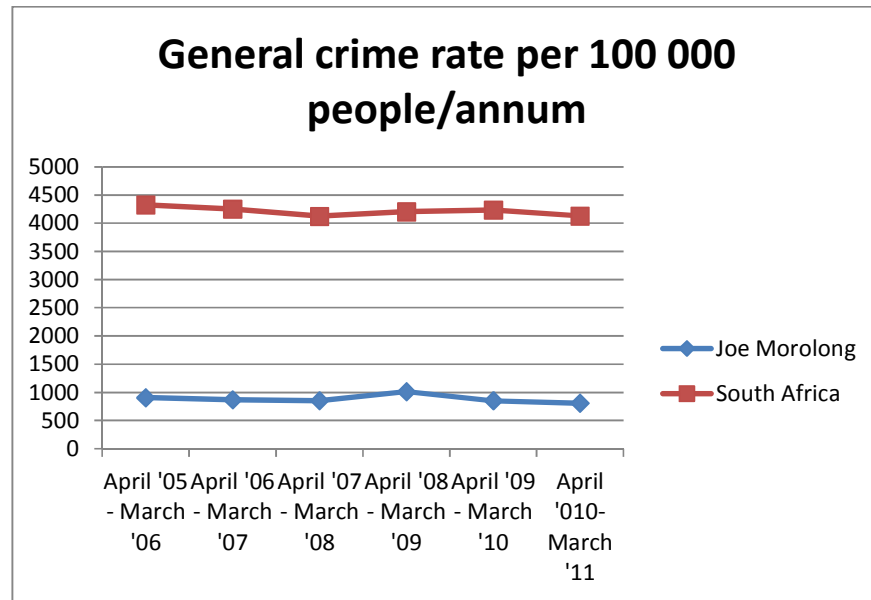
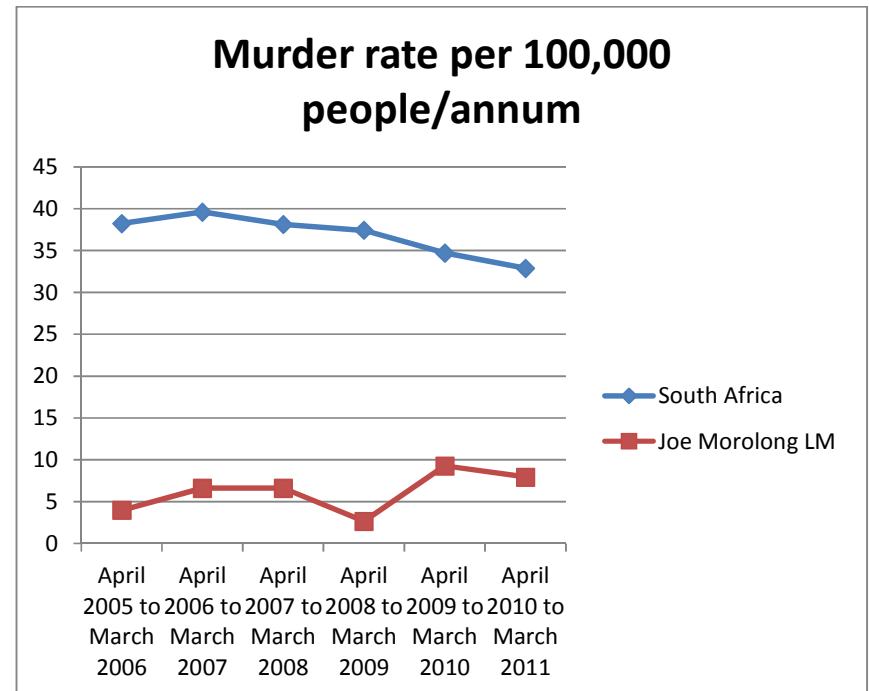


Figure 33: Murder rate per 100 000 people/annum (Source: South African Police Service)



In order to determine if crime will decrease with 10% by 2014, the occurrence of crime is projected based on the percentage growth per year from 2005/2006 to 2010/2011. According to this projection, the crime rate will decrease with -2.29% per year, thus reaching the target of the Provincial Growth and Development Strategy.

Table 21: Projected crime occurrence for 2014

| Crime (all instances) | | | % movement per year | Projections | | |
|-----------------------|-----------|-----------|---------------------|-------------|-----------|-----------|
| | 2005/2006 | 2010/2011 | 2005/2006-2010/2011 | 2011/2012 | 2012/2013 | 2013/2014 |
| Joe Morolong | 686 | 611 | -2.29% | 597 | 583 | 570 |

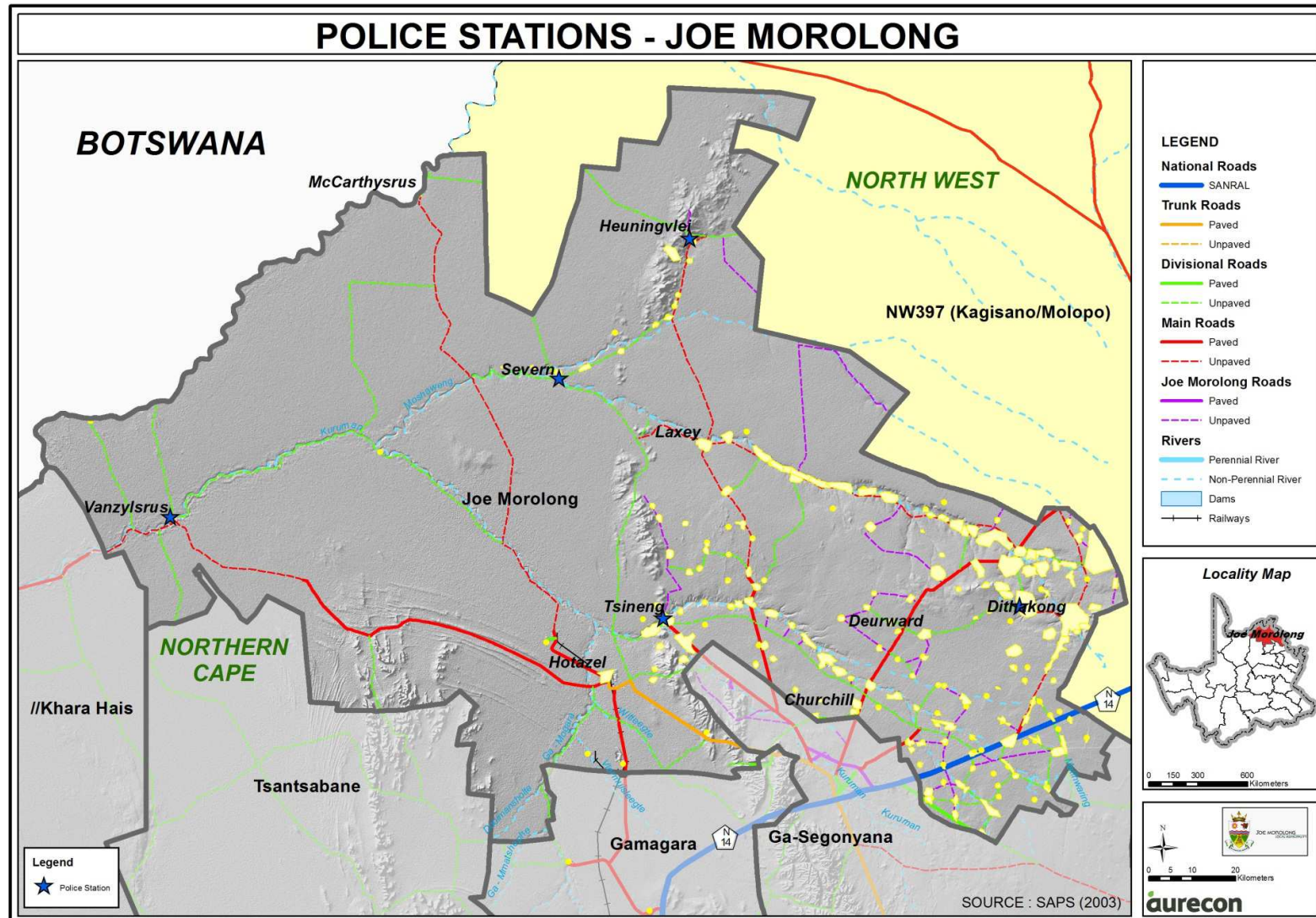
In the Northern Cape, there are 1 Police Station for every 12 222 persons and in Joe Morolong Local Municipality, there are 1 Police Station for every 15 122 persons.

Table 22: Police station: Population ratio

| | Number of police stations | Police station: Population ratio |
|---------------|---------------------------|----------------------------------|
| Joe Morolong | 5 | 1:15 122 |
| Northern cape | 90 | 1:12 222 |

The Police Stations are situated far from each other, thus decreasing the response time of Police Officers. The number of Police Stations should be increased.

Map 17: Location of Police Stations – Joe Morolong Local Municipality



4.2.7 History and Heritage

The main source of information with regard to the history and heritage of Joe Morolong Local Municipality, is the LED Strategy 2012-2017 of the Joe Morolong Municipality.

The following table below will illustrate the rich history of Joe Morolong and why the local population have such a deep attachment to the area.

Table 23: Joe Morolong Local Municipality History (Source: LED Strategy, 2012-2017)⁸⁵

| Joe Morolong Local Municipality | |
|---------------------------------|---|
| 2011 | On 18 May the previously known Kgalagadi District Management Area was incorporated into the Joe Morolong Local Municipality. |
| 2010 | The mining town Hotazel, which was built by the Mines, was handed over to the Municipality. An Agreement between Joe Morolong and John Taolo Gaetsewe District Municipality was signed that the District Municipality will manage the town for a period. |
| 2006 | Wards 1 and 2 and parts of Wards 5, 9 and 10 of the then Kagisano Local Municipality from the North West Province, were transferred to the then Moshaweng Local Municipality in the Northern Cape Province. The Premiers of the Northern Cape and North West Provinces signed an Agreement, in terms of the RSA Constitution's Twelfth Amendment Act of 2005, which effectively repealed the statutory provisions of the cross-border Municipalities in February 2006. |
| 2000 | The demarcation process to unbundle parts of the then Moshaweng Local Municipality from the North West Province was initiated. |
| 1976 until early 1990's | Moshaweng fell under the Homeland System and formed part of Bophuthatswana. |
| 1950's until | Communities from across the area were forcibly separated and removed by the Apartheid Government into the area which was to |

⁸⁵ JOE MOROLONG LOCAL MUNICIPALITY. 2012. LED Strategy 2012-2017. 39 p.

| | |
|--------------------|--|
| mid- 1970's | become Bophuthatswana. The Ga-Tlthose, Maremane, Khuis and Konong communities were moved from areas as far away as Postmasburg and the border of Botswana. This move resulted in the loss of their income, assets, livestock, family members, as well as social and spiritual order. |
| 1930s | As part of the Betterment Programme, the Union Government bought up farms in the area towards what is today Botswana and the North West Provinces, called the South African Native Trust Lands (SANT). Communities who lived around water sources in and around Kuruman were moved to the more arid regions of Moshaweng. |
| 1897 | British Imperial Government defeated Ba Tlhaping and Ba Tlharo in the Langeberg Rebellion. Those living in Langeberg and Kathu Native Reserves were forced to move into the area known as Joe Morolong and Ga-Segonyana today. |
| 1815 | Dithakong was larger than Cape Town in terms of size and population. |
| 1800's | Nation states reached their peak as formidable hunting and trading states. Ba Tlhaping is one of the first "nation-states" in South Africa. Issues emerged around segregationist spatial dimension with the advent of the "industrialisation of land" by the missionary, Robert Moffat. The need for labour on the Diamond Mines near Kimberley and later gold mines in Gauteng resulted in a series of Native Labour Reserves being set up in the area by the British Imperial Government, stretching from the Langeberg Mountains, near Olifantshoek, to the area now known as Joe Morolong LM. |
| 1700's | Dithakong was the capital of the Ba Tlhaping tribe. Heuningvlei was occupied by the Ba Tlharo and other Northern Frontier groupings of people, including the Griekwa, the San, the Basters and the Korana. |
| xxx | Dithakong and Heuningvlei were established as far back as three hundred years ago and were in operation as dwelling nodes. |

One of the important characteristics that are clearly reflected in the history of Joe Morolong Local Municipality over the past hundred years, is that the area is prone to land claims to rectify the forced removals of the native populations.

Issues surrounding land claims are understandably a sensitive topic in the region. A number of communities have been compensated over the past decade, however there are still a number of communities waiting to be reconciled with its land or receive compensation⁸⁶

Table 24: Ward specific historic overview (Source: Joe Morolong LED Strategy, 2012-2017)⁸⁷

| | History |
|--------|--|
| Ward 1 | <ul style="list-style-type: none"> Heuningvlei, being a main settlement in its Region, is referred to in historical records from the late 1700's as a cattle post of the Ba Tlharo, which also served as an area of refuge for many other groupings of people including the San, the Koranna, the Griekwa and the Basters. In the 1800's, the area continued to be utilised by the Ba Tlharo as a significant cattle and settlement post. In the late 1800's, Heuningvlei was structured into a Native Reserve by the Imperial Government. The early mid-1900's was witness to the undergoing change as settlements established along the length of the asbestos hills. By the mid-1900's, new villages were established as the Union Government implemented its Betterment Programme. This Ward was not as severely affected by Colonialism as in other wards owing to its distance from Kuruman. The major focus fell onto the area in the mid to late 1900's as the state-assisted salt and asbestos mines were put into production in and around Heuningvlei as part of the Homeland Development Scheme. All of these operations ceased to operate by the 1980's and 1990's leaving large settlements of unemployed workers across the area. |

⁸⁶ JOE MOROLONG LOCAL MUNICIPALITY. 2012-2017. LED Strategy. 203 p.

⁸⁷ JOE MOROLONG LOCAL MUNICIPALITY. 2012-2017. LED Strategy. 203 p.

| | History |
|--------|--|
| Ward 2 | <ul style="list-style-type: none"> The villages of Laxey and Loopeng are the main settlement areas of this Ward with both being products of the Betterment Settlement Programme of the 1930s – 1940s and the Forced Removals of the 1970s. A number of other villages in the Ward have indigenous names and are testament to the fact that this area was occupied by SeTswana speakers from the late 1700s onwards. Loopeng is a cluster of the older villages, while Sloujah represents the Forced Removal period of 1976 when residents of Ga-Tlhose were resettled in this village. Loopeng in fact consists of various "neighbourhoods" including Tlhaping to the East, Agrico which sits between Loopeng and Slouhaj and Mampestad to the north of Loopeng. The older villages of this Ward are established along the banks of the River where villagers had in previous years planted crops. While Laxey and Sloujah have received considerable development attention through the CRDP Programme, the remaining villages continue to suffer as a result of the lack of infrastructure. Many residents of these villages are attempting to acquire mining licences to start sand mining in this ward. The area of Loopeng is known internationally and is often host to exchange students and volunteers from US-Aid, Germany and other countries. The Moshaweng High School was built and started by Catholic Priests and to this day manages large segments of its educational developments. |
| Ward 3 | <ul style="list-style-type: none"> The Region comprised by Ward Three can be traced to the late 1700's as a settlement and cattle posting area for the Ba Tlharo, as well as a significant site for the collection of honey for the San. There is evidence of honey collection in the villages of Tsineng, Maipeng, Gasese. This area was structured into a Native Labour Reserve In |

| | History |
|--------|---|
| | <p>the late 1800s.</p> <ul style="list-style-type: none"> Today these villages are home to many of the mine workers in the neighbouring mining towns of Hotazel and Black Rock. In 1965, communities from March, Penryn and Bosra who had previously lived in the Khuis area, were forcibly removed to the farm Penryn as the Apartheid Government sought to control the borders with neighbouring countries like Botswana. |
| Ward 4 | <ul style="list-style-type: none"> Certain parts of Ward 4 are sometimes referred to by locals as a “no-man’s land”. This is especially applicable to the villages which were set up for the Betterment Programme, as well as the Forced Removal Programme. These include the villages of Padstow, Rusfontein and Metsimantsi. Since the 1960’s, communities from Vlakfontein, Ga-Thlose, Maremane and later Schmidtsdrift were relocated to these areas, losing their livestock, their social relations, their access to ancestral lands and graves in the process. While these communities have lodged land claims and have either been compensated or received land in return, the impact of the forced removals continued to negatively affect these persons at an emotional and psychological level. This is especially relevant with regards to poor access to ancestral graves, which forms part of their spiritual belief system. Older villages along the river banks, including Ga-Diboe, Maphiniki and so forth, are settlements originating from the late 1700’s onwards. The last known San to have lived in this municipal area was banished from the village of Ga-Diboe in 1913 and migrated to the Kalahari Desert to what is known today as Botswana. Other villages such as Cottonend and Permonkie originated due to the Betterment Programme during the Apartheid era as communities that were purposefully moved away from the Kuruman area and its water sources. |

| | History |
|--------|---|
| Ward 5 | <ul style="list-style-type: none"> Ward Five also largely represents the era of the Betterment Programme and Forced Removals. The village of Bendel tells a particularly traumatic story of forced removals of communities from the Postmasburg District. The graveyard is understood to be one of the largest in the Province and gives an indication of the trauma experienced as these communities were made to walk with their livestock in excess of 90km’s with no assistance during the 1970’s. Another traumatic forced removal story is regarding the village of Deurward, which was representative of how the Apartheid Government forced communities off their land by depleting all of its resources and will to resist. The community members who were forced to live in Deurward originated from the general Vryburg area. A number of villages, named Ga-Sehunelo, are communities who were forcibly removed from the Ga-Thlose and Maremane areas during the 1970s. Kgosi T. Mahuru of the Ba Ga Mahuru is a resident of this village. |
| Ward 6 | <ul style="list-style-type: none"> Ward Six represents many of the older Ba Tlhaping settlements that originated during the late 1700’s and 1800’s onwards. A number of the villages closer to the N14 were established during the 1950’s as the Apartheid Government’s “Black Spot” Campaign was affected. This Programme effectively relocated communities who had previously lived in and around Kuruman to outer lying areas. Today these villages are largely occupied by families with members working at the mines in the surrounding areas, especially the villages of Tzaneen and Washington. During the 1800’s, communities established cattle posts in the area and also utilised the riverbanks and wetland areas for the growing of vegetables and grains. |
| Ward 7 | <ul style="list-style-type: none"> Ward Seven has two villages originating from the Betterment Programme and Forced Removals. |

| | History |
|--------|---|
| | <p>Settlement and Forced Removals era.</p> <ul style="list-style-type: none"> Ellendale was established in 1942 as the community from Smouswane was removed from productive farming land with water sources. Churchill originated when the communities were forcibly removed from Konong in 1959 (again an area which had fertile soil and sufficient natural water sources). Both of these communities have submitted Land Claims and have received compensation or land in return. Other villages in this Ward originated from the Ba Tlhaping settlements during the 1800's when people searched for sufficient grazing land. Today, many of the residents work at the Mines and daily commute back and forth. |
| Ward 8 | <ul style="list-style-type: none"> Historically, Ward Eight played a very important role for Traditional Leadership in the Region. This was the area to which Kgosi Mothibi moved to after the Ba Tlhaping moved away from the Dithakong area in the early 1800's. His lineage continues to govern in this ward, with Kgosi Jantjie and Kgosi Phetlhu, his great-great grandsons, still residing here. This Ward was also the site of the Bothetheletsa "Native Labour Reserve". In the late 1800s, Kgosi Jantjie's great grandfather resisted the restrictions put to the ownership of cattle and moved to the Langeberg area near Olifantshoek. A Settlement, referred to as Jantjie-se-Stad, can still be found on older geographic maps of the area. Tensions between his community and the British Imperial Government reached breaking point when a white trader in the Moshaweng River area was murdered. This event coincided when Kgosi Toto provided refuge to Kgosi Galeshewe, Kgosi Jantjie and others. The Langeberg Rebellion of 1897 was to see the British Forces defeat these groups at a site historically referred as Ga Masep Hill where Kgosi Jantjie was beheaded and Kgosi's Toto and Kgosi Galeshewe was imprisoned on Robben Island. |

| | History |
|---------|--|
| | <ul style="list-style-type: none"> These events also led to the banishment of all communities from the Langeberg Region to the Ward 3 area of today and to Ga-Segonyana. Subsequently, the enforcement of indentured labour of over 3000 persons took place to the farms in what is today known as the Western Cape for several years. Ward Eight was also to be subject to a number of raids by the "Boers" (Afrikaans speaking farmers) and the Basters from the 1800's up to the early 1900's. The theft of stock and the kidnapping of people for slavery purposes in the Colonial Region known today as the Western Cape. Ward Eight is also considered to be a close ally to the Traditional Authorities in the Taung region. Ward Eight has two active water sources – both being fountains. The first is situated in Bothetheletsa, and the other in Manyeding. |
| Ward 9 | <ul style="list-style-type: none"> Ward Nine is the smallest ward of the Municipality and is comprised of both Traditional, as well as Forced Removal and Betterment Programme Villages. Cassel is the main village and had its origins as a source of labour for the neighbouring maize farms to what is known today as the North West Province. Many of the first residents of this village and ward area used to live closer to Kuruman and were forcibly removed during the 1950's and onwards. As the maize industry became more mechanised, many lost their only source of income. Today the village is used as an administrative centre for the Municipality. |
| Ward 10 | <ul style="list-style-type: none"> Ward Ten is host to a majority of the traditional villages, with Bothithong being the oldest. Bothithong is historically significant, not only for the Ba Tlhaping, but also for its missionary history. It is understood that the French had attempted to establish a mission in this area in the 1700's, but had little success. "Mfecane" (crushing or scattering) refers to a period of widespread chaos and warfare among indigenous tribes |

| | History |
|---------|--|
| | <p>during the period between 1815 to about 1840 in the Transvaal area. It was during these times and other colonial interventions that the Basarwa first and later the Ba Tlhaping tribes converted to Christianity.</p> <ul style="list-style-type: none"> Some villages, such as Glen Red, have been more recently established. Not only do the Glen Red area and the Ga-Madubu area have one of the highest concentrations of RDP housing, but Glen Red is also the site of one of the Agricultural Support Stations and is the site of the Devil's Claw Project. Devils' claw is a plant used for medicinal purposes. The plant's large tuberous roots are used to reduce pain and fever and to stimulate digestion. European colonists brought devil's claw home where it was used to treat arthritis. The IDP has since 2005 identified Kiangkop, as well as Bothithong, for tourism development purposes. Kiangkop is understood to be the highest ridge in this landscape and is said to be the site of a battle which took place during the period of the South African War (1899 – 1902). |
| Ward 11 | <ul style="list-style-type: none"> Ward Eleven includes what is referred to as the original capital of the Ba Tlhaping. Dithakong, as well as a host of other villages, originated from the Betterment Programme or Forced Removal villages. Together with Wards Nine and Ten, this area is identified in the SDF as a high density urban area. Dithakong is perhaps the largest village of the Municipality, and hosts a number of Government services such as a Clinic, Police Station, Community Hall and so forth. Dithakong is also where the stone-walled formations which are understood to be Khoi-San from the 1100's are to be found. The extent of land that these structures occupy has interested archaeologists for years. The site was considered for a nomination for World Heritage Status. The site is in fact less of a tourist attraction and more of a research attraction. Dithakong is also home to one of the earlier London |

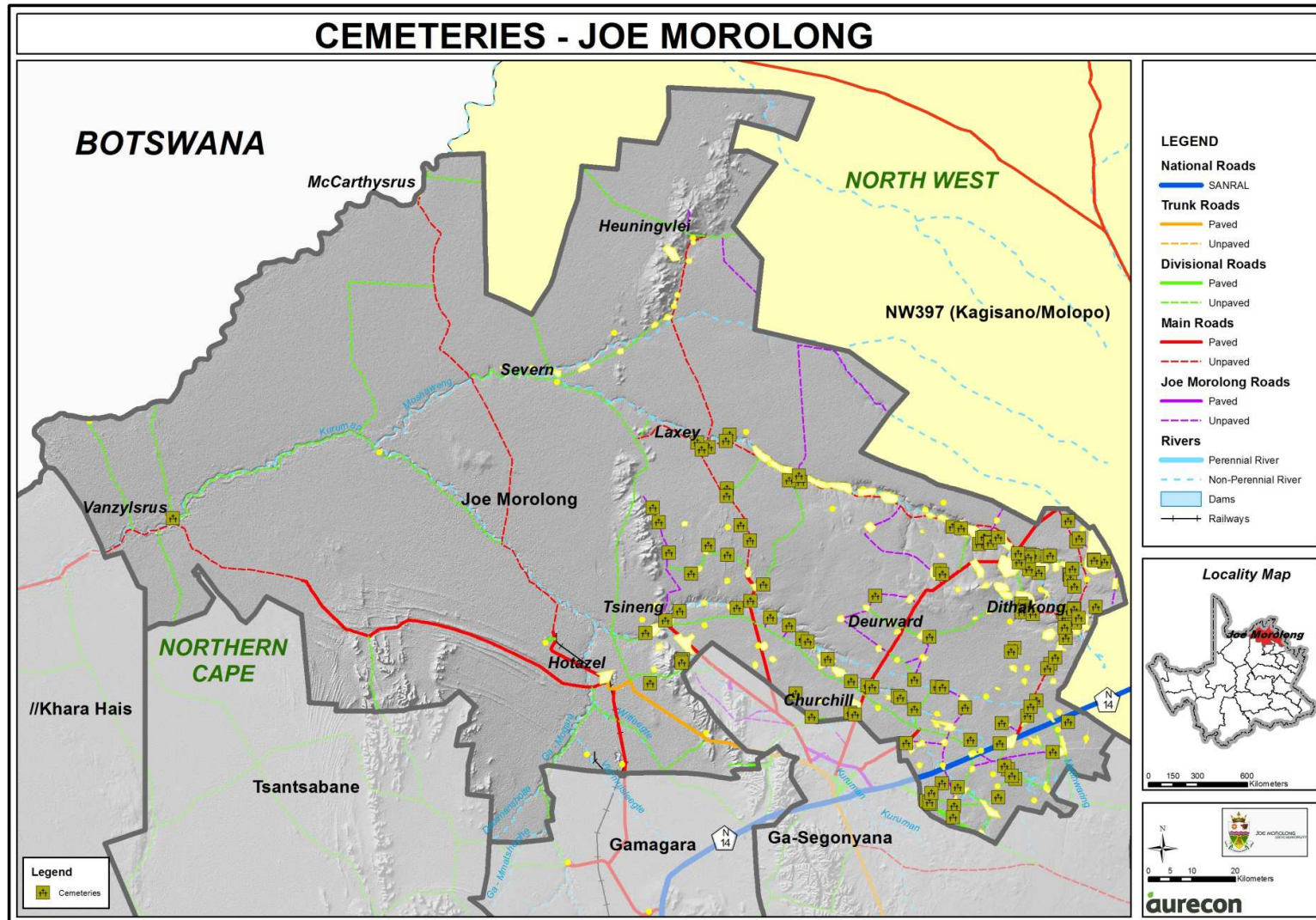
| | History |
|-----|--|
| | <p>Missionary Society churches, which is still in use today.</p> |
| DMA | <ul style="list-style-type: none"> The former Kgalagadi District Management Area (DMA) includes the towns of Hotazel and Vanzylsrus as the main centres. Hotazel was built as a mining town and has been used for the accommodation of those employed at the mines since the 1960's. The town has recently been handed over to the Joe Morolong Local Municipality to maintain its infrastructural services. Vanzylsrus has been considered an administrative centre for a number of years, with a Clinic, Municipal Offices and a Museum being present. Vanzylsrus is historically thought to have originated in the 1800's as a trading post, however there is also an understanding that the area was occupied by the San, BaTlharo and possibly Koranna from the 1700's and used as a cattle post as well. Over the past years, the town has seen an influx of people as farm workers have been forced to move off farms that were previously used for agricultural purposes for its conversion to game farms. Many farms surrounding Vanzylsrus is privately owned, the majority of which are today being converted to game farming. This is one of the few areas that had never been a SANT area. Large portions of the community of Khuis have been successful in their land claims and have returned to the area. From 2007 onwards, the Nguni Cattle project, funded through the IDC, was introduced to the area to assist the newly located communities. |

4.2.8 Cemeteries

The provision of cemeteries and the sustainable use thereof is not satisfactory. Cemeteries, situated close to, or even inside, wetlands and dry river water courses, have been observed during the biophysical surveys. The IDP has shown that many of these facilities are in a poor condition and necessary facilities are not provided. This is especially the case in previously disadvantaged areas. It is therefore encouraging to see that both the upgrading and development of these facilities will receive attention. It is unknown how many of these facilities exist and/or is registered as prescribed by the appropriate Legislation.⁸⁸

⁸⁸ KGALAGADI DISTRICT MUNICIPALITY. 2007. Spatial Development Framework, 2007. 150 p.

Map 18: Cemeteries - Joe Morolong Local Municipality



4.2.9 Tourism

Tourism is identified as one of the six main economic drives in the District Growth and Development Strategy and the IDP identified the objective of establishing a District Tourism Association within the financial period of 2011/12.

Currently there are no active tourism facilities within Joe Morolong Local Municipality. The Joe Morolong Local Municipality, LED Strategy for 2012-2017 identified a few tourism related objectives, see the table below.

Table 25: Tourism-related LED Objectives

| CRDP Objective 2: Rural Development | Joe Morolong Local Municipality LED Financial Year |
|--|--|
| <ul style="list-style-type: none">LED Potential: Tourism – Game Conservation and Lodges | 2012 -2017 |
| <ul style="list-style-type: none">LED Potential Tourism – Creative & Cultural Industry Festivals | |
| <ul style="list-style-type: none">Kiankop 4x4 Route and Cultural Village | 2011-2012 |

The Kgalagadi Regional Tourism, Environment and Reservation Office when contacted, responded that there are no tourism attractions within the borders of Joe Morolong Local Municipality.

4.2.10 Communal land

Franklin D. Roosevelt once said that 'Every person who invests in land near a growing city, adopts the surest and safest method of becoming independent, for land is the basis of wealth.'

Background⁸⁹

A bantustan (also known as black African homeland or simply homeland) was a territory set aside for black inhabitants of South Africa and South West Africa (now Namibia), as part of the policy of apartheid. Ten bantustans were established in South Africa, and ten in neighbouring South-West Africa (then under South African administration), for the purpose of concentrating the members of designated ethnic groups, thus making each of those territories ethnically homogeneous as the basis for creating "autonomous" nation states for South Africa's different black ethnic groups.

The term was first used in the late 1940s, and was coined from Bantu (meaning "people" in some of the Bantu languages) and -stan (a suffix meaning "land" in the Sanskrit language and Persian language). It was regarded as a disparaging term by some critics of the apartheid-era government's "homelands" (from Afrikaans tuisland). The word "bantustan", today, is often used in a pejorative sense when describing a region that lacks any real legitimacy, consists of several unconnected enclaves, and/or emerges from national or international gerrymandering.

Some of the bantustans received independence. In South Africa, Transkei, Bophuthatswana, Venda, and Ciskei (the so-called "TBVC States") were declared independent, while others (like KwaZulu, Lebowa, and QwaQwa), received partial autonomy, but were never granted independence. In South-West Africa, Ovamboland, Kavangoland, and East Caprivi were granted self-determination. The independence was not officially recognised outside of South Africa.

Creation

Well before the National Party came to power in 1948, British colonial administrations in the 19th century, and earlier South African governments had established "reserves" in 1913 and 1936, with the intention of segregating black South Africans from whites. National Party Minister for Native Affairs (and later Prime Minister of South Africa) Hendrik Frensch Verwoerd built on this, introducing a series of measures that reshaped South African society

⁸⁹ WIKIPEDIA. 2012. Bantustans. <http://en.wikipedia.org/wiki/Bantustan> Date of access: 8 Apr 2012.

such that whites would be the demographic majority. The creation of the homelands or Bantustans was a central element of this strategy because blacks were to be made involuntary citizens of these homelands, losing their original South African citizenship and voting rights, which enabled whites to remain in control of South Africa.

"The term 'Bantustan' was used by apartheid's apologists in reference to the partition of India in 1947. However, it quickly became pejorative in left and anti-apartheid usage, where it remained, while being abandoned by the National Party in favour of 'homelands'."

Verwoerd argued that the Bantustans were the "original homes" of the black peoples of South Africa. In 1951, the government of Daniel Francois Malan introduced the Bantu Authorities Act to establish "homelands" allocated to the country's different black ethnic groups. These amounted to 13% of the country's land, the remainder being reserved for the white population. Local tribal leaders were co-opted to run the homelands, and uncooperative chiefs were forcibly deposed. Over time, a ruling black élite emerged with a personal and financial interest in the preservation of the homelands. While this aided the homelands' political stability to an extent, their position was still entirely dependent on South African support.

The role of the homelands was expanded in 1959 with the passage of the Bantu Self-Government Act, which set out a plan called "Separate Development". This enabled the homelands to establish themselves as self-governing, quasi-independent states. This plan was stepped up under Verwoerd's successor as prime minister, John Vorster, as part of his "enlightened" approach to apartheid. However, the true intention of this policy was to make South Africa's blacks nationals of the homelands rather than of South Africa—thus removing the few rights they still had as citizens. The homelands were encouraged to opt for independence, as this would greatly reduce the number of black citizens of South Africa. The process was completed by the Black Homelands Citizenship Act of 1970, which made black South Africans into citizens of the homelands, even if they lived in "white South Africa", and cancelled their South African citizenship.

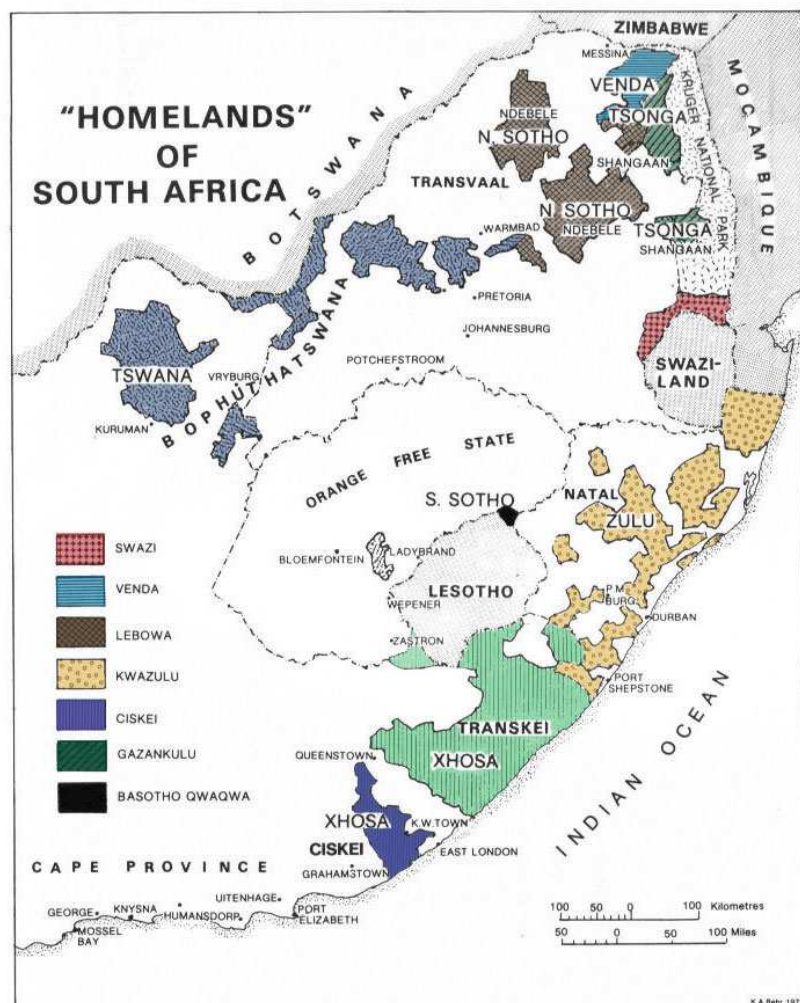
In parallel with the creation of the homelands, South Africa's population was subjected to a massive programme of forced relocation. It has been estimated that 3.5 million people were forced from their homes from the 1960s through the 1980s, many being resettled in the Homelands.

The government made clear that its ultimate aim was the total removal of the black population from South Africa. Connie Mulder, the Minister of Plural Relations and Development, told the House of Assembly on 7 February 1978:

"If our policy is taken to its logical conclusion as far as the black people are concerned, there will be not one black man with South African citizenship ... Every black man in South Africa will eventually be accommodated in some independent new state in this honourable way and there will no longer be an obligation on this Parliament to accommodate these people politically."

But this goal was not achieved. Only about 55% of South Africa's population lived in the Homelands; the remainder lived in South Africa proper, many in townships, shanty-towns and slums on the outskirts of South African cities.

Map 19: Homelands of South Africa (Source: Wikipedia)



IPILRA⁹⁰

As the title indicates, the Interim Protection of Informal Land Rights Act (31 of 1996) acknowledges informal rights to land. The Act was promulgated in response to the constitutional duty that rests on the government to remedy instances of insecure tenure resulting from above-mentioned past racially discriminatory laws and practices.

This Act is an interim measure to provide protection to the holders of informal rights, pending the substitution/upgrading of these rights by the process of land tenure reform.

The categories of informal rights that are protected are the following:

- the holders of informal rights to land which includes the occupation of, or access to land in terms of
 - any tribal, customary or indigenous law or practice of a tribe; or
 - the custom, usage or administrative practice in a particular area or community, where the land at any time vested in the South African Development Trust; or
 - the government of any area for which a legislative assembly was established in terms of the Self-Governing Territories Constitution Act; or the governments of the former Republics of Transkei, Bophuthatswana, Venda and Ciskei,
- the right or interest in land of a beneficiary under a trust arrangement in terms of which the trustee is a body or functionary established or appointed by or under an Act of Parliament or the holder of a public office;
- beneficial occupation of land for a continuous period of not less than five years prior to 31 December 1997; or
- the use or occupation by any person of an erf as if he or she is the holder of a right mentioned in the Upgrading of Land Tenure Rights Act, 1991.

The protection against the deprivation of informal rights in land and which is the motive for this Act is found in the provisions of section 2 where any sale or

⁹⁰ SOUTH AFRICA. 1996. *Interim Protection of Informal land Rights Act 31 of 1996*. Pretoria: Government Press.

other disposition of land shall be subject to the existing informal land rights in that land.

CLARA⁹¹

The Communal Land Rights Act 11 of 2004 aimed to provide individual tenure rights to communal land owners. The act was formed to address:

- Unequal land access
- Racially based system
- Insecure tenure
- Lack of development

Purposes of the Act was:

- Legally secure tenure
- Comparable redress
- Democratic land administration
- Co-operation on municipal functions
- Land Rights Boards
- Repeal/amend other laws

Application of Act:

- Land under KZN ITA of 1994
- State land
- Former self-governing territories
- Land listed under Act 1913 and Act 1936
- Community land
- Land in terms of Section 25(5) of the Constitution

⁹¹ SOUTH AFRICA. 2004. *Communal Land Rights Act 11 of 2004*. Pretoria: Government Press.

Transfer and registration of land would take place through:

- The Minister would initiate the process
- A Land Rights Enquirer would be appointed
- Community applications would be initiated

There would be no transfer costs during the first registration, but would be applicable to subsequent transactions.

Registration of land would be in the form of Communal General Plan registrations in terms of CLaRA and the Deeds Registries Act.

A Land Administration Committee would be established and could be the Traditional Council. A Land Rights Board would also be established and appointed by the Minister to administrate all applications.

CLARA declared unconstitutional⁹²

Represented by Legal Resources Centre and the Webber Wentzel Pro Bono Unit, four communities challenged the CLaRA on basis that it undermines security of tenure and gender equity, and grants authority to traditional leaders who have not been elected and whose interests do not reflect those of the communities.

On 31 October 2009, the four communities won a victory in the North Gauteng High Court. The judgment declared invalid and unconstitutional key provisions of the CLaRA that provide for the transfer and registration of communal land, the determination of rights by the Minister and the establishment and composition of land administration committees.

The communities then took the matter to Constitutional Court (ConCourt) for the confirmation of invalidity of the Act. The communities also appealed

⁹² LEGAL RESOURCE CENTRE. 2010. <http://www.lrc.org.za/press-releases/1227-2010-05-11-communal-land-right-act-declared-unconstitutional> Date of access: 9 Apr 2012.

against the High Court's refusal to declare CLaRA invalid for failure to enact it in accordance with the correct procedure, and brought a new challenge to the validity of CLaRA on the basis that the South African Parliament failed to comply with its obligations to facilitate public involvement in the legislative process.

The CLaRA, which applies to all communal land, deals with the transfer of land title from the state to traditional communities; the registration of individual land rights with 'communally owned' areas; and the use of traditional structures to administer the land and represent the 'community' as owner.

Giving the judgment analysis, Chief Justice Sandile Ngcobo held that the inescapable conclusion is that various provisions of CLaRA affect indigenous law and traditional leadership. He found that the CLaRA replaces the living indigenous law regime which regulates the occupation, use and administration of communal land. It further replaces both the institutions that regulated these matters and their corresponding rules. He concluded that the Parliament followed an incorrect procedure in enacting CLaRA. Where the Constitution prescribes a legislative procedure, that procedure must be followed.

Chief Justice Ngcobo also emphasised that the Parliament should urgently and diligently enact the constitutionally envisaged legislation that will ensure that there is restitution of land to the people and communities that were dispossessed of their land during the apartheid era.

Municipal rates and taxes on communal land⁹³

Owners of tribal lands in South Africa will not have to pay rates in terms of the Municipal Property Rates Amendment Bill that has been accepted by the Cabinet. In terms of the Bill⁹⁴, a contentious clause calling for rates to be paid on traditional lands has been dropped. According to the Financial and Fiscal Commission (FFC) – which advises the government on the impact of

⁹³ IOL. No Municipal rates for tribal land. <http://www.property24.com/articles/no-municipal-rates-for-tribal-land/13471> Date of access: 10 Apr 2012.

⁹⁴ SOUTH AFRICA. 2011. *Department of Cooperative Governance Local Government: Municipal Property Rates Amendment Bill 340 of 2011*. Pretoria: Government Press.

legislation – about 29% of South Africa's land falls under traditional authorities.

There are 231 local municipalities with traditional lands and at least 98 of these have traditional lands that cover more than half of the land under their jurisdiction.

In 58 of the councils, land controlled by traditional authorities constitutes more than 80% of the land in those 58 regions. According to the FFC it was "a known fact" that municipalities faced stark challenges when valuing and rating traditional lands in communal areas, especially where chiefs were the "custodians of the land".

Rural tenure planning in Botswana as a comparative model

Approximately 23% of the Botswana population is in urban areas and 77% in rural areas. Botswana has a rich tribal culture, and therefore it is not surprising that the Botswana legal system consists of local tribal courts, which adjudicate traditional matters and Tribal Land Boards, which rule on land use matters in tribal lands and traditional villages. Town Councils rule on land use matters in urban areas. Freehold land comprises only 6% of the total area and is privately owned. Most of the government policies to date are therefore directed at tribal land.

Prior to independence, Botswana had established traditional ways of allocating and managing tribal land and its resources through chiefs and communities. Soon after independence, the authority to allocate tribal land was shifted from the chiefs to the Tribal Land Boards which were established by the Tribal Land Act, but the management of the resources remains the responsibility of the users and their communities.

The Land Boards were established for a specified tribal territory, and took over the administrative functions from chiefs and other tribal authorities. Title of the land vested in the Land Boards. The Land Boards were initially entitled to make customary and common law grants, for residential, grazing or cultivation purposes, to members of the different tribes living in the specified territories only, but since 1993 any citizen of Botswana is entitled to apply for these rights.

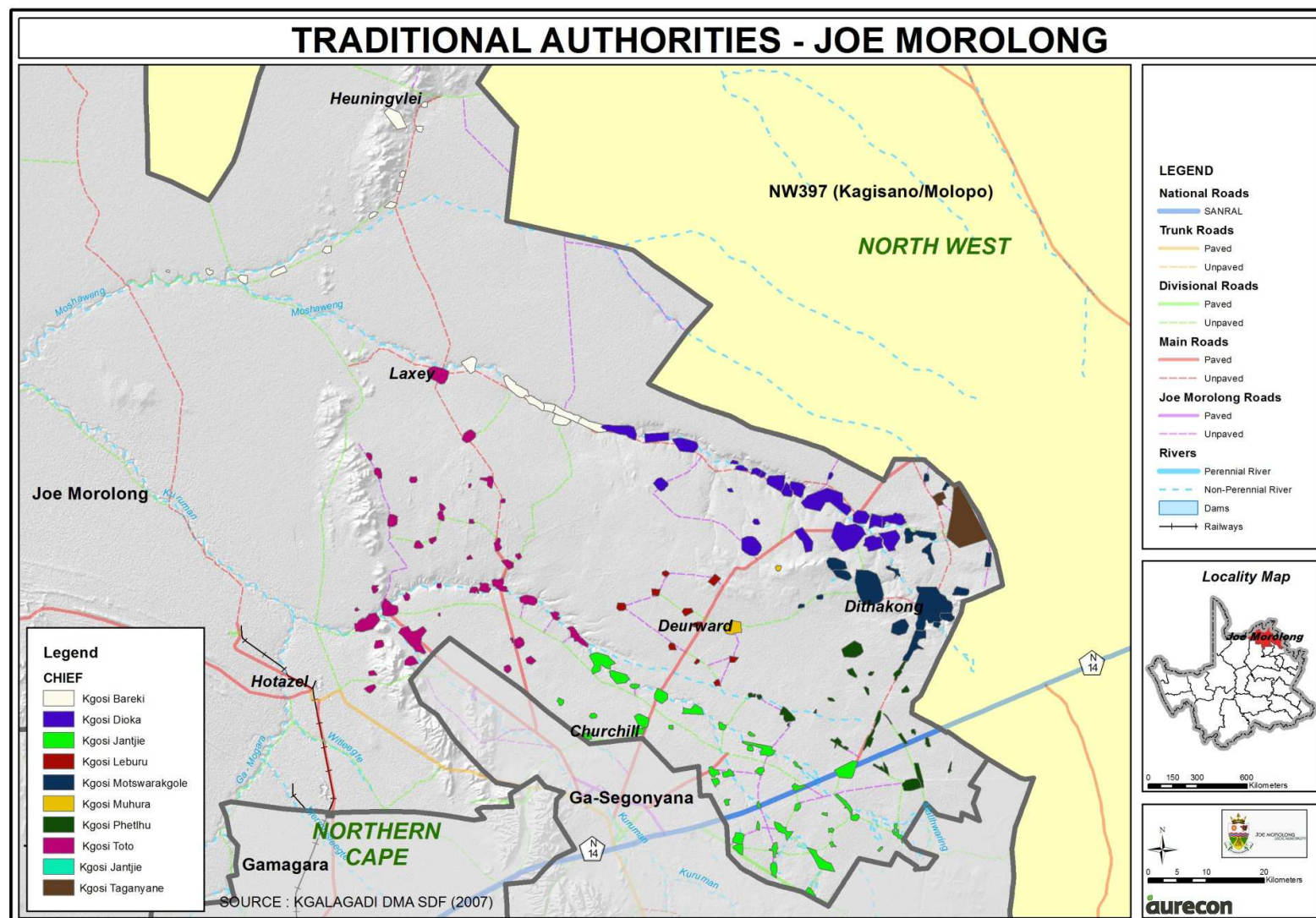
Land Boards maintain their own record or registration system and rights are not registered in the central deeds registration system of Botswana,

apparently to keep them more affordable. The Land Boards are entitled to issue certificates of customary grants or certificates of occupation.

Conclusion

A large portion of the Joe Morolong municipality is made up of communal land jointly administered by local traditional authorities and the local municipality. Rural tenure rights are a real challenge today and failed efforts had been made to provide appropriate legislation to provide proper tenure status. The failed attempts to address the issue hamper rural development in various ways e.g. collateral and personal enrichment through land ownership, commercial development etc. Land tenure upgrading should be prioritised in a manner that acknowledges the traditional authorities. Traditional Authorities should receive the necessary resources and administrative support to manage its individual areas. National legislation would play a pivotal role in the provision of efficient legislation.

Map 20: Traditional Authorities - Joe Morolong Local Municipality



4.2.11 Land Restitution

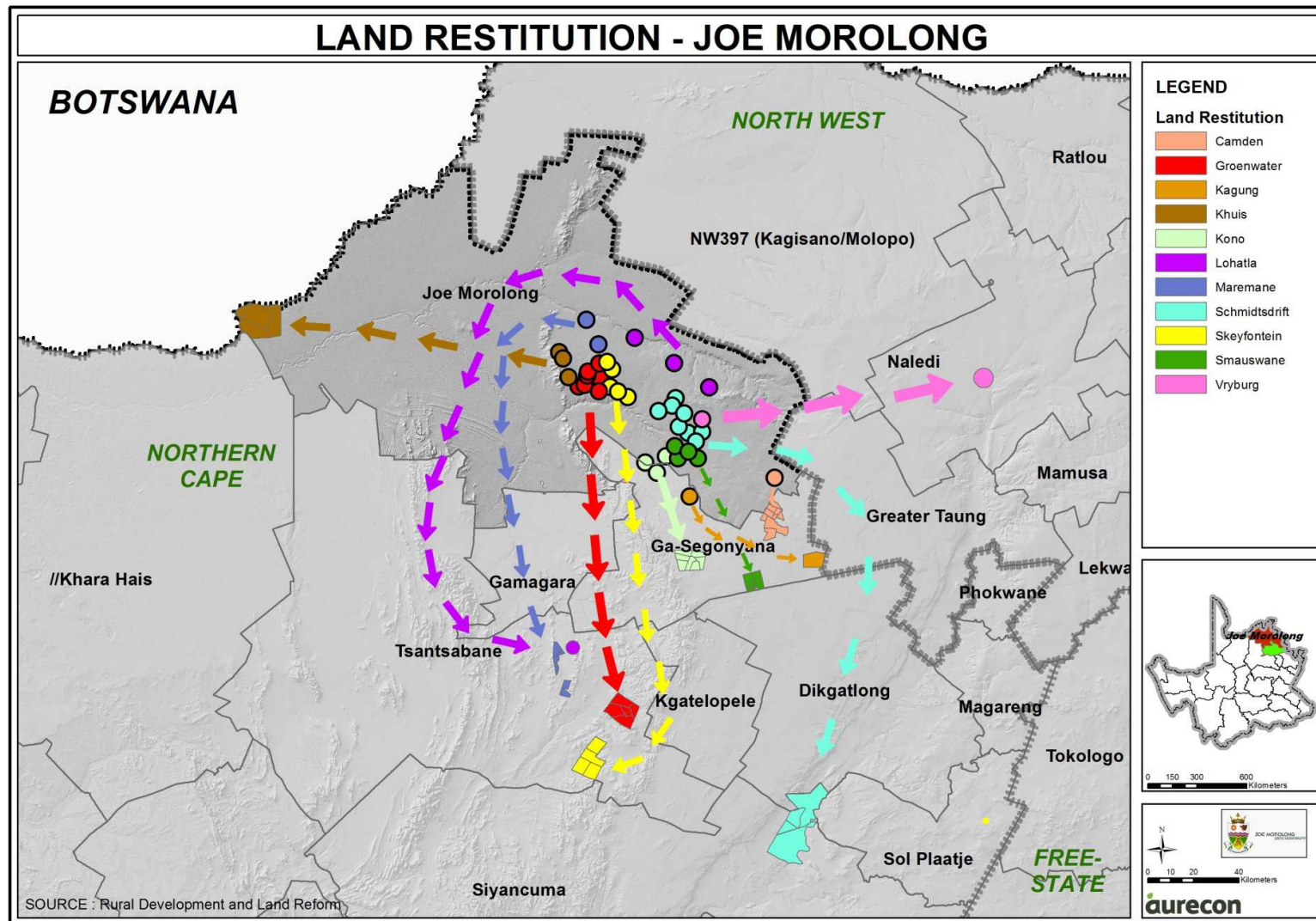
The table below indicates a list of Land Restitution cases within the borders of Joe Morolong Municipality which has been submitted to the Department of Land Reform and Rural Development for processing.

| Claim | Areas affected (present villages) | Farms claimed | Date claim resolved | Present activities |
|-------------|---|---|---------------------|---|
| Kono | Churchill, Esperanza, Klein Neira and Thamoyanche | Klein and Groot Kono farms A – K situated South East of Kuruman – 30 km on the Danielskuil road | 1996 | Due to the farm being dolomitic – relocation for settlement purposes was not feasible. Presently the communities are using the farms for farming with cattle and small livestock. |
| Skeyfontein | Wyk 7 – 10 and Samskolo | Skeyfontein farms in the Tsantsabane Local Municipality | 1996 | Land used for Farming and Settlement (residential) purpose |
| Smauswane | Ellendale, Cardington, Kokfontein, Garadiatsoma | Smauswane South 206 Smauswane North 205 and Annex Malakgohli 204/2 and Remainder | 2004 | |

| Claim | Areas affected (present villages) | Farms claimed | Date claim resolved | Present activities |
|---------------|---|--|---------------------|---|
| Schmidtsdrift | Ga-Sehunelo Wyk 1 – 9 and Orabile or now Wyk 10 | Original Schmidtsdrift farm in Siyancuma Local Municipality 72 km from Kimberley on the Griquastad road | 1999 | Farming, mining and settlement |
| Kagung | Kagung village | Grootvlakfontein 141 Portion 1 – 6 in the Revilo region | 2002 | Unknown |
| Khuis | March, Bosra and Penryn | Molapo 179, Police 180, Khuis 181, and Bogogobo 182 on the border with Botswana 270km north west of Kuruman 45km from Van Zysrus. | 2003 | |
| Camden | Camden | Portion 4, 5, 6 and 8 of Boland farms and Portion 3 of 2 of the farm Seduall, farm Kungskung; Remainder of Portion 1 of farm Seduall and the Remainder of farm Seduall. Portion 2 of farm Gamohaana 438. | 2008 | |
| Maremane | Laxey and Padstow | Had also claim Lohattha Military Base, but instead they have been | 2008 | Land used for farming, settlement (unplanned) |

| Claim | Areas affected (present villages) | Farms claimed | Date claim resolved | Present activities |
|------------|--------------------------------------|--|---------------------|--|
| | | bought alternative land in the Tsantsabane Local Municipality area. Portion 7 of the farm Driehoeks Pan 435; Portion 7 of the farm Driehoeks Pan; Portion of the farm Kareepan 445; Portion 1 (Doornpan) of the farm No. 445; Remaining Extend of Portion 2 (Lemoenpoort) of the farm Kapstevl No 436; Farm 445; Remaining Extend of the farm Gloucester 674, Remaining Extent of the farm Lohatlha 673 and Portion 1 (Nooitgedacht) of the farm Lohatlha 673. | | and mining |
| Gathose | Slough, Deurham and Bendell | Lohatlha Military Base but they have been allocated funds to buy alternative land | 2010 | |
| Groenwater | Wyk 1 – 7 Metsimantsi | Groenwater farms in the Tsantsabane local Municipality 25 km from Postmasburg on the Kimberley road. | 1996 | Land used for Farming and Settlement (residential) purpose |

Map 21: Land Restitution - Joe Morolong Local Municipality



4.2.12 Comprehensive Rural Development Programme (CRDP)

Rural areas are defined as “sparsely populated areas in which people farm or depend on natural resources, including villages and small towns that are dispersed throughout these areas. They include large settlements in the former homelands, created by apartheid removals, which depend on migratory labour and remittances for their survival”.

The new National Department of Rural Development and Land Reform (DRDLR) have been given the mandate by the President of South Africa to develop a Comprehensive Rural Development Programme (CRDP) throughout the country. To achieve this mandate the DRDLR embarked on developing a fresh approach to rural development. The CRDP is focused on enabling rural people to take control of their destiny, with the support from government, and thereby dealing effectively with rural poverty through the optimal use and management of natural resources.

This will be achieved through a co-ordinated and integrated broadbased agrarian transformation as well as the strategic investment in economic and social infrastructure that will benefit the entire rural communities. The programme will be successful when it becomes apparent that “sustainable and vibrant rural communities” are succeeding throughout South Africa.

A three pronged approach is taken namely:

- Agrarian transformation
- Rural development
- Land Reform

Currently the CRDP is involved in the upgrading and expansion of bulk water provision to the northern areas of the Joe Morolong Local Municipality, in the vicinity of Heuningvlei. Refer to Map 13 for more details on the bulk water project currently underway.

The Heuningvlei Water Services Supply Scheme was initially constructed in 1983 as part of the Drought Relief Action and funded by the then Bophuthatswana Water Corporation. Subsequent to the incorporation of the former homelands into South Africa in 1994 Bophuthatswana no longer

existed and the Heuningvlei scheme fell within the newly demarcated boundaries of the North West Province, and within the geographical areas of the Kagisano Local Municipality (formerly Ganyesa), within the Dr. Ruth Segamotsi Mompoti (previously Bophirima) District Municipality. Due to the re-demarcation of the municipal boundaries in 2001 and the subsequent repealing of the cross border municipalities the major part of the Heuningvlei scheme fell within the boundaries of the newly established Moshaweng Local Municipality, which became the current Joe Morolong municipality. The pipeline now runs geographically between the local municipalities of Kagisano-Molopo (in the Dr. Ruth Segamotsi Mompoti District of the North West Province), and Joe Morolong (in the John Taolo Gaetsewe District of the Northern Cape Province). Elements of the scheme which are geographically located in Joe Morolong have effectively been transferred to the municipality.⁹⁵

4.2.13 Municipal Finances

The municipal revenue and expenditure of the previously known Moshaweng Local Municipality is indicated in the tables below. From the tables it is clear that the Municipality receives no income for property rates or services, which is due to the fact that there is no formal urban stands in the previously known Moshaweng Local Municipality.

Figure 34: Municipal Expenditure⁹⁶

| EXPENDITURE | 2007/2008 | 2008/2009 | 2009/2010 |
|-------------------------|----------------|----------------|----------------|
| Salaries and Allowances | R10,259,583.00 | R11,285,542.00 | R12,414,096.00 |

⁹⁵ MOSHAWENG LOCAL MUNICIPALITY. 2009. *Feasibility report of the Heuningvlei water services supply scheme: regional bulk and multi-use scheme*. Churchill: Moshaweng Local Municipality. 185 p.

⁹⁶ MOSHAWENG LOCAL MUNICIPALITY. 2010. *Integrated Development Plan: Review*. Churchill: Moshaweng Local Municipality. 103 p.

| | | | |
|----------------------------|-----------------------|-----------------------|--------------------------|
| General Expenditure | R15,942,485.00 | R17,536,733.00 | R19,290,407.00 |
| Repair and Maintenance | R2,319,257.00 | R2,551,182.00 | R2,806,300.00 |
| Capital Charges | R0.00 | R0.00 | R0.00 |
| Contribution fixed assets | R46,804,060.00 | R51,484,465.00 | R56,632,912.00 |
| Contribution Special Funds | R1,430,000.00 | R1,573,000.00 | R1,730,300.00 |
| Ad Hoc Expenditure | R330,000.00 | R363,000.00 | R399,300.00 |
| TOTAL | R77,085,384.00 | R84,793,923.00 | R93,273,315.00.00 |

Figure 35: Municipal Revenue⁹⁷

| REVENUE | 2007/2008 | 2008/2009 | 2009/2010 |
|-----------------|----------------|----------------|----------------|
| Equitable Share | R21,506,625.00 | R23,657,287.00 | R26,023,016.00 |
| Grants | R51,618,760.00 | R56,780,635.00 | R62,458,699.00 |
| Other | R1,760,000.00 | R1,936,000.00 | R2,129,600.00 |
| Interest earned | R2,200,000.00 | R2,420,000.00 | R2,662,000.00 |

⁹⁷ MOSHAWENG LOCAL MUNICIPALITY. 2010. *Integrated Development Plan: Review*. Churchill: Moshaweng Local Municipality. 103 p.

| | | | |
|------------------|-----------------------|-----------------------|------------------------|
| Property rates | R0.00 | R0.00 | R0.00 |
| Services charged | R0.00 | R0.00 | R0.00 |
| TOTAL | R77,085,383.00 | R84,793,922.00 | R 93,273,315.00 |

The 2010/2011 Joe Morolong Local Municipality's Water and Sanitation Income and Expenditure Trend indicates a negative R13,824,553 loss in water. See the figure below.

A large proportion of the residents in the Municipality are indigent. The following is the indication to municipalities of its basic functions to be performed for the poorest of the poor.

There are three main sources of funds to supply the basic needs namely:

- Cross subsidies from non-residential and high income consumers using the particular service (they are charged more than what the service costs to generate a surplus to be used to cover the cost of services to the indigent).
- The core administration revenue of the Municipality which includes property rates, RSC levies and electricity surpluses.
- The National Focus, through the Equitable Share.

It is clear that the Municipality is mostly dependant on the Equitable Share from the National Focus (and grants) as is seen in the budget.

| | |
|---|--|
| Basic water supply facility | The infrastructure necessary to supply 25 litres of portable water per person per day supplied within 200 metres of a household and with a minimum flow of 10 litres per minute (in the case of communal water points) or 6 000 litres of portable water supplied per formal connection per month (in the case of yard or house connections). |
| Basic water supply service | The provision of a basic water supply facility, the sustainable operation of the facility (available for at least 350 days per year and not interrupted for more than 48 consecutive hours per incident) and the communication of good water-use, hygiene and related practices. |
| Basic sanitation facility | The infrastructure necessary to provide a sanitation facility which is safe, reliable, private, protected from the weather and ventilated, keeps smells to the minimum, is easy to keep clean, minimises the risk of the spread of sanitation-related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/or removal of human waste and wastewater in an environmentally sound manner. |
| Basic sanitation service | The provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including the safe removal of human waste and wastewater from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices. |
| Basic refuse removal service | The disposal of refuse on a property where housing densities permit this or the removal of refuse from each property located within a municipality and disposal of this waste in an adequate landfill site either option undertaken in such a way that the health of the community is maintained and no diseases are propagated, or pests allowed to breed due to refuse which is not properly removed and disposed of. |
| Basic energy service | The provision of sufficient energy to allow for lighting, access to media and cooking. |
| Basic housing assistance provided by a municipality | Ensuring that sufficient land is identified within the municipal boundary, in appropriate locations, for all the residents in the municipality and that the necessary planning is undertaken to ensure that this land can be properly developed. Further, to ensure that funding available from the province for housing is properly allocated to assist the indigent with access to serviced plots and assistance with providing 'top structure' through the 'peoples housing process'. Finally, in the case of inner city locations, to ensure that the indigent can get access to some form of shelter. |

Levels of service for rural areas as compared to urban areas.

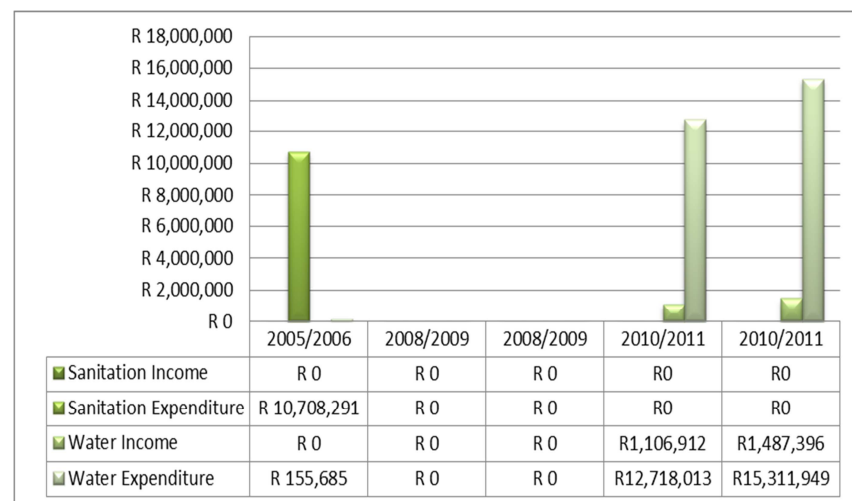
| Service | Urban core | Deep rural area |
|--------------------|--|--|
| Water supply | Metered house connections. | Wells or public standpipes. |
| Sanitation | Fully sewerer, waterborne sanitation. | Ventilated Improved Pit (VIP) toilets. |
| Refuse removal | 250 litre wheeled bins and twice weekly kerbside collection using motorised compactors. | Burial or burning of refuse on the plot. |
| Basic energy | Grid electricity supply with prepayment meter. | Solar home system or support with access to alternative fuels (wood, paraffin or gas) ¹ . |
| Housing assistance | Necessity to emphasise land acquisition, urgent land registration processes (including township establishment) and rapid land servicing. | Reliance on traditional house building. |

Municipal Benchmarks for indigents⁹⁸:

- Water supply: Service level targeting (all get at least a public standpipe supply, or point source supply free) with free 6kl/month to those with plot or house connections.
- Sanitation: Service level targeting (all get a VIP or equivalent service free) with either property value OR consumption based charge, or both, applied to waterborne sanitation service levels.
- Electricity: Consumption based tariff, with the first 50kWh per month provided free.
- Refuse removal: Targeting based on property

⁹⁸ SOUTH AFRICA. 2005. *Department: Provincial and Local Government: National Framework for municipal indigent Policies*. Pretoria: Government Press. 34 p.

Figure 36: Income and expenditure trends: Water, Sanitation and Waste Water Management
(Source: Annual financial statements)



4.3 Built Environment

4.3.1 Services and Social Infrastructure

Services and social infrastructure is key priority to development. A constrained or underperforming services environment does not contribute to sustainable development. The availability of services that meets the expected performance criteria and access to these services are prerequisites for social and economic development.

4.3.1.1 Transportation Links

Development and also the level of development is a function of accessibility. Remoteness and isolation never promotes and enhances development.

Access to facilities and opportunities sustain development. Spatially transportation networks and facilities play an important role in development.

The dominant development potential is strengthened or weakened by its accessibility and links with the broader development environment. Access and functional linkages are described by:

- Road, rail and air links.
- The mode of transport utilised by households.
- The accessibility of regional and local service centres.
- The functional service area of the urban areas.

Settlements in the Municipality are well connected by a Diverse Road System as can be seen on the map below. This does not however show the conditions of the roads. Most of the roads within the Municipality are in a questionable condition and require maintenance. Many of the roads are graded roads and hampers movement and accessibility for the people in the municipal area. This is a major factor negatively influencing development. The N14 is the only corridor identified in the Municipality and only services a few villages in the South of the municipal area.

4.3.1.2 Transport and Mobility

Access and accessibility are directly related to mobility and mobility in turn links to the mode of transport. The assessment in terms of drive time is based on a person travelling by motorcar. These parameters will clearly change if a person is walking or travelling on horseback.

59% of all people in the Municipality do not travel according or travel by an alternative mode of transport according the acquired data. The next table shows the modal distribution of people travelling.

Figure 37: Mode of transport (Source: Quantec, 2012)

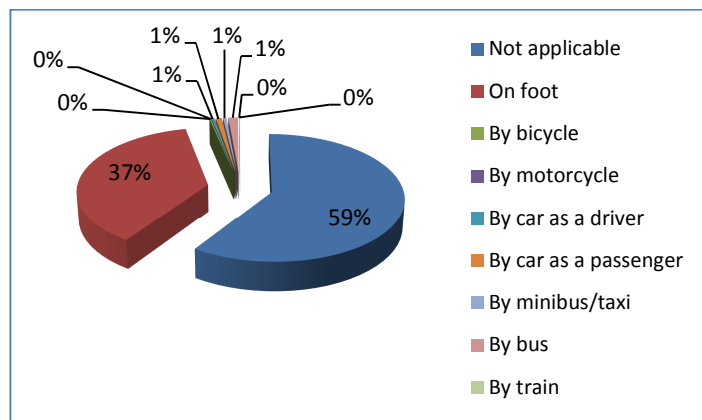


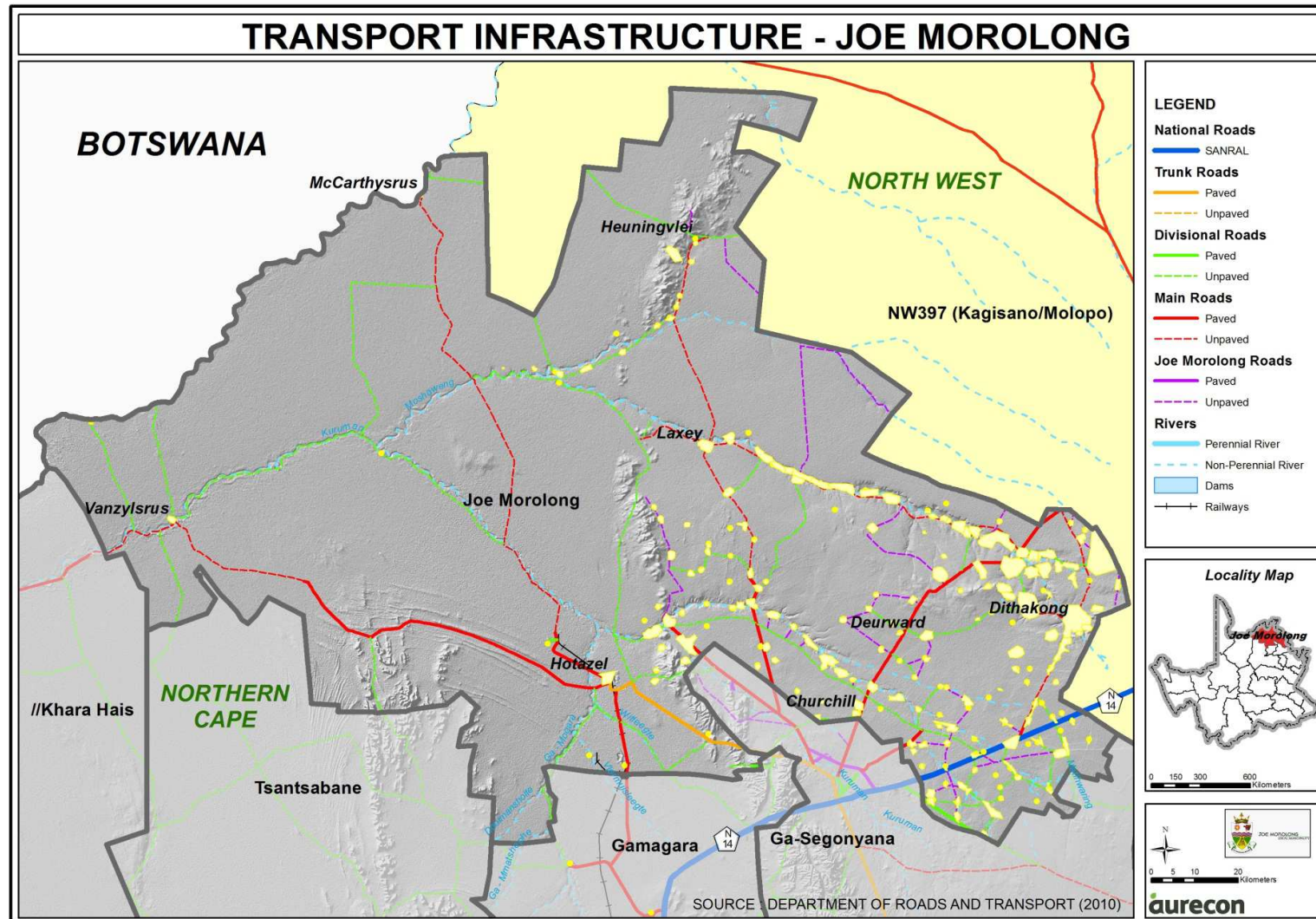
Figure 38: Traditional modes of transport are important



Source: Pascal Parent, www.onlyinsouthafrica.com

| | | |
|-----------------------|--------------|-------------|
| Not applicable | 54423 | 59.4% |
| On foot | 34144 | 37.2% |
| By bicycle | 178 | 0.2% |
| By motorcycle | 24 | 0.0% |
| By car as a driver | 369 | 0.4% |
| By car as a passenger | 772 | 0.8% |
| By minibus/taxi | 446 | 0.5% |
| By bus | 1223 | 1.3% |
| By train | 34 | 0.0% |
| Other | 55 | 0.1% |
| Total | 91667 | 100% |

Map 22: Transportation Infrastructure



4.3.1.3 Access to service infrastructure

The White Paper on Spatial Planning states that “there must be a strong link between both the [Spatial] Plan and the [Land Use Management] Scheme and the Municipality's Budget and Capital Expenditure Framework.”⁹⁹ Within the context of the SDF, the following interrelated aspects are important:

- The budget indicating the Council's income and expenditure targets and priorities. On the one end the projects to be implement and the assets to be created is reflected in the capital budget while the operating budgets deals with the consequences of past and new capital investments. This is not the focus of the SDF, but it is dealt with later in this Report as part of the Institutional Environment.
- In the budget the consequences of land and land use management is reflected through property taxes as a source of income based on the value of land as brought about by its use and rights attached to land, and
- All existing land or, any new land development or land use changes have to be adequately serviced by infrastructure in order to sustain development through the social and economic processes linked to land.

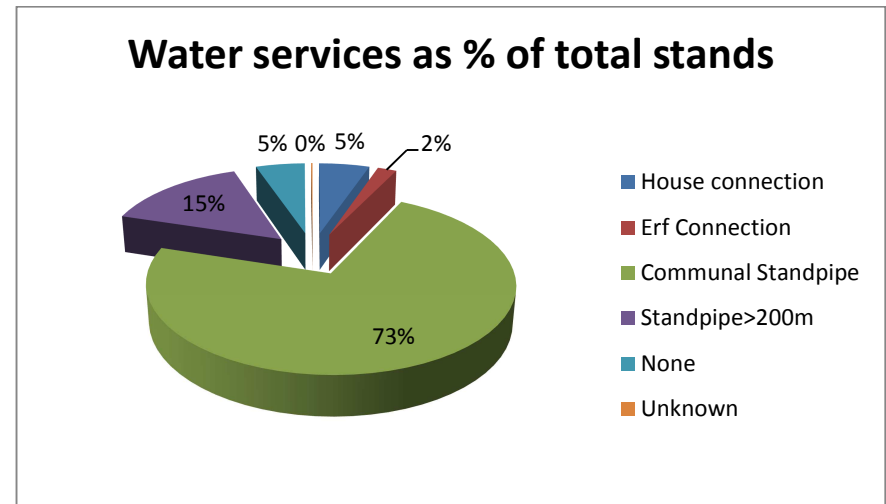
Two issues are assessed in this section, namely, the Council's Service Delivery Policy and secondly, the access to services. These Policies must also be assessed within the context of the Provincial Policies and the National and Provincial housing Policies. This section looks at service delivery within the municipal area.

4.3.1.4 Access to water services

DWA Northern Cape keeps record of the water and sanitation backlogs per municipal area. The table below indicates a backlog of 4 823 households.

⁹⁹ Republic of South Africa. 2001. Ministry of Agriculture and Land Affairs. White Paper on Spatial Planning and Land Use Management: Wise Land Use.

Figure 39: Water service and backlogs¹⁰⁰



The Heuningvlei Water Services Supply Scheme runs through Ward 1 of the Moshaweng Local Municipality and the formal settlements that form part of the geographical area of Ward 1 include Eiffel, Heuningvlei, Klein Eiffel, Kome, Madibeng, Makhubung, Perth, Sesipi, Shalaneng, and Tsiloane with an estimated 2408 households, and a population of 10 152 people. The only formal settlements that currently benefit from the supply scheme include Eiffel, Heuningvlei, Makhubung and Shalaneng, with an estimated 1313 households and 5487 people. Should the scheme be extended all of the estimated 2408 households could benefit. Currently, only 1 school in Makhubung, 1 clinic in Heuningvlei, and 1 police station in Heuningvlei benefit from the scheme; but if the scheme were to be successfully extended the following would benefit:

- Ward 1, Moshaweng: 5 schools, 1 clinic, 2 police stations, 2408 households and 10 152 people.
- Kagisano Local Municipal area: 39 households and 195 people.

¹⁰⁰ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

- The implementation of this scheme could also have some economic benefits for the area. It could open opportunities for agriculture and agro-processing and possible tourism opportunities, taking into account Heuningsvlei's location to the Kgalagadi Transfrontier park.

4.3.1.4.1 Hotazel:¹⁰¹

Bulk Supply Infrastructure

Treated water is abstracted via two metered points from the Vaal Gamagara Pipeline. Water is abstracted into a 400 Kℓ reservoir in Itekeng and into a 1 Mℓ reservoir situated on the North Western border of Hotazel. Water is pumped from the 1 Mℓ to an 800 Kℓ reservoir in Sharp Avenue, from where the water is distributed into the water reticulation network of Hotazel.

No water tower exists and the water from the 400 Kℓ and 800 Kℓ reservoirs is pumped directly into the respective water reticulation networks under an average pressure of 3.5 bar. Evidently the total 48 hour storage capacity is 2.2 Mℓ.

Water Treatment Capacity

There are no Water Treatment Works in the Hotazel Cluster area.

4.3.1.4.2 Vanzylsrus¹⁰²

Bulk Supply Infrastructure

There are seven production boreholes in this town from where water is abstracted. The water from the boreholes meets the standards for drinking water and therefore does not need to be treated before distribution. Hence there is no water treatment works in this town. From the boreholes, the water is pumped by submersible pumps to elevated reservoirs. There are a total of

four reservoirs in this town, with a total storing capacity of 430 kl. The water is then distributed throughout the town by a network of pipeline.

Water Treatment Works Capacity

There are no Water Treatment Works in the Vanzylsrus Town area.

4.3.1.4.3 Villages¹⁰³

The villages in Joe Morolong have rudimentary water infrastructure. The communities are totally dependent on ground water. Water is abstracted from boreholes by electrically driven pumps, wind-pumps and diesel driven pumps. The Water Supply Schemes generally consist out of water supplied from boreholes and pumped to a storage tank, and then distributed via small diameter reticulation networks.

Bulk Water Infrastructure

The settlements in Joe Morolong rely on water abstracted from at least 400 local boreholes, which are equipped with diesel engine driven pumps and windmill pumps. The settlements of Eiffel, Heuningvlei, Makhubung and Shaleng are supplied with water extracted from local boreholes and are also connected to the Heuningvlei Borehole Pipeline Scheme. The water extracted from these boreholes is supplied to the communities using rudimentary water supply infrastructure consisting mostly of small diameter pipelines, small elevated plastic storage reservoirs and communal standpipes.

Water Treatment Capacity

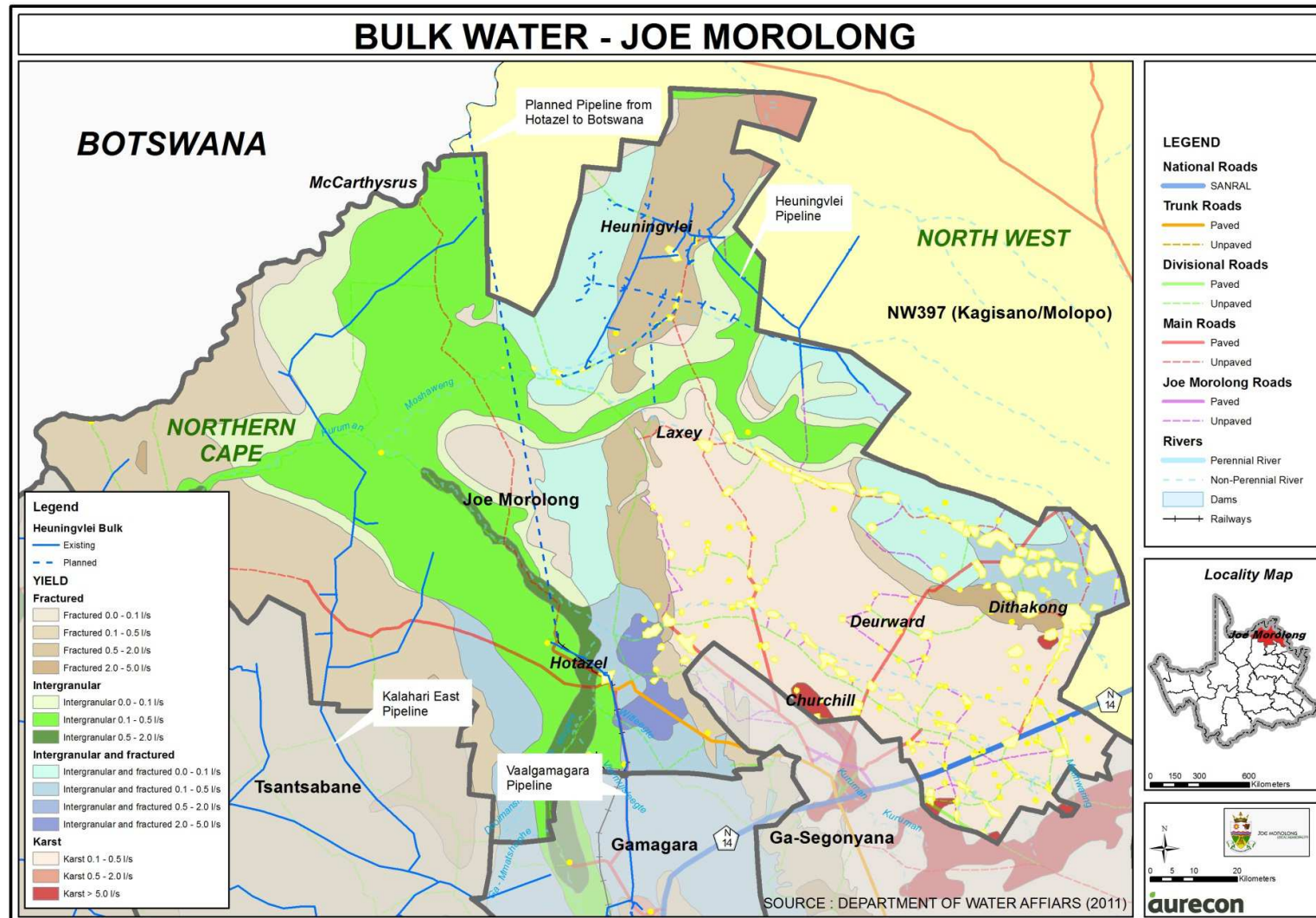
There are no Water Treatment Works in the rural areas of Joe Morolong.

¹⁰¹ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

¹⁰² SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

¹⁰³ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

Map 23: Bulk Water Services - Joe Morolong Local Municipality



4.3.1.5 Access to sanitation services

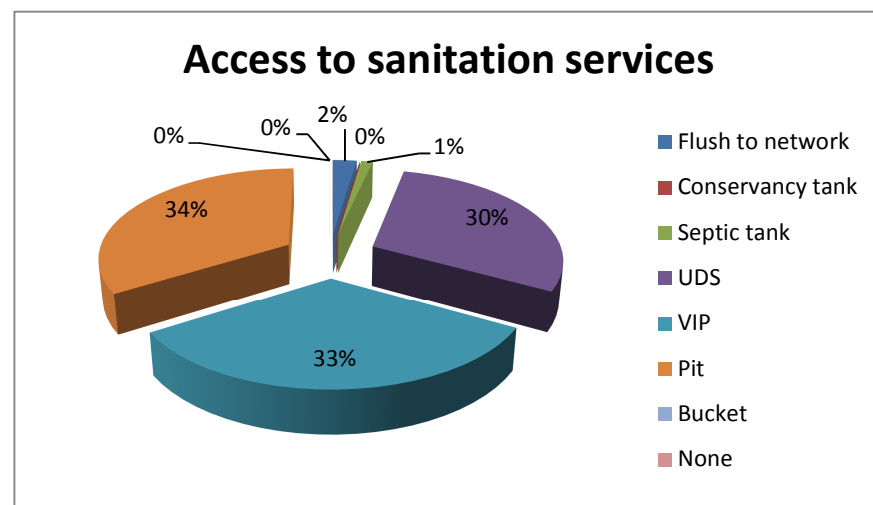
Sewerage and sanitation are basic needs of communities which can pose serious health and hygiene risks for communities and the environment at large scale, if not properly managed and monitored.

According to the White Paper on Basic Household Sanitation, 2001, basic sanitation is defined as: “The minimum acceptable basic level of sanitation is:

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

In Joe Morolong, basic sanitation was unavailable to 8,153 households in 2011, of which none are living on informal stands.

Figure 40: Sanitation services (Stats SA: Census 2001)



4.3.1.5.1 Hotazel¹⁰⁴

The Waste Water Treatment Works (WWTW) of Hotazel has an estimated 0.300 Ml and 0.350 Ml per day Sequential Batch Reactor (SBR) System. Treated effluent is recycled and pumped into a separate dedicated distribution network to the existing residential erven. The treated water is used for irrigation purposes only. Treated effluent will not be distributed to future developments.

The Plant was constructed in 1975 to 1980 and the basin upgraded in 2009. It is in a good condition, this implies that less than 10% of refurbishment is needed.

¹⁰⁴ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

4.3.1.5.2 Vanzylsrus¹⁰⁵

At the moment, there is no water returned into the natural water courses via sewer network. However, there are septic tanks on some individual stands which are emptied by a tanker. There is a waste water treatment works which comprises of oxidation ponds.

4.3.1.5.3 Villages¹⁰⁶

There are a very limited number of Water Borne Sanitations Systems in Joe Morolong. All the communities use dry sanitation.

In areas with low groundwater resources, potential VIP pit latrines are favoured, because of the ease of digging 2 meter deep pits by hand. In high groundwater potential areas, water level tends to be shallow with high aquifer vulnerability. In these areas, VIP pit latrines are less suitable as the base of the pit may extend below the water level. In these areas, the hand digging of pits deeper than 1 meter is possibly limited. UDS toilets are constructed in areas where pollution could be caused.

Waste Water Treatment Works

There is no water borne sanitation in the Joe Morolong villages.

4.3.1.6 Electricity services

Although relatively expensive, paraffin and gas are used on a limited scale for cooking and heating, animal dung also features on a limited scale as energy/fuel source for cooking and heating in the Municipality. The use of wood as energy/fuel source for cooking and heating, to whatever scale, is of major concern. It is almost 100% certain that all the wood used in the Municipal Area for these purposes comes from the indigenous, and in some cases, also protected vegetation, i.e. Camel Thorn (*Acacia erioloba*) trees, and that harvesting is not done in a sustainable way.

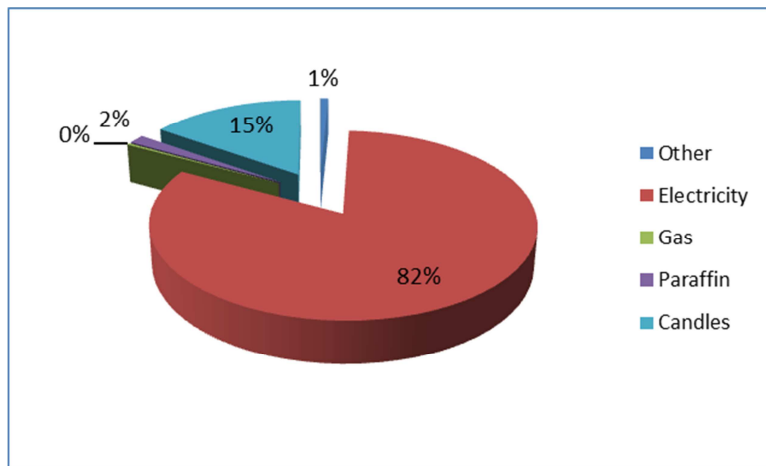
¹⁰⁵ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

¹⁰⁶ SOUTH AFRICA. Department of Water Affairs. 2012. Joe Morolong Local Municipality. WSDP Strategic interpretation report. 72 p.

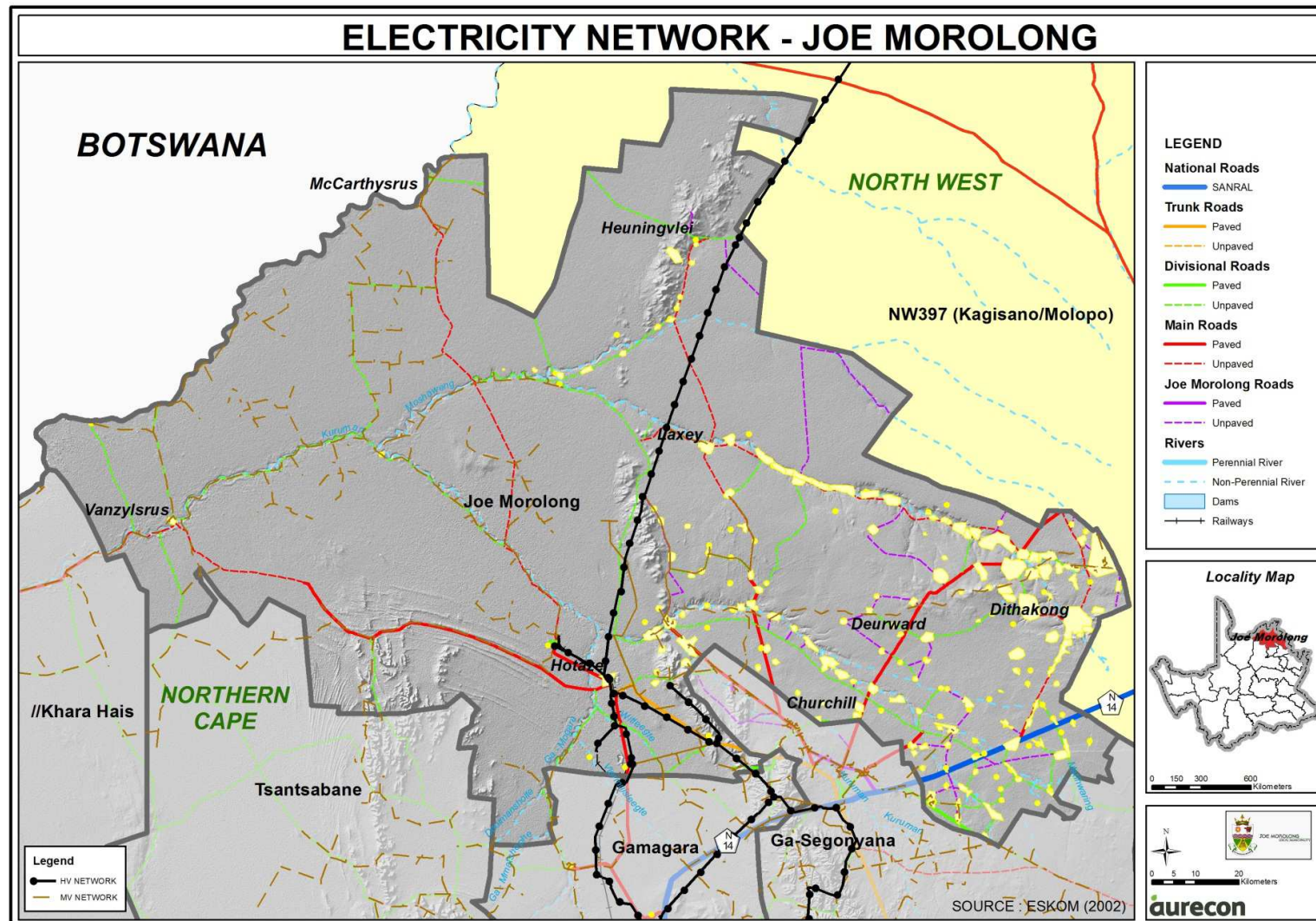
The combination of low rainfall, relatively high population densities and the fact that most of the indigenous vegetation in the area is slow growing, have already resulted in over-utilization of this renewable natural resource in certain places.

According to the graph, the majority of people in the Municipality have access to electricity (82%). Electricity provision is clearly linked to bulk services. Access to electricity services should not have an impact on the spatial development of the municipal area.

Figure 41: Access to energy (Source: Quantec, 2012)



Map 24: Bulk Electricity Services - Joe Morolong Local Municipality



4.3.1.7 Access to Refuse Removal Services

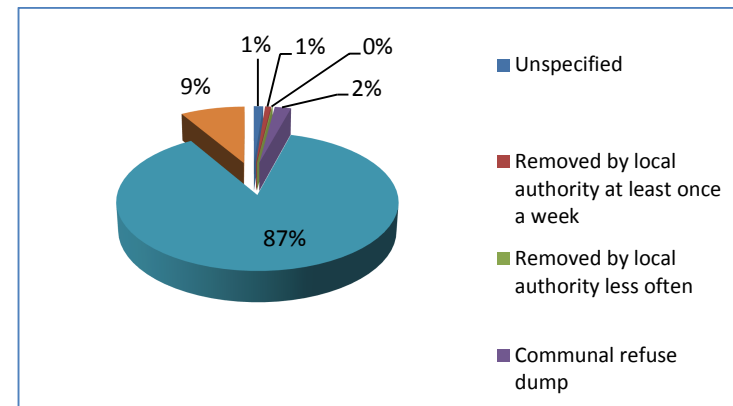
There are currently no records available for the amount of waste generated in the area. Due to the rural and remote character of the area, the expected waste generation is less than it would be in a more urbanised area. The excessive distances to the nearest formal town and general shopping facilities necessitates the recycling of general items such as plastic bags, cans and glass bottles. The areas surrounding most of the settlements are therefore relatively litter free.

The Municipality currently operates no waste collection services or cleansing services in the rural areas. The erf sizes in these areas are generally big and therefore allow for the disposal of waste in some part of the erf. The general method of disposal is a hole in the back yard. The majority of the population in this area uses this technique. The area surrounding the mini disposal holes looked relatively clean without any signs of scavenger animal presence. Most of the villages are however located on groundwater reservoirs and the disposal of waste in this manner might be detrimental to the quality of the water in the area (Kgalagadi DM: Moshaweng; Integrated Waste Management Plan, 2004).

There are no official landfill erven in the rural areas, but landfill sites are present in Hotazel and Vanzylsrus, see map below. The settlements visited during the investigation did not appear to have any communal refuse dump. No other apparent accumulation of waste was noticed during the investigation.

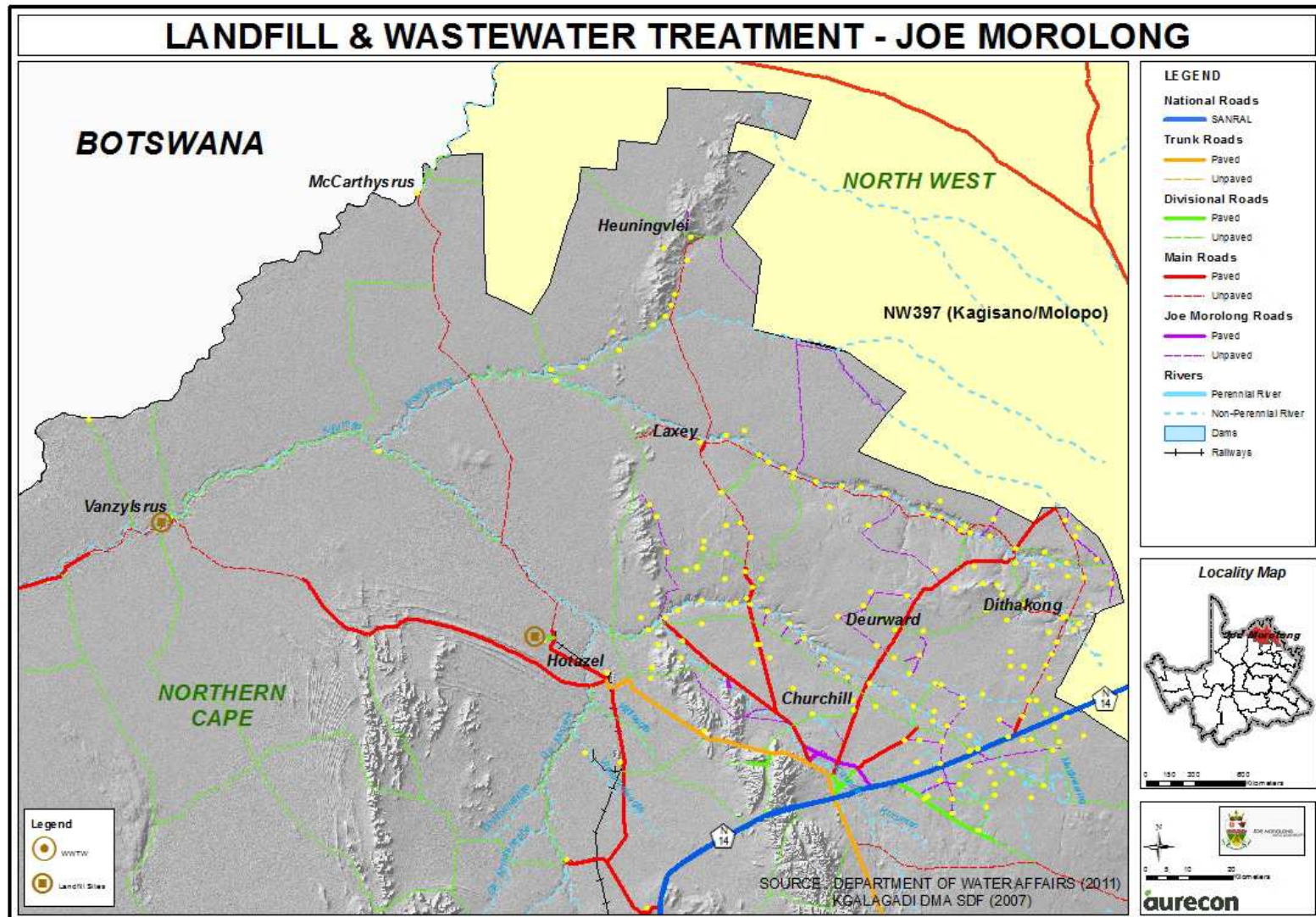
Only the formal areas in the urban core have access to conventional refuse removal services. The rest of the settlements have no services. The lack of refuse services and a strategy to address this problem have a clear environmental impact but should not impede on the spatial planning process.

Figure 42: Access to refuse services (Source: Quantec, 2012)



The above is reflected in the figures. 87% of people in the Municipality do not have access to satisfactory refuse removal services. The spatial distribution of especially the rural villages and the nature of the municipal environment make refuse removal provision difficult.

Map 25: Landfill and Wastewater Treatment – Joe Morolong Local Municipality



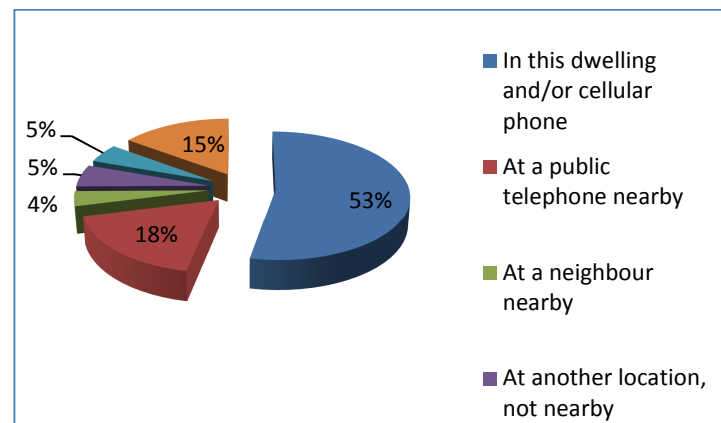
4.3.1.8 Telecommunication services

Telecommunication services are something that is becoming more important in modern day life. The ability to communicate and interact with people is essential to a modern lifestyle. The fact that the Municipality is rural in nature means that these services are sometimes limited.

This Section will investigate the population's access to telecommunication services and explore the major cell phone networks' coverage in the Municipality. The networks that were assessed are:

- MTN
- Vodacom
- 8ta, and
- Cell C

Figure 43: Access to telecommunication services (Source: Quantec, 2012)



The data indicates that 53% of the population in the Municipality has access to a cell phone or a phone inside their dwelling. This means that 47% of people has to make use of a phone from either a neighbour at a location close by or at another location.

Figure 44: 8ta cell phone coverage¹⁰⁷

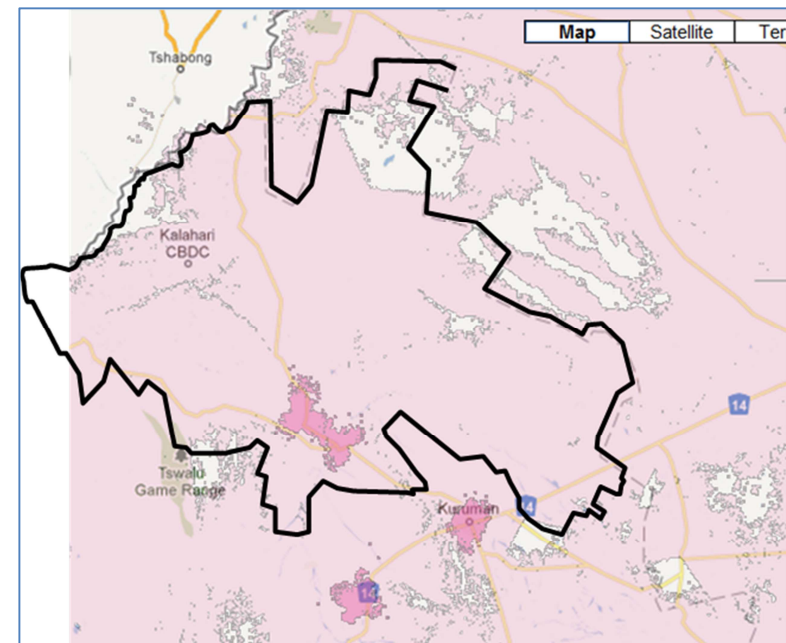


Figure 36 shows the cell phone coverage of the Network Provider 8ta. This is a rather new Service Provider, but despite their new position in the market, coverage is provided in the majority of the municipal area. This is mostly edge or GPRS coverage. 3G Coverage is only provided at Hotazel and some of the areas around it, as can be seen on the map. This might be because the infrastructure for this high quality signal is provided by the Mine.

¹⁰⁷ 8ta. 2012. Coverage. www.8ta.co.za. Date of access: 29 Mar 2012

Figure 45: Cell C cell phone coverage¹⁰⁸

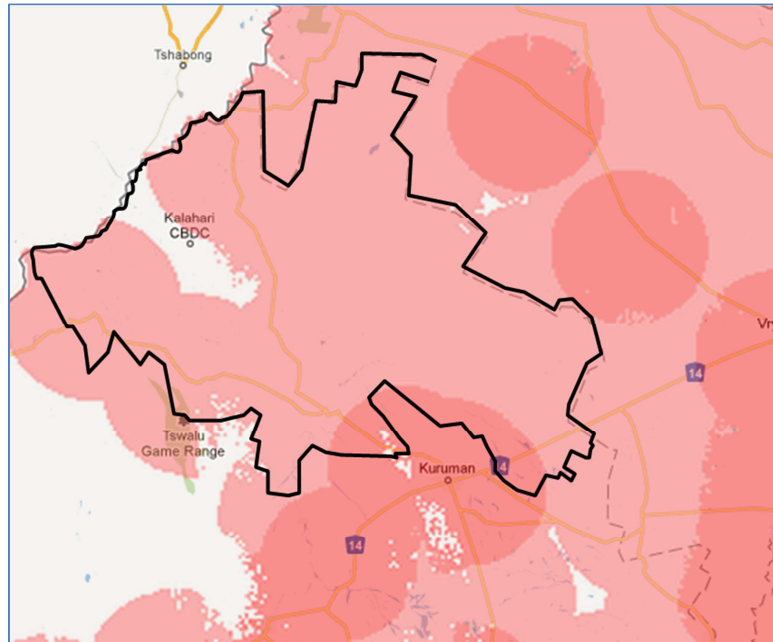
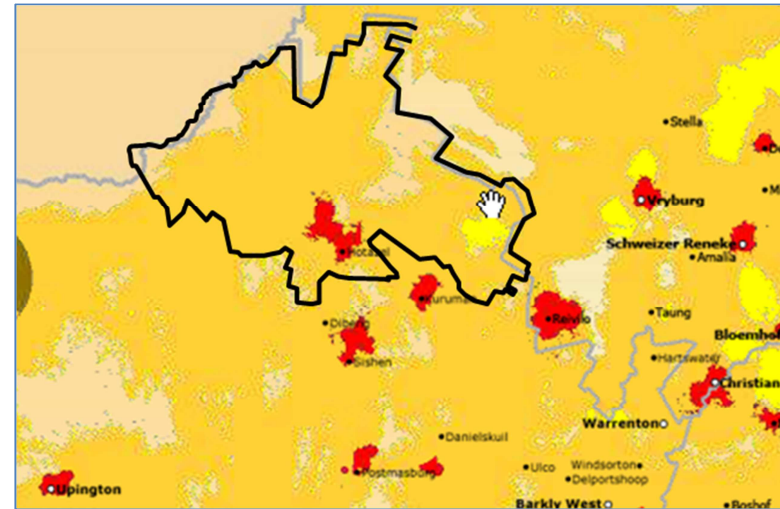


Figure 37 shows the coverage that is provided by Cell C. The coverage is at a good level with a village such as Churchill having access to some degree of 3G signal. The only area that has no coverage is located in the Western part of the Municipality.

¹⁰⁸ Cell C. 2012. Coverage maps. www.cellc.co.za. Date of access: 29 Mar 2012

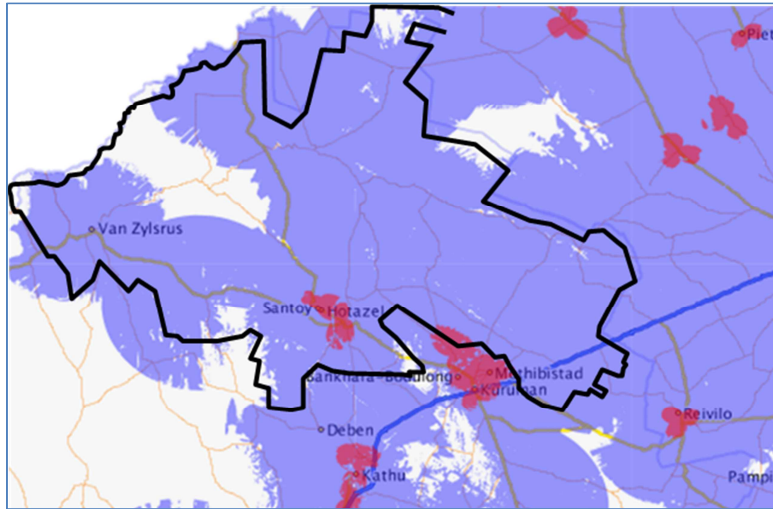
Figure 46: MTN cell phone coverage¹⁰⁹



MTN's cell phone coverage follows a similar pattern to that of the previous two Networks. Again coverage seems to be at an acceptable level throughout the municipal area. MTN provides 3G coverage only in and around Hotazel.

¹⁰⁹ MTN. 2012. Coverage. www.mtn.co.za. Date of access: 29 Mar 2012

Figure 47: Vodacom cell phone coverage¹¹⁰



Vodacom does provide coverage in the Municipality, but it seems to be more limited than some of the other Providers. The Western part of the Municipality does not have coverage, as was the case with Cell C. There are a few isolated areas that do not have coverage, but overall the level of service provided by Vodacom is acceptable. It is important to remember that the area where network coverage is not provided is very sparsely populated.

¹¹⁰ Vodacom. 2012. Coverage. www.vodacom.co.za. Date of access: 29 Mar 2012

4.3.2 Housing

The Housing Act of 1997 (Act 107 of 1997 defines “housing development” as:

1(vi) “... the establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, and to health, educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to:

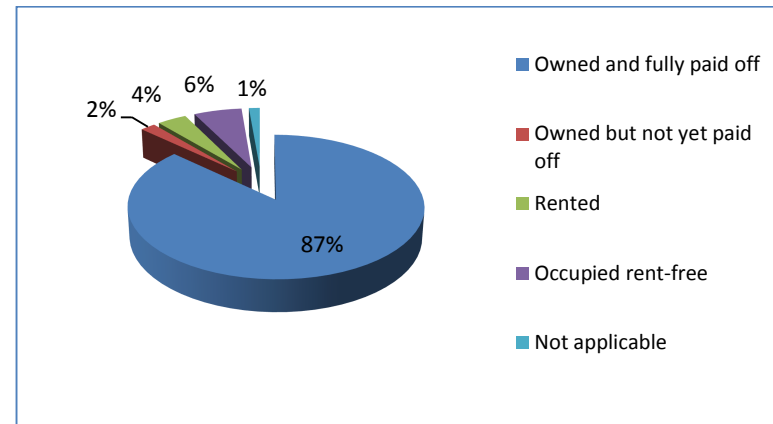
- (a) permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements; and
- (b) potable water, adequate sanitary facilities and domestic energy supply.”

This definition links all the key elements in the urban environment. However, housing is not the focus of the SDF but housing development was clearly the focus of the Council over the past decade.

4.3.2.1 The spatial aspects of housing

The majority of land in the municipality is managed by the tribal authority. At present the land in Joe Morolong still belongs to the North West Province. Processes have been put in place to transfer the land to the Northern Cape Province and start negotiations with tribal leaders on tenure rights for home owners.

Figure 48: Housing tenure (Source: Quantec, 2012)



There is a high premium on land and house ownership in South Africa. . Housing ownership options are closely linked to land ownership options.

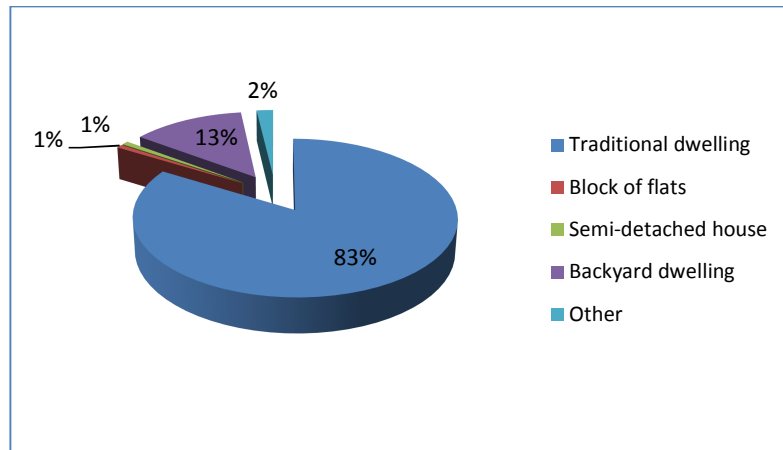
Table 26: Housing ownership¹¹¹

| Owned and fully paid off | 17650 | 87% |
|----------------------------|-------|------|
| Owned but not yet paid off | 389 | 2% |
| Rented | 754 | 4% |
| Occupied rent-free | 1229 | 6% |
| Not applicable | 277 | 1% |
| Total | 20299 | 100% |

¹¹¹ SOUTH AFRICA. Department of Local Government and Housing. 2008. Vhembe Mopani Settlement Database.

4.3.2.2 Dwelling types

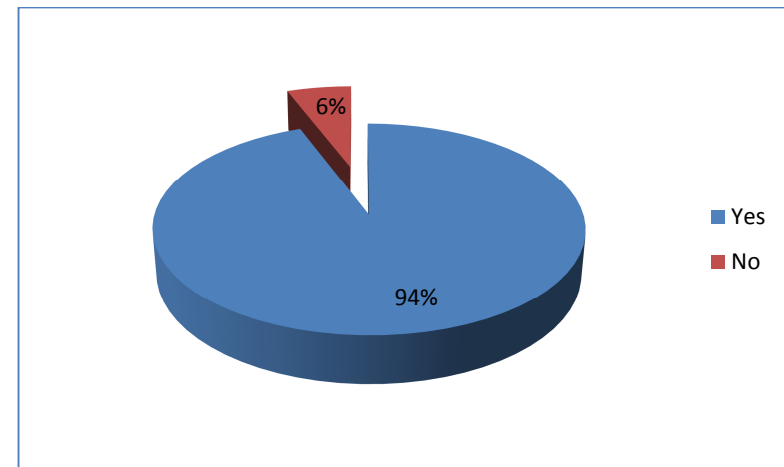
Figure 49: Types of dwellings (Source: Quantec, 2012)



Housing types vary according to settlement type. There is for example higher proportion of houses made from traditional materials in both the rural farming areas and the rural villages while backyard shacks are predominantly a feature of the urban environment. Housing type also link to land ownership issues. Security of tenure contributes to more permanent and conventional housing types while a lack of security tend to bring about traditional houses in the rural areas and informal dwellings in the urban areas. It must also be noted that none of the residents own land in the area since the whole area consist of traditional land.

4.3.2.3 Period of Residence

Figure 50: Period of residence: living in the same place for more than 5 years (Source: Quantec, 2012)



Period of residence is usually a good indication of migration and movement of people. It assess whether people have moved in or out of the municipal area in the last five years. The normal pattern is that the rural areas (farms and traditional) are very stable with little indications of movement. In Joe Morolong this is certainly the case. The population of the Municipality is very stable and there is little indication of people moving in or out of the Municipality.

4.3.2.4 Housing Backlog and Provision

According to the Joe Morolong Integrated Housing Sector Plan there are currently 5366 households in inadequate housing. To rectify this problem the Northern Cape Province has approved the construction of 1100 low cost houses. 300 houses are being built in Camden, 400 in Glenred, and 400 in Boithitong.

A need for an additional 1000 households has been identified by the municipality. The need for the additional housing was identified in Pepsi, Dearham, KleinEiffel, Maipeing, Segwaneng, Gasehunelo Ward 5, Heuningvlei, Eifel and Letlhajaneng. The Integrated Housing Sector Plan has indicated that R13 570 966 was allocated to start with the construction of 200 houses in Pepsi and Klein Eifel.

To accommodate these houses, the municipality is making use of in-fill development on sites that do not need additional geotechnical investigation. The municipality wants to continue with providing more houses and it is their intention to provide up to 5366 houses. It is assumed that the spatial pattern of housing will not change much.

The lack of development in the municipality makes it difficult to determine the real need for housing. This is hampered by the quality of existing brick structures, the decrease in the number of households in the municipality, and the inadequate housing structures,

In terms of the DMA there is still a need for subsidised housing but the real need is difficult to assess and further studies will have to be conducted. The Integrated Housing Plan has identified a need for approximately 1770 economic houses in the DMA. An additional 770 of these houses are planned by BHP Billeton. This will lower the need for economic housing to 1000. The housing need in the DMS is largely addressed by the mines.

4.3.3 Settlement and Urban Development

The United Nation Environmental Programme (UNEP) states that the overall Human Settlement Objective is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor. Such improvement should be based on technical cooperation activities, partnerships among the public, private and community sectors and participation in the decision making process from community groups and special interest groups such as women, indigenous people, the elderly and the disabled. These approaches should form the Core Principles of Settlement Strategies.¹¹²

¹¹² UNITED NATIONS ENVIRONMENT PROGRAMME. 2012. *Promoting Sustainable Human Settlement Development*.

As stated earlier in this Report, development is about access to resources and opportunities. The approach in the assessment of settlements and urban development in the municipal area is therefore to assess the settlement of people against the background of access to available resources and amenities. In terms of Planning and Strategy, it implies enhancing access by both bringing resources and opportunities to people or otherwise, to bring people closer to opportunities and resources.

4.3.3.1 Settlement Patterns and Dynamics

Only Vanzylsrus, Hotazel and Black Rock, to an extent, exist as urban settlement in the Municipal Area. The rest of the settlements in the Municipality are rural and largely informal, although some stands are formally demarcated, although not necessarily proclaimed as a formal township, see table below.

The spatial structure and form of rural development in the Municipality is shaped by a rural settlement pattern, comprising of dispersed, low density and sparsely populated rural settlements, known as villages. There are approximately 185 villages in the Municipal Area. Most of the villages are located next to the Moshaweng and Matlhwareng Rivers.

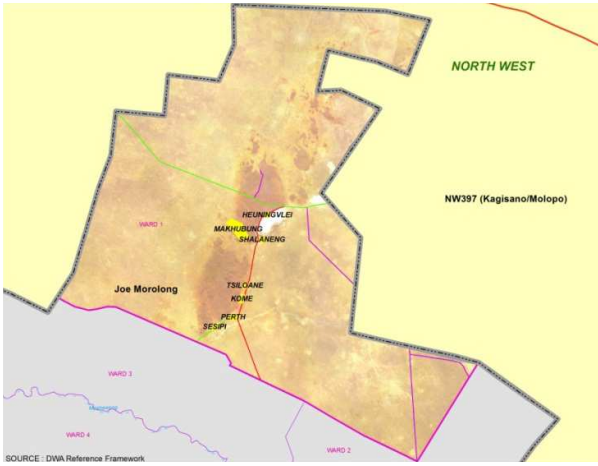
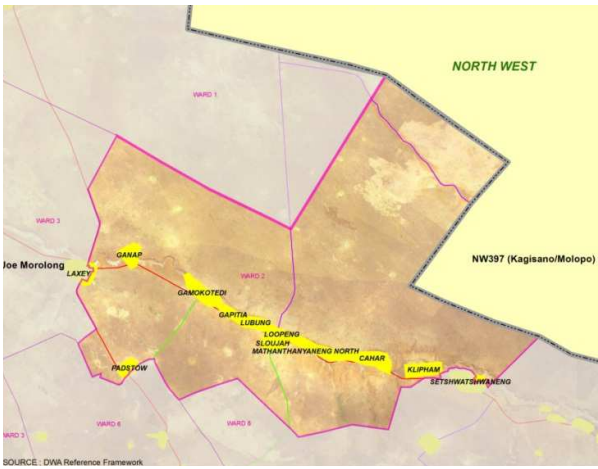
Having so many villages with similar characteristics, it is difficult to differentiate between them in terms of functionality, all being residential. However, some villages have other functions as well, due to Government Services and shops located there. This is illustrated by the population distribution map below.

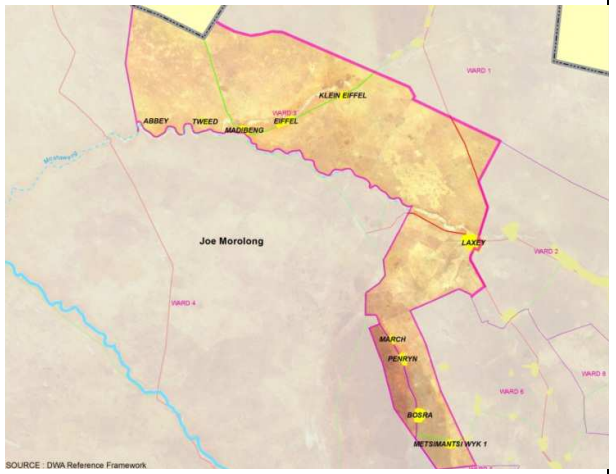
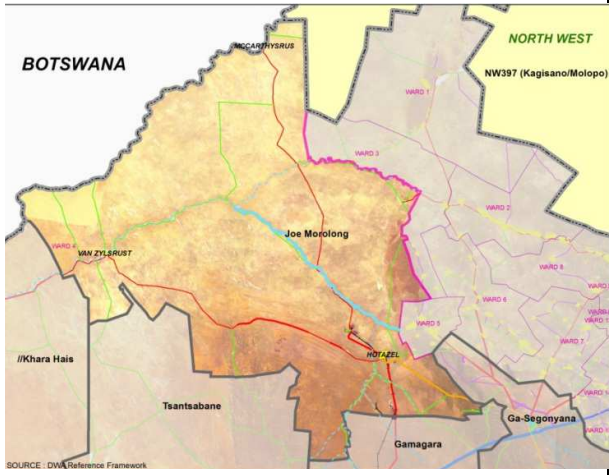
The towns and villages in the Municipality are characterised by their isolation and inaccessibility. Distances between the towns and villages are also vast. The Municipality is characterized by low growth potential and in most cases, are losing economic power, service-ability and infrastructure strength

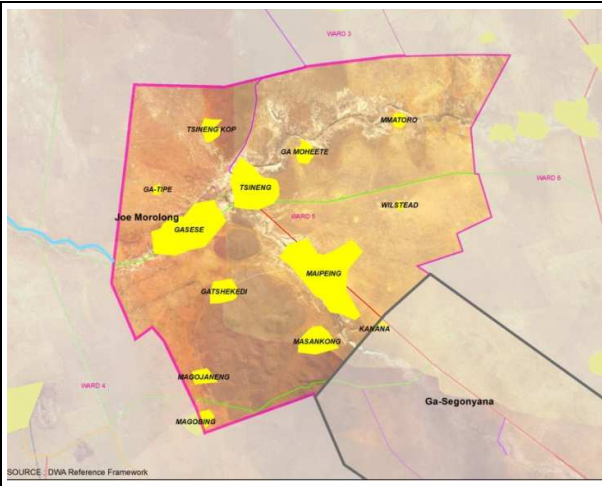
The purpose of this Section is not to give a detailed view of land uses and zoning, but rather to establish patterns and issues that affect development. The Assessment focuses on Vanzylsrus, Black Rock and Hotazel, as the urban areas and on Churchill, Heuningvlei, and Bothithong/Dithakong, as villages which were identified as rural nodes or service centres.

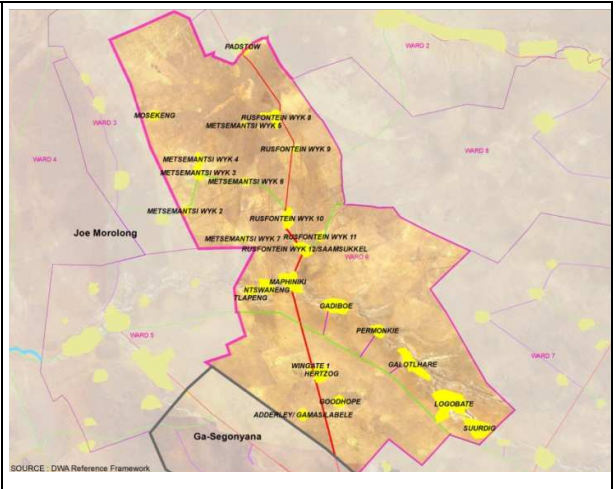
<http://hqweb.unep.org/Documents.Multilingual/Default.asp?DocumentID=52&ArticleID=55&I=en>.
Date of access: 25 Mar 2012

The selection of the nodes was derived from the Local and District IDPs and SDFs.

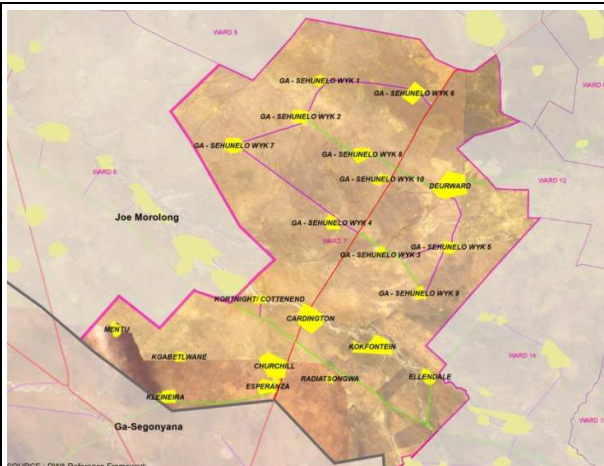
| | Villages | Map |
|---------------|--|---|
| Ward 1 | Heuningvlei Makhubung Shalaneng Tsiloane Kome Perth Sesipi |  |
| Ward 2 | Ganap Padstow Gamokotedi Gapitia Lubung Loopeng Sloujah Mathanthanyaneng North Cahar Klipham Setshwatshwaneng |  |

| | | |
|---------------|--|--|
| Ward 3 | Abbey Tweed Madibeng Eifel Klein Eifel Laxey March Penryn Bosra Metsimantsi Wyk 1 |  |
| Ward 4 | Vanzylsrus Hotazel |  |

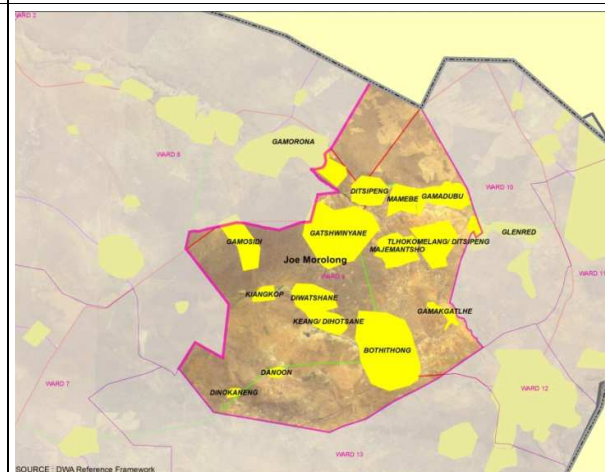
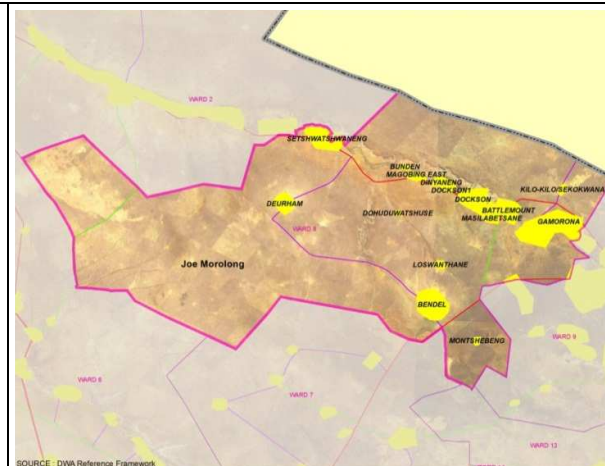
| | | |
|--------|---|--|
| Ward 5 | <p>Tsineng Kop Ga-Tipe Gasese Tsineng Gatshekedi Magojaneng Magobing Ga Moheete Maipeng Masankong Mmatoro Wilstead Kanana</p> |  |
|--------|---|--|

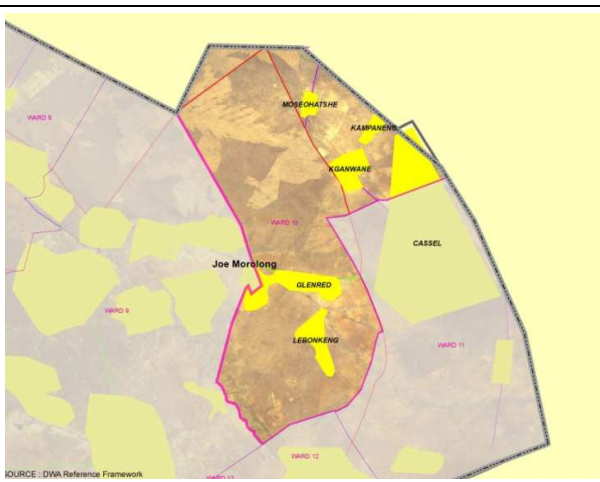
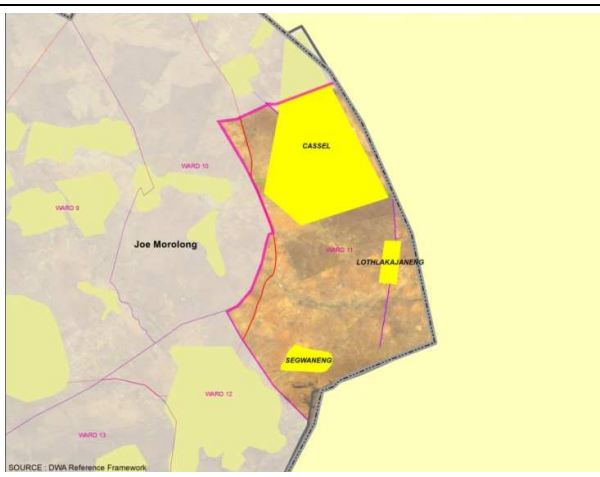
| | | |
|--------|---|---|
| Ward 6 | <p>Padstow Mosekeng Rusfontein Wyk 8 Metsemantsi Wyk 5 Rusfontein Wyk 9 Metsemantsi Wyk 4 Metsemantsi Wyk 3 Metsemantsi Wyk 6 Metsemantsi Wyk 2 Rusfontein Wyk 10 Metsemantsi Wyk 7 Rusfontein Wyk 11 Rusfontein Wyk 12 / Saamsukkel Maphiniki Ntswaneng Tlapeng Gadiboe Permonkie Wingate 1 Hertzog Galotlhare Goodhope Adderley / Gamasilabele Logobate Suurdig</p> |  |
|--------|---|---|

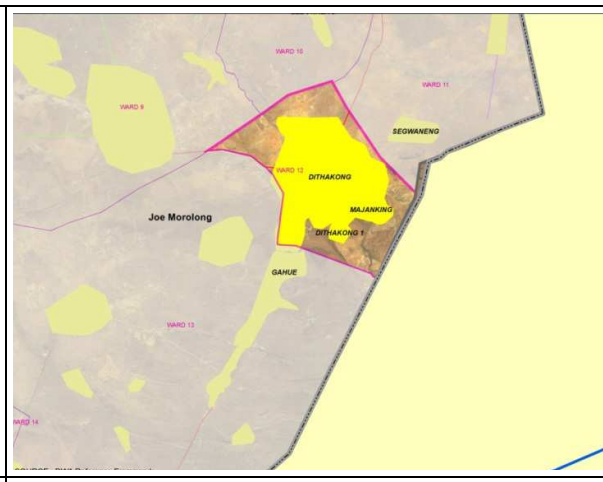
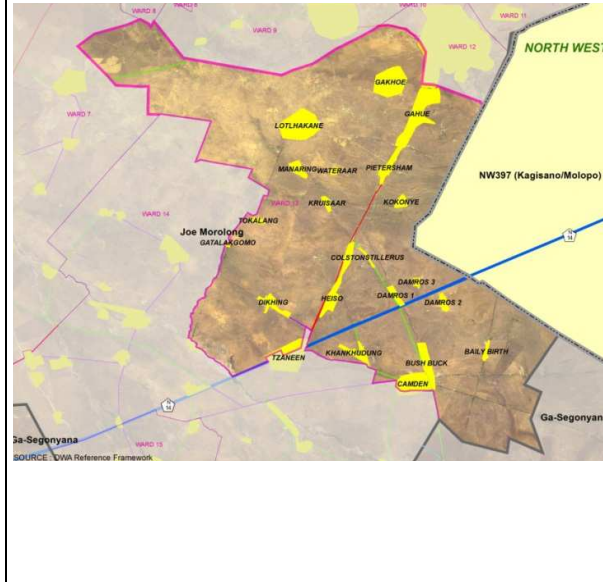
| | |
|--------|-----------------------|
| Ward 7 | Ga-sehunelo Wyk 1 |
| | Ga-sehunelo Wyk 2 |
| | Ga-sehunelo Wyk 6 |
| | Ga-sehunelo Wyk 7 |
| | Ga-sehunelo Wyk 8 |
| | Ga-sehunelo Wyk 10 |
| | Ga-sehunelo Wyk 4 |
| | Ga-sehunelo Wyk 5 |
| | Ga-sehunelo Wyk 3 |
| | Ga-sehunelo Wyk 9 |
| | Deurward |
| | Kortnight / Cottenend |
| | Cardington |
| | Kokfontein |
| | Mentu |
| | Kgabelwane |
| | Kleineira |
| | Churchill |
| | Esperanza |
| | Radiatsongwa |
| | Ellendale |

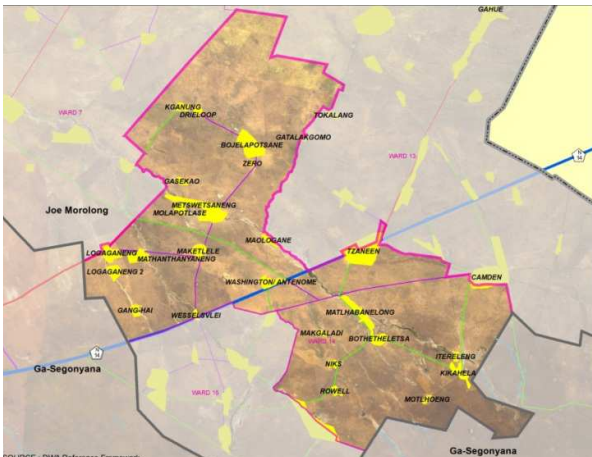


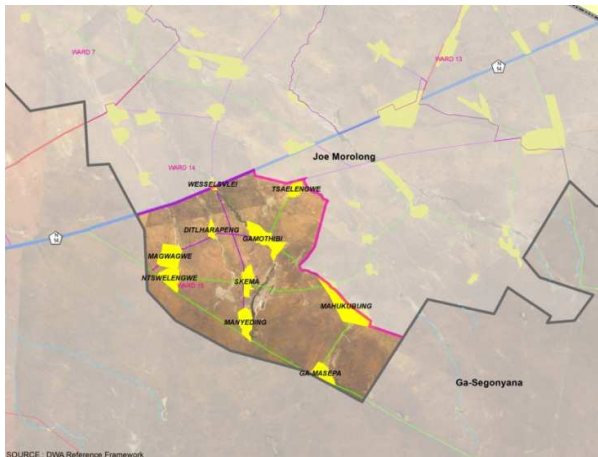
| | |
|--------|-----------------------|
| Ward 8 | Setshwatshwaneng |
| | Deurham |
| Ward 9 | Bunden |
| | Magobing East |
| | Dinyaneng |
| | Dockson1 |
| | Dockson |
| | Dohuduwatshuse |
| | Battlemount |
| | Masilabetsane |
| | Kilo-kilo / Sekokwana |
| | Gamorona |
| | Loswanthane |
| | Bendel |
| | Montshbeng |
| Ward 9 | Ditsipeng |
| | Mamebe |
| | Gamadubu |
| | Gatshwinyane |
| | Gamosidi |
| | Tlhokomelang / |
| | Ditsipeng |
| | Majemantsho |
| | Kiangkop |
| | Diwatshane |
| | Keang / Dihotsane |
| | Bothithong |
| | Danoon |
| | Dinokaneng |
| | Gamakgathe |



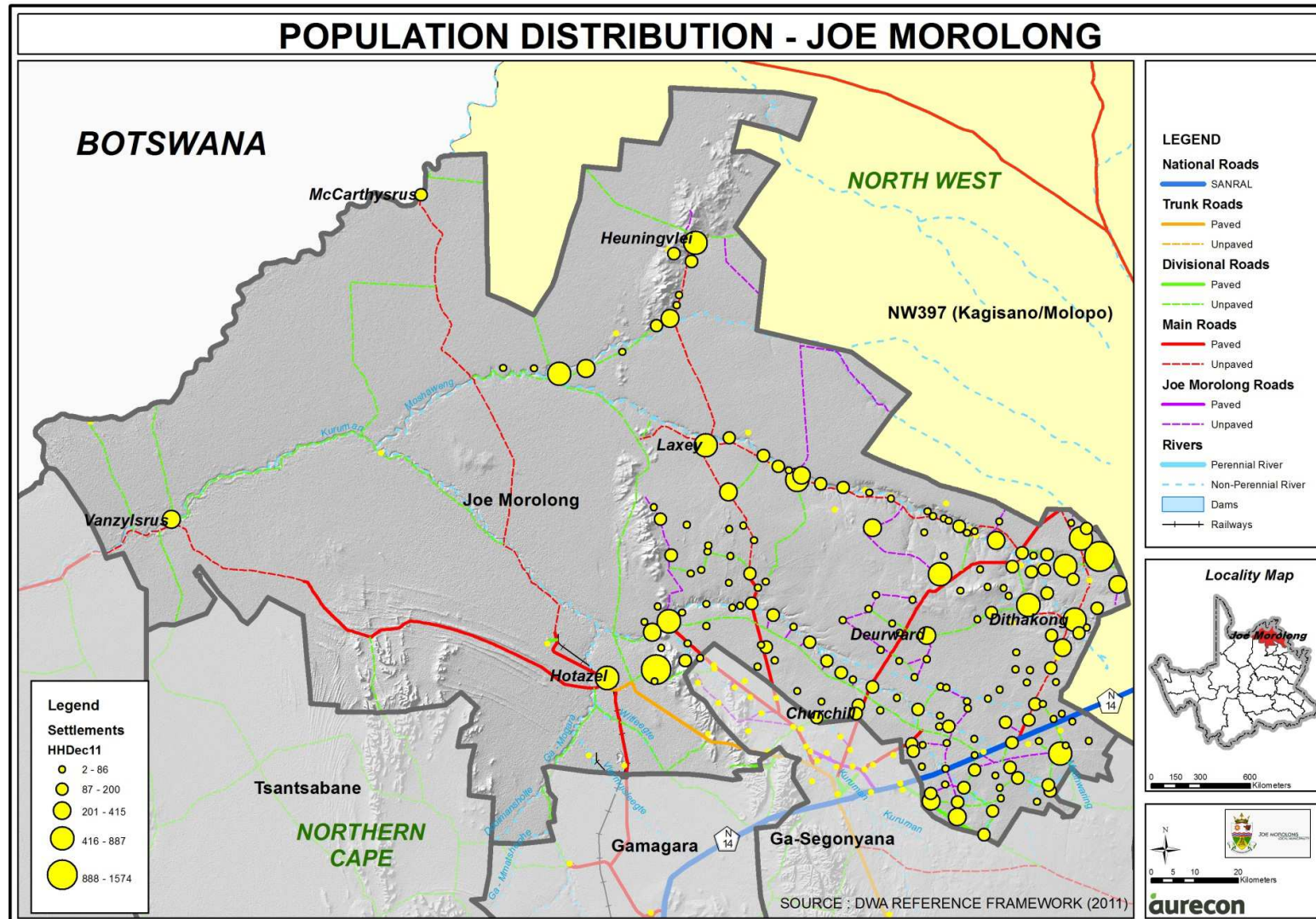
| | | |
|---------|--|---|
| Ward 10 | Moseohatshe Kampaneng Kganwane Glenred Lebonkeng |  |
| Ward 11 | Cassel Lothlakajaneng Segwaneng |  |

| | | |
|---------|---|--|
| Ward 12 | Dithakong Majanking Dithakong 1 |  |
| Ward 13 | Gakhoe Lothakane Gahue Manaring Wateraar Pietersham Kruisaar Kokonye Tokalang Colstonstillerus Damros 1 Damros 2 Damros 3 Heiso Dikhing Tzaneen Khankhudung Bush Buck Camden Baily Birth |  |

| | |
|-----------------------|--|
| <p>Ward 14</p> | <p>Kganung Drieloop Gatalakgomo Bojela potsane Zero Gasekao Metswetsaneng Molapotlase Logaganeng Logaganeng 2 Maketele Mathanthanyaneng g Gang-Hai Wesselsvlei Washington / Antenome Tzaneen Camden Matlabanelong Makgaladi Bothetheletsa Niks Rowell Iteleng Kikahela Motlhoeng</p>  |
|-----------------------|--|

| | |
|-----------------------|---|
| <p>Ward 15</p> | <p>Wesselsvlei Tsaengwe Ditlharapeng Gamothibi Magwagwe Ntswelengwe Skema Manyedding Mahukubung Ga-masepa</p>  |
|-----------------------|---|

Map 26: Population Distribution



4.3.3.1.1 Vanzylsrus

From Hotazel on the R31, is a gravel road that leads to the Kgalagadi Transfrontier Park. It is on this isolated road where Vanzylsrus is located. It serves as a distribution point for a few secluded farms in the Region. The town consists of a few houses, small shops, a hotel, fuel filling station and a Post Office.

Figure 51: Vanzylsrus



An investigation into the land uses of Vanzylsrus indicates the residential nature of the town. Some business uses are located just east of the River. It is in the Eastern part of the town where the most vacant stands are available.

Future development could be accommodated in these vacant stands. The nature of the town and its future growth prospects means that it is unlikely to take place at such a level that warrants the use of all the stands.

The town is often visited by tourists that travel through the Kalahari and stay over at the Hotel. It is important to retain the rural characteristics of the town and preserve its character.

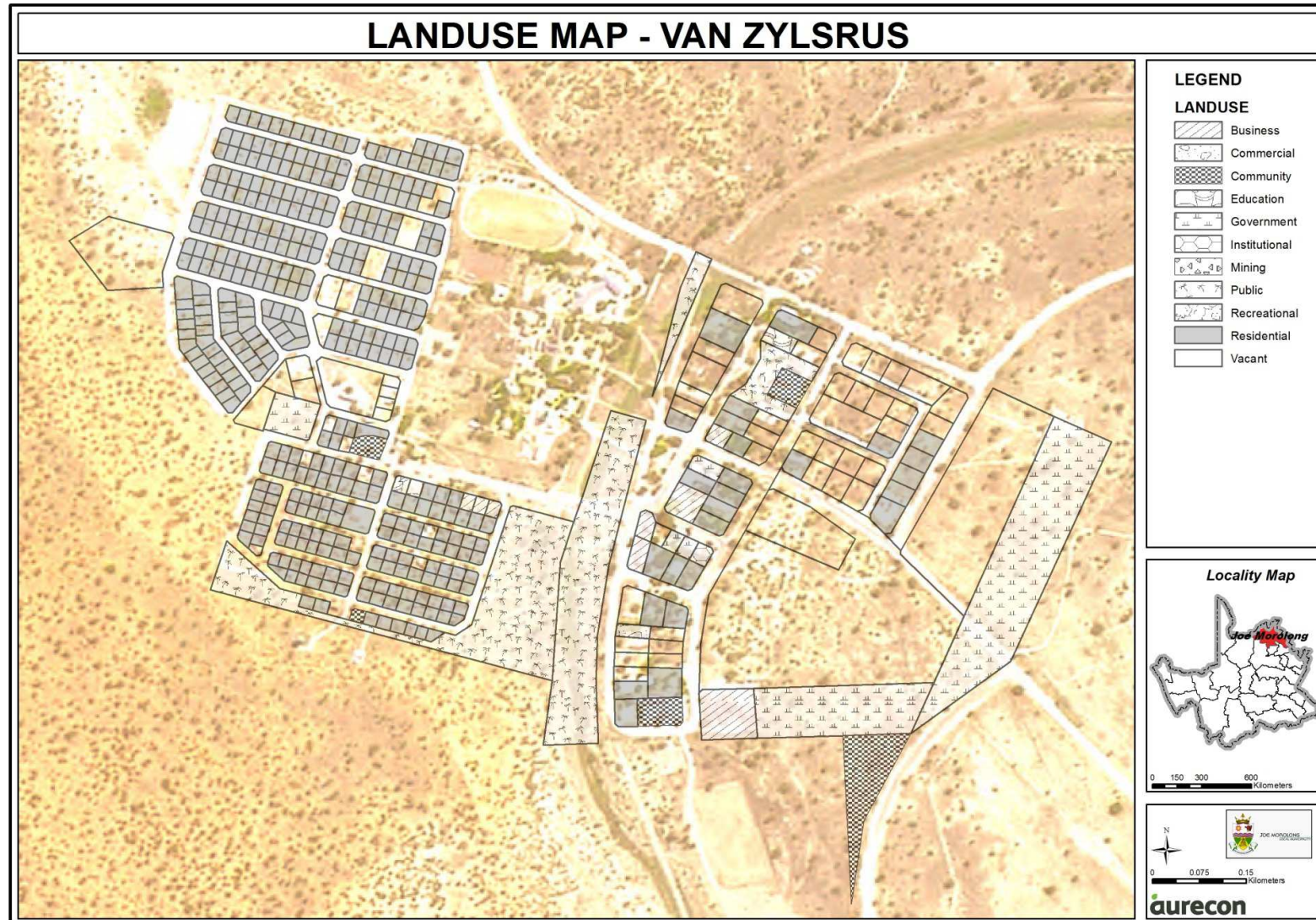
Figure 52: Filling station at Vanzylsrus



Vanzylsrus should focus on social investment in the town. The Municipality's focus for the town should only be to provide basic levels of services and infrastructure and ensuring these are maintained.¹¹³

¹¹³ Northern Cape Provincial Government. 2012. Northern Cape Provincial Spatial Development Framework.

Map 27: Vanzylsrus - Land use Map



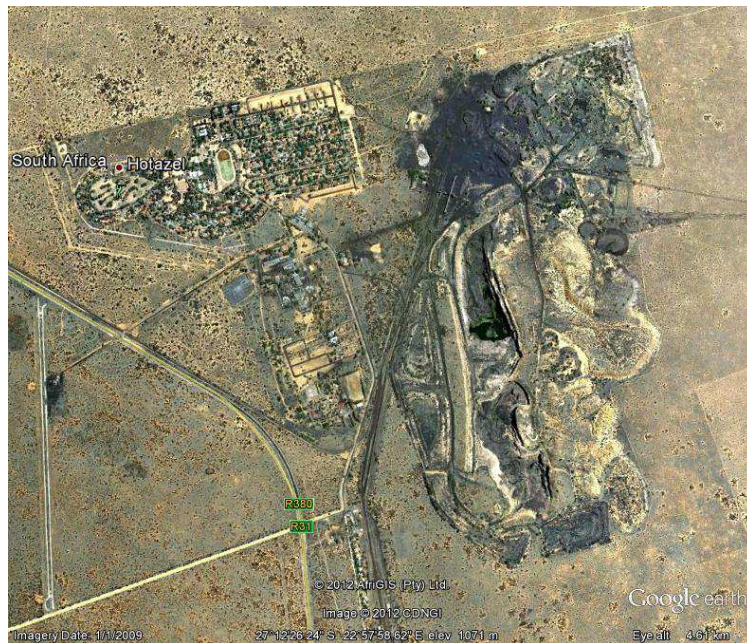
4.3.3.1.2 Hotazel

Speculation about the presence of large mineral deposits of Iron Ore and Asbestos in the North Cape has existed as early as the 1870s. Many Geologists have been to the area since that time to establish this. It was only in the 1950s that mining started. Later, a railway line was built from Dingleton (Sishen) and was extended to Hotazel.

Today, Manganese is mined and Hotazel is a typical mining town. Black Rock, about 20km to the North West of the town, is also a small mining village to which the railway line extends.

The land use map confirms what has been stated above. The town shows the typical characteristics of a mining town. The uses are largely residential in nature with recreational uses and little business uses for shops.

Figure 53: The mining town of Hotazel



There is little evidence to suggest that there is development pressure that warrants any new development. Currently there are large vacant stands South of the core town area. This should be sufficient to accommodate any future growth. As has been discussed above in the housing section, the demand for additional housing will be addressed by the mines.

The focus of the town should be on proving basic investment and ensuring the level of services and infrastructure is maintained.¹¹⁴

4.3.3.1.3 Black Rock

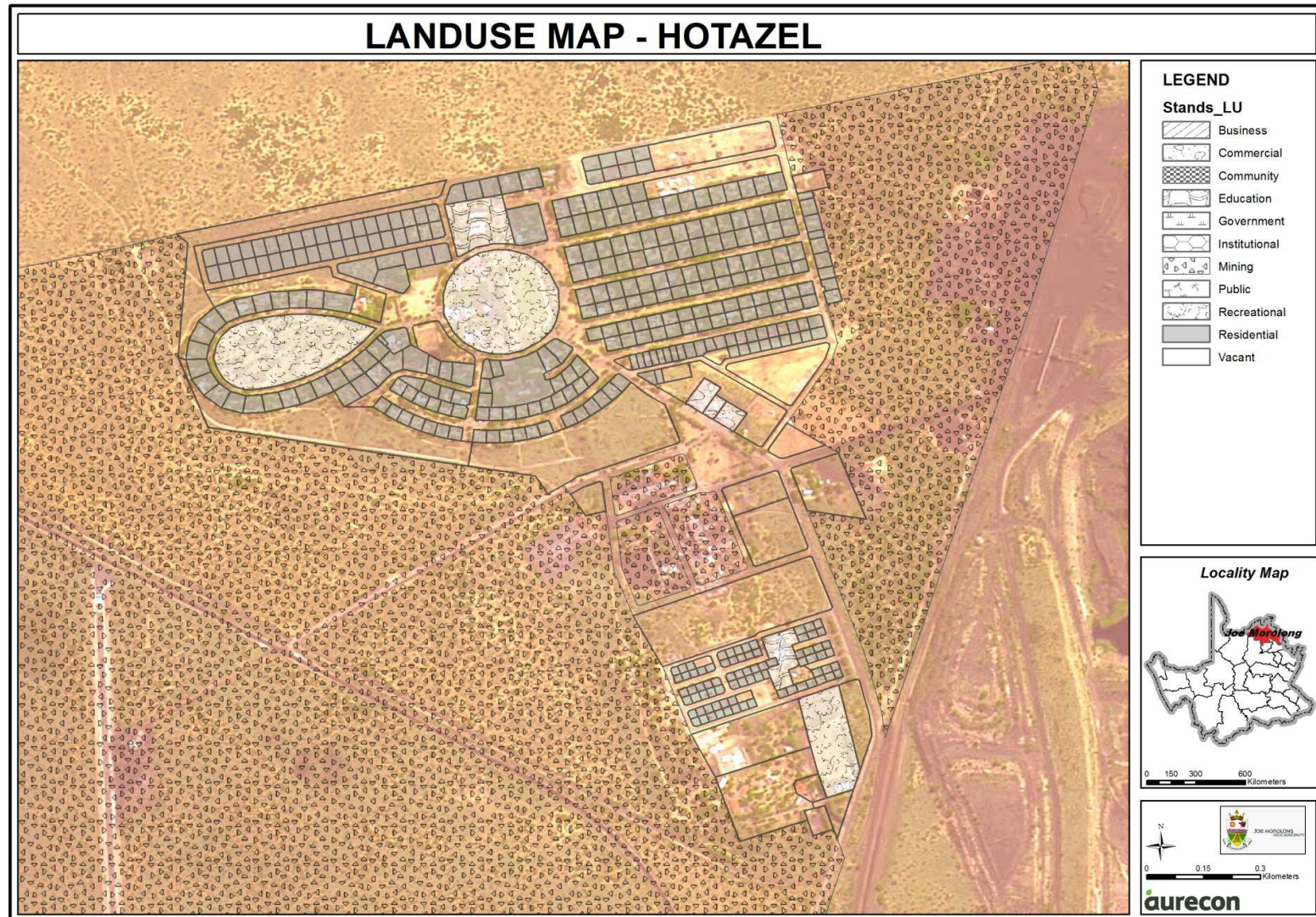
Black Rock has the same characteristics as Hotazel. This is to be expected as both are mining town and are exploited to very much the same conditions and pressures.

Figure 54: The town of Black Rock



¹¹⁴ Northern Cape Provincial Government. 2012. Northern Cape Provincial Spatial Development Framework.

Map 28: Hotazel - Land use Map



4.3.4 Churchill

Churchill is located close to Kuruman, \pm 20 km out of town, and is important within the municipal context due to the location of the newly developed Municipal Building and Council Chambers. Because of this, traffic has increased to this village and it is expected that more Government Services will in future located within the village in order to serve the communities of the area, making it an administrative node within the Joe Morolong Municipal Context.

4.3.5 Heuningvlei

Historically people settled around Heuningvlei due to the abundance of water from the natural fountains found in the area. Honey, produced by bees living in small caves next to the “vlei” or fountains, was also harvested by humans and served as an additional point of attraction. With the discovery of asbestos within its vicinity, a mining town was soon established with accompanied services. Today the mining town is deserted with the exception of some residential houses. Next to the mining town a rather big village developed over years, similar to rest of the villages in the Municipality with a rural settlement pattern, low-density and primarily a residential function. Some Government Departments have facilities in Heuningvlei and together with Schools, Police Station, and smaller Spaza Shops, make it a Service Centre for this part of Joe Morolong.

Figure 55: Heuningvlei cliff



4.3.6 Bothithong/Dithakong

Although 2 separate villages, Dithakong and Bothithong will for the first time visitor be mistaken as one village due to close proximity next to each other. This part of the municipal area has the highest population and the said villages developed over time as the main villages of the area. A number of Schools exist in the area, a Police Station, Spaza Shops, Energy Centre, Clinics, Tribal Leader's Offices and used by Government Departments as a Service Point. The villages are characterized with rural settlement pattern, comprising of dispersed, low-density and sparsely populated houses. Within the context of the Municipality, these 2 villages could be classified as Administration and Service Centres.

Figure 56: The village of Bothithong



Figure 57: A view over Dithakong



4.3.7 Role of small settlements in regional and rural development¹¹⁵

Small and medium sized settlements are seen as bridges between the rural and urban environment. These settlements act as engine rooms and provide an economic base to develop a region. It is also a generally accepted principle that investment should only be directed to a settlement if the basic conditions are found to be suitable. Its economic driving force needs to be investigated and rated to provide employment opportunities. More focus should be placed on these smaller settlements to develop it as entry points for investment, employment, service delivery or enterprise development. There is interdependence between rural and urban areas where there is a flow of money, people, goods and information. Investments in this environment will provide better access to markets, jobs and public services.

Small to medium settlements contribute to the region in the following manner:

- Demand for rural products.
- Centres where non-farming activities can grow.
- Centres where goods and services are produced and distributed.
- Areas that attract migrant labour to ease the pressure off larger urban centres.

Larger urban centres have a built-in growth dynamic based on a sufficient level of diversification. Smaller settlements have a different dynamic and the following trends can be seen:

- Demise of once-prosperous mining towns and railway towns.
- Decline in rural output and a focus on game farming, making these activities much less dependent on service centres.
- Changes in retail patterns and transport technology provide greater access to more distant regional centres.
- The growth of tourism in small centres.
- Larger centres have absorbed some of the functions of smaller settlements.

¹¹⁵ OFFICE OF THE PREMIER NORTHERN CAPE. 2011. 2 vols. *Northern Cape Provincial Spatial Development Framework*. Kimberley: Office of the Premier. 121 p.

- An artificial dependence on state welfare with no real economic base
- The results of the amalgamation of a number of small settlements under centralised municipal management has weakened many settlements

4.3.7.1 Factors influencing growth and development of settlements

- Settlements originate to supply in the need of a specific service or goods to a group of people. Settlements therefore have different functions.
- Most developments in the Northern Cape are Central Places, being service centres to the surrounding areas, providing goods and services to the rural areas.
- Settlements can also have more specific functions as mining or tourism.
- Growth can change, as conditions affecting the need for the goods and services change or as a resource may be exhausted in mining town. Some settlements may flourish whilst others decline, causing an unequal settlements system.
- The location of a settlement also provides a certain amount of growth energy in relation to its location to infrastructure, transport routes, natural resources and large populations. Settlements close to larger metropolitan areas benefit from the adjacent larger populations, overflow and positive externalities. Smaller settlements located on traffic modes or along major traffic routes also benefit economically from more isolated centres.
- Possibly one of the largest factors contributing to economic growth is management and leadership through productivity, new strategies, new technologies and capital investment. The quality of the human resource base also has a critical influence over the growth of the settlement. Individuals, entrepreneurs, companies and government institutions have the power to either contribute or restrict growth in centres through its decisions.
- The comparative advantage that a settlement has in extending its goods and services beyond itself determines its growth. The extent in which a centre can extend its services and goods beyond its borders determines its importance in its region by bringing in new capital into circulation. Activities that bring in external capital are referred to as basic activities, whilst non-basic, secondary or internal activities only circulate existing capital and only maintain existing capital by providing goods and services

internally. When basic activities are increased, a chain reaction occurs which causes a multiplier effect and leads to even more growth.

- Decline of settlements is linked with factors involving its reason of its existence. The changing technological framework and globalisation for instance. As soon as a centre cannot fulfil its function, it declines. Reasons for the decline in towns in the Northern Cape has been technological, specifically communication and transport. Higher mobility caused by better roads and higher vehicle ownership and access to the internet (causing greater human interaction) has eroded lower order centres.
- Quality of life is related to a sense of place experienced. How much a town has developed an identity to differentiate itself from other centres is important. It encourages a sense of belonging and personal identification.

4.3.7.2 Policy for rural development

National Spatial Development Perspective 2006 (NSDP)

A dramatic approach is proposed by the NSDP based upon the fact that nowhere in the world would you find an even distribution of social or economic development. The following principles are put forth by the NSDP:

- Unfocused infrastructure spending does not necessarily result in improved GDP growth.
- Regions with existing economic success are more likely to grow than other regions
- Success is often achieved through focused and polarised investment
- Redirecting public investment from economically dominant regions to lagging regions has not automatically contributed to growth in these regions.
- The poor benefit with more options to choose from, which can be created in dominant regions, not in declining regions.

The NSDP proposes that a composite spatial profile of resource potential, existing economic activity and human needs be compiled to identify development potential. Broad guidelines such as the following can then be put forward:

- The concentration of people in low potential areas should be discouraged and where possible through social investment be made more mobile so that they can choose to leave such areas.
- Future economic growth should be encouraged in areas with a medium to high value resource base.
- The above measures does not mean that low potential areas should not receive any assistance, but that fixed asset should be lessened and the focus should be on basic services alone and that additional social investment be made to develop skills and other resources that would make the community more mobile to leave these areas.

Northern Cape Provincial Growth and Development Strategy (PGDS)

The following are the main objectives of the PGDS:

- Promoting growth, diversification and transformation of the economy
- Reduce poverty through human and social capital
- Improve efficiency of governance
- Enhance infrastructure for economic growth and social development

The PSDF seek to address the current situation in the Northern Cape as described in the PGDS. The PSDF will provide the means to guide strategic decisions relating to the location and distribution of resources in time and geographic space.

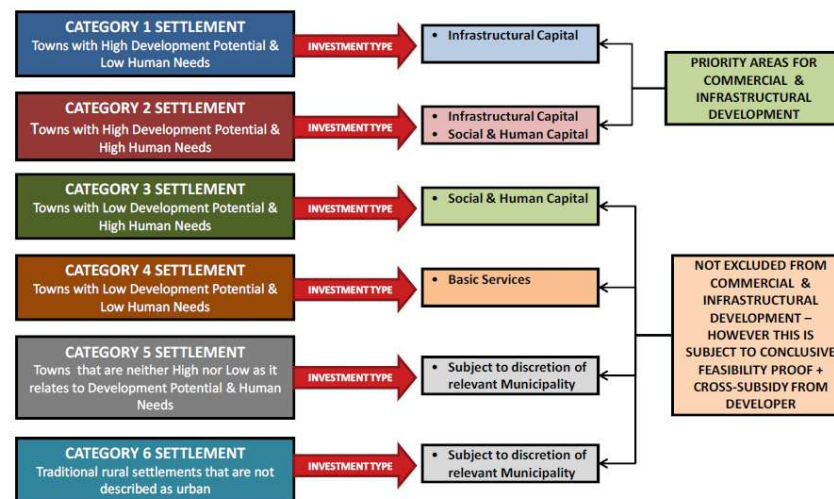
4.3.7.3 Premise and rationale for government and private sector investment as expressed in the PSDF

The settlements study as were conducted by Van der Merwe and Zietsman (2011) had been applied in the PSDF. The purpose of the application is to provide a decision making framework for private and governmental investment in the Northern Cape. The key findings were summarised under the following headings per settlement and per local municipality and eventually combined:

- **Composite Indices** (made of resources, infrastructure and economic indices)

- From the above, a **Development Potential** is derived and classified in 5 categories between very low to very high growth potential.
- **Human Development Need** in terms of previously disadvantaged, education levels, HIV levels, unemployed, access to services and housing etc.
- **Investment type required** was derived by integrating the Development Potential factor with the Human Needs factor. The following 5 types of capital are defined:
 - Human capital (health, education, skills, poverty reduction etc)
 - Social capital (investments by institutions to human capital)
 - Manufactured/Infrastructural capital (buildings, roads, water systems etc.)
 - Natural capital (mineral deposits, fresh water, wood, fisheries etc.)
 - Financial/Monetary capital (shares, bonds, money)

Figure 58: Investment types (Northern Cape Spatial Development Framework 2011)



As seen above, an investment type is paired with a settlement's development potential and human needs status. The above framework can be used as a guideline for focused government spending.

- **Change assessment** is a performance management analysis of municipalities between 2001 and 2007 (according Stats SA data).
- **Integrated town profiles** are the last step in the process where all findings are combined for municipalities.

Herewith the findings for the Joe Morolong municipality:

- Population: Very large
- Development potential: High
- Human needs: High
- Investment type: Social investment

The PSDF defines a number of settlement profiles to describe the dominant economic base of each urban centre. The following types are identified:

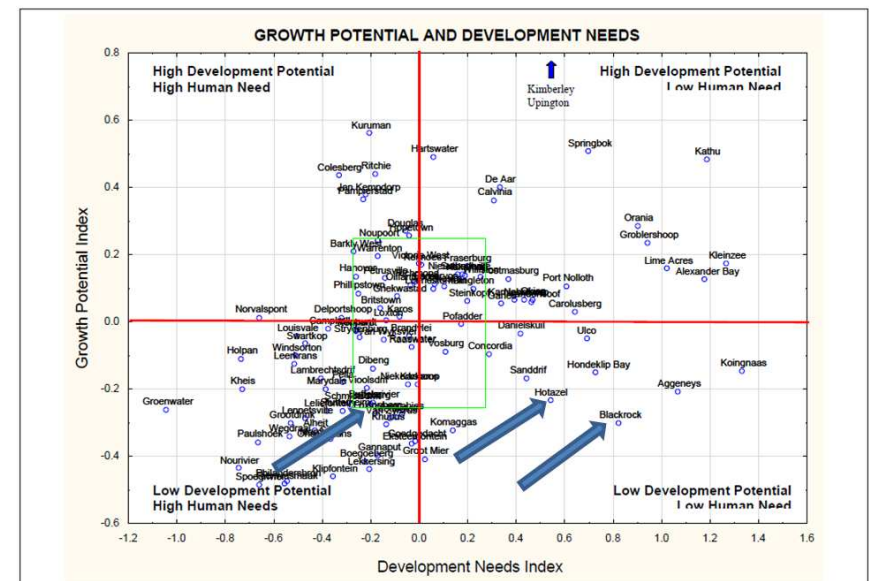
- Agriculture centre: a substantial component of agricultural activities and a service centre to the surrounding area.
- Diverse centre: a well diversified and balanced economic base
- Mining centre: resource and mining based.
- Recreational centre: tourism related.
- Regional centre: a centre serving surrounding lower order centres with higher order goods.
- Residential centre: people live here, but work elsewhere or are unemployed.
- Service centre: serving the daily needs of the surrounding farming community.
- Transportation service: where transport by road, rail, air or water play a dominant role.

Herewith the findings for the settlements in the Joe Morolong municipality:

- Blackrock
 - Population: Small
 - Economic base: Mining
 - Development potential: Low
 - Human needs: Low

- Investment type: Basic services
- Hotazel
 - Population: Small
 - Economic base: Mining
 - Development potential: Low
 - Human needs: Low
 - Investment type: Basic needs
- Vanzylrus
 - Population: Small
 - Economic base: Service centre
 - Development potential: Low
 - Human needs: High need
 - Investment type: Social investment

Figure 59: Development Potential versus Human Needs for settlements in the Northern Cape (Source: Northern Cape SDF 2011)



As indicated the figure above, the settlements with a low development potential fall into the lower half of the diagram, where all three settlements are found. Hotazel and Blackrock also falls within the rights side of the diagram, indicating a Low Human Needs index, whilst Vanzylsrus is indicated as an area where there are High Human Needs.

Recommendations:

- The above findings are only a point of departure for the local municipality. The unique characteristics of each settlement should also be taken into account. The findings provide topics to further discuss by the municipality.
- Further studies may be required to confirm trends and to acquire greater detail to confirm where public spending should be focussed.
- The findings may differ every 5 years or so and the information is based on old data. New studies need to be undertaken to see results of actions taken.
- The findings can be used by the municipality to rethink the role of the settlements in the broader region.

4.3.7.4 Application to the Joe Morolong SDF

- Joe Morolong has three main nodes where relatively higher economic activity takes place, namely Vanzylsrus, Hotazel and Blackrock. Mining is the predominant economic activity in Hotazel and Blackrock. Vanzylsrus operates as service centre for the surrounding area. In terms of the principles mentioned above, public investment should be focused on these areas to expand the node into a more diverse economic centre.
- The provincial SDF rates Hotazel and Blackrock as nodes with low development potential and low human needs. It also indicates that investment should currently be focused on basic services.
- Hotazel is where the Gamagara Corridor for iron ore and manganese terminates in the north, starting in Lime Acres in the south.
- It is important that a replacement economic activity be found when the mineral resources are depleted for Hotazel and Blackrock. The economic expansion of these areas into a broader economic base will require investment focus to stimulate these economies and attract employment opportunities.

- The provincial SDF proposes the construction and upgrading of the Hotazel-McCarthy's Rest road and the Hotazel-Vanzylsrus road (that links the province to Botswana) for tourism purposes.
- The small towns can offer a first step and access point for persons living in rural areas to seek better opportunities. Therefore, the population in these centres can grow as people seek employment.
- It is important to confirm if Hotazel and Blackrock have sufficient growth potential or if major investments (over and above basic services) will be eventually lost due to the longevity of the resources. A specialised study needs to be conducted of the economic base to ascertain whether the town has growth potential by a detailed investigation of the economic goods and services supplied. As mentioned, two main types of economic activity exist, namely basic and non-basic activities. Basic activities grow a settlement (external capital are brought in beyond its borders) and non-basic activities maintain capital in circulation and does not contribute to growth.
- It is suspected from the interim information available that Vanzylsrus have predominantly non-base economic activities and circulate capital within its area. Hotazel and Blackrock, as the mining centres receive external funds as generated by the sale of its resources, which is predominantly paid in the form of salaries to certain residents. These salaries are spent on goods and services in the respective towns and should add to the economy. Therefore they have a larger basic activity. Tourism will also be external funds to these areas (especially Vanzylsrus) and will contribute to its economies as a base activity.
- The location of the three main settlements also determines its growth potential as mentioned above. Settlements located close to main nodes, crossings of major roads, along major routes or close to metropolitan areas benefit from such a location and thereby receive external capital to its capital circulation. These three settlements do not possess much in terms of locational benefits being located far away from other nodes, although Hotazel forms part of the Gamagara Corridor of iron ore and manganese. The N14 is located to the south, approximately 60km away and therefore offers little contribution. Hotazel and Blackrock are also far from metropolitan areas and have to compete with larger surrounding settlements e.g. Kuruman (60 - 70km away).
- In terms of the principles put forth by the NSDP, investment is declining areas with poor growth potential does not lead to sustained growth or lasting benefits. It argues that the only investment that should be made in

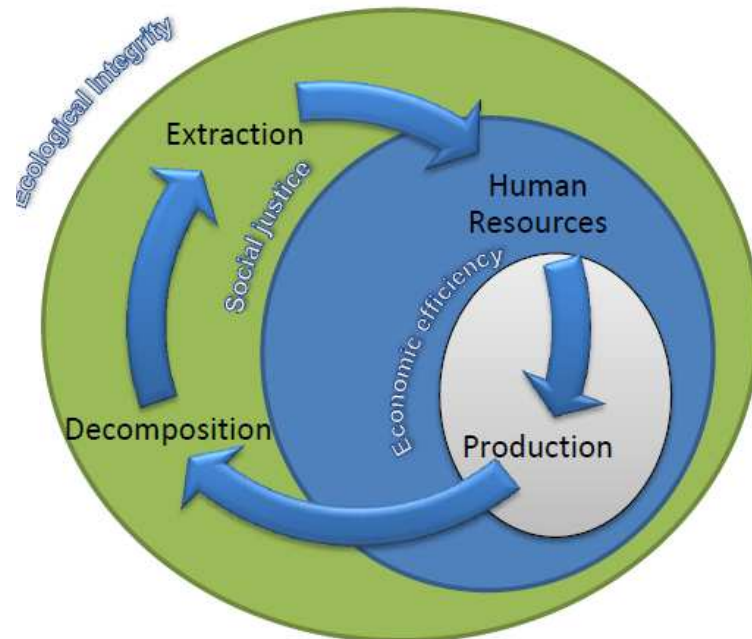
these areas are social investment to develop skills in the available human capital and to resources that would make the community more mobile to be able to relocate to areas where there is growth potential and employment opportunity. This principle would apply to large extents of the rural traditional villages.

- The NSDP also argues that the provision of basic services should always be a minimum service even to areas with low growth potential i.e. most of the rural villages and that the poor and destitute not be left uncared for.
- The NSDP mentions that the concentration of people in these low growth potential areas should be discouraged and is deemed unsustainable in the long run. This implies that further housing developments may lead to an artificial environment where residents live off social grants and welfare. On the other hand, national policies aim to eradicate informal settlements by 2013. The provision of housing is a matter that should be carefully managed.
- The PGDS argues that local (and other) governance should be improved. Management and leadership is one of the greatest resources that areas can possess. Without proper leadership and efforts to change the economic environment, it will surely continue to decline. The resource of local leadership and human skills needs to be developed.

4.4 Synthesis of spatial issues and opportunities

The purpose of the synthesis of spatial issues and opportunities is to holistically provide the findings of the three main components discussed above, namely the socio-economic, built and biosphere environments. The findings are summarised in this section using the Ecological Socio-Economic Relationship (ESER) Framework. The ESER framework provides the inter-relationships between the ecological integrity, social justice and economic efficiency. It is based upon the premise that economic efficiency is dependent on the quality of human resources and their ability to participate in the economic system.

Figure 60: Ecological Socio-Economic Relationship Framework (ESER)

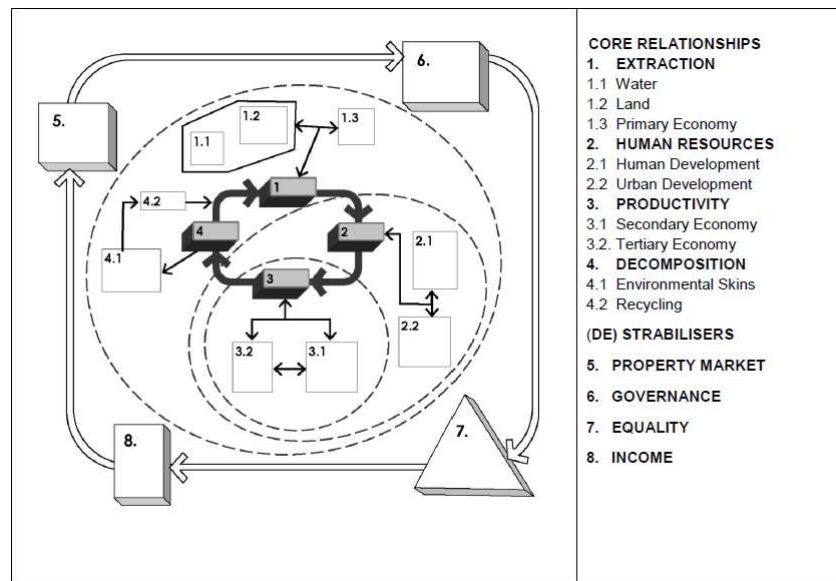


From the above figure it can be seen that four main components exist against the backdrop of the three environments. The first step in human activity may be extraction from the environment. Extraction takes place with the help of sufficient Human Resources. Production of the extracted resources takes place, which produces waste as a side product that will be decomposed in the natural environment. Waste should not exceed the capacity that the environment has to decompose it. All the components are inter-related and inter-dependant. A balance between the components needs to be found for the whole system to function properly and sustainably.

Furthermore, destabilisers and enablers exist in the closed cycle as depicted above. They are:

- The property market

Figure 61: The closed ecological cycle¹¹⁶



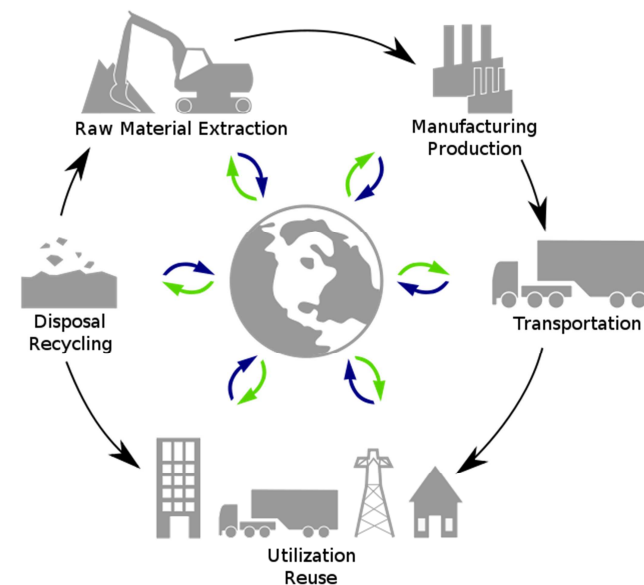
The Figure above provides further details to the closed system, with sub-components to the four main activities of extraction, human resources, production and decomposition. The destabilisers and enablers (see 5, 6, 7 and 8 in the Figure above) are also indicated on the perimeter of the diagram to indicate its influence over the process.

¹¹⁶ SOUTH AFRICA. Department of Rural Development and Land Reform. 2011. *Guidelines for the Formulation of Spatial Development Frameworks. Draft 8.* Pretoria. Government Press. 94 p.

- Governance and legislation
- Equity and inequality
- Funding and income

4.4.1 Extraction

Figure 62: Production cycle¹¹⁷



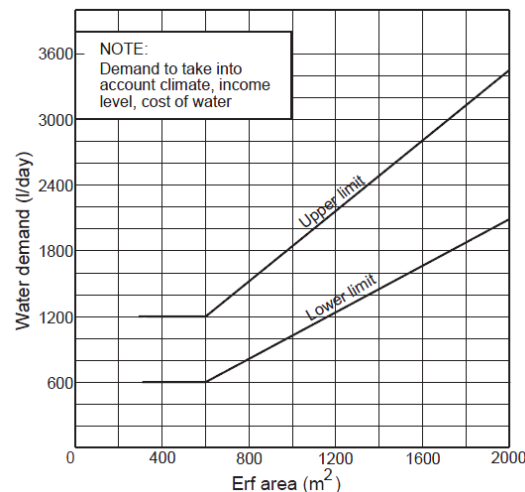
4.4.1.1 Water

Joe Morolong is a semi-arid area with general water scarcity. The traditional settlements are all dependant on borehole water or water piped to the area from outlying boreholes in the bulk water system. Water is extracted from the

¹¹⁷ WIKIPEDIA. 2012. *Secondary sector of the economy.* http://en.wikipedia.org/wiki/Secondary_sector_of_the_economy Date of access: 09 Apr 2012.

groundwater resources and piped to the various household's connections or stand pipes for human consumption and washing purposes. The local populations are therefore directly dependant on underground water and groundwater levels. Groundwater levels need to recover naturally through rainfall and is not an unlimited source. Groundwater also needs to be protected against contamination risks e.g. old and leaking VIP sanitation widely used in the traditional settlements, water treatment plant effluent where water bourne sanitation is provided, landfill site location, water and solid waste pollution to rivers etc.

Figure 63: Average water consumption¹¹⁸



The figure above provides an indication of normal water usage per stand size. The figure indicates a sub-minimum of 600 liters of water usage per household (erf) per day. This number equals the amount of subsidised water provided to qualified indigent households.

¹¹⁸ CSIR, Division for Building Technology. 2000. *Guidelines for Human Settlement Planning and Design*. 2 vols. Pretoria: Government Press.

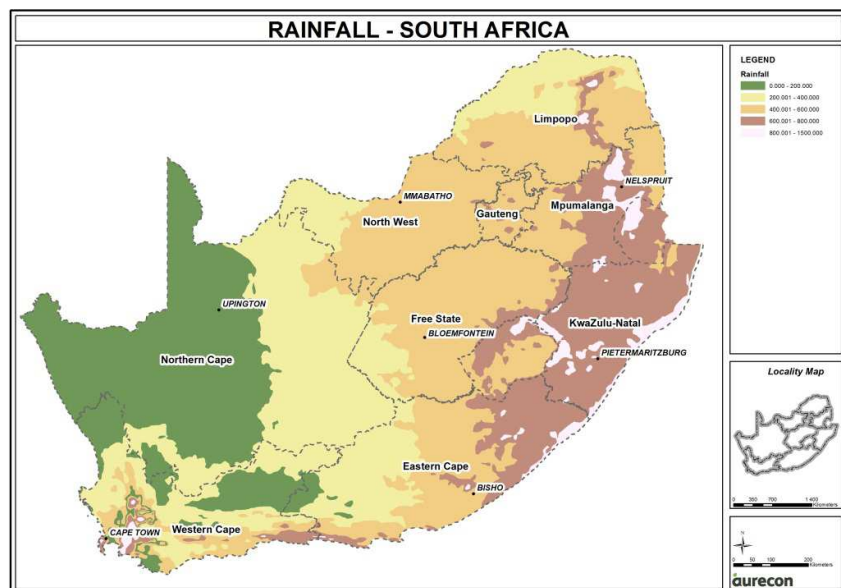
The sizes of stands in traditional settlements are much larger than conventional urban stands and cannot be accurately compared with it. The “plots” in traditional settlements can be more accurately compared with that of small urban stands, representing the poorer households. There were 17,406 households in the municipality in 2007. It is assumed that each household uses at least 600 liters of water per day. Therefore the municipal water usage can be estimated at a total of 10,443 kiloliters daily.

Precipitation in the municipality becomes less towards the western border of the municipality. The Northern cape Province has an mean annual rainfall of approximately 202 mm per annum, which is by far the lowest in the country.

The area is covered by the Moshaweng and Kuruman rivers, providing habitable areas along the rivers and its branches. The rivers provide perennial and non-perennial sections. The rivers form the life blood of the traditional settlements.

Water is a scarce resource and is a primary deterrent for planning of future expansion. Currently, with limited growth opportunities and projections in the main settlements of Joe Morolong, further pressure on natural water resources are not problematic. The main challenge is to provide better access to water for all households in the form of yard connections and house connections.

Figure 64: Precipitation in the Northern Cape



4.4.1.2 Land

Land is a natural resource and is limited. Human settlements occupy virgin land and disrupt the ecological balance for economic and agricultural purposes. Agricultural land in turn is also converted to urban usage, which further disrupts and damage ecological systems for human habitation purposes. Land is a resource that needs to be managed, protected and restored to continue to provide economic value.

Topsoil is the upper, outermost layer of soil, usually the top 51 mm - 200 mm. It has the highest concentration of organic matter and microorganisms and is where most of the Earth's biological soil activity occurs. A major environmental concern known as topsoil erosion occurs when the topsoil layer is blown or washed away. Without topsoil, little plant life is possible. Conventional

agriculture encourages the depletion of topsoil because the soil must be plowed and replanted each year. Sustainable techniques attempt to slow erosion through the use of cover crops in order to build organic matter in the soil. The loss of topsoil is of great ecological concern as 25 mm of topsoil can take 500 years to form naturally.

Figure 65: Topsoil erosion



Joe Morolong municipality is predominantly covered by more than 750 mm of total soil depth towards the northern and western parts. The soil layer thins out towards the south-eastern parts of the municipality, which houses almost two thirds of the villages.

The topsoil layer provides the nutrients for all agricultural activities and needs to be carefully conserved against erosion and depletion. Water run-off from the soil not only erodes the soil, but fertilisers are transported and washed into the river systems.

Soil conservation is a set of management strategies for prevention of soil being eroded from the Earth's surface or becoming chemically altered by overuse, acidification, salinization or other chemical soil contamination.

Decisions regarding appropriate crop rotation, cover crops, and planted windbreaks are central to the ability of surface soils to retain their integrity, both with respect to erosive forces and chemical change from nutrient

depletion. Crop rotation is simply the conventional alternation of crops on a given field, so that nutrient depletion is avoided from repetitive chemical uptake/deposition of single crop growth.

In conclusion, land especially for agricultural purposes needs to be managed and protected and forms the underlying basis for most of the economic activities in the Joe Morolong municipality. Subsistence farming makes up a large portion of the agricultural sector in the villages through cattle grazing and small scale crops farming. Overuse and overgrazing can become a problem due to the higher population densities that is dependent on the land.

Asbestos mining had been terminated. The presence of asbestos in the subsoil was the major reason for the creation of the mines in the Pomfret area. Asbestos was mined and used in the motor industry for the making of brake pads, roofing, and water pipes. The prolonged inhalation of asbestos fibres can cause serious illnesses, including malignant lung cancer, mesothelioma and asbestosis.

Asbestos mining

The source of asbestos can be found in the ridge along the municipality which covers an approximate area of 1500 km².

Three levels of sensitivity had been proposed for identification and indicated on the inserted map namely:

High sensitivity zone: all sites where asbestos had been mined, contaminated soil and where asbestos had been used in construction materials or road construction etc. Refer to red dots and its buffer areas and the railway line buffer zone on the asbestos map.

Medium sensitivity zone: The geological region where the Crocidolite Asbestos is known to be found. All areas within the dark blue polygon along the ridge.

Low sensitivity zone: remaining areas in the local municipality.

All applicants wishing to apply for developments or land use amendments within the high and medium asbestos zones need to submit its measures to manage the asbestos to prevent disturbances or contamination.

4.4.1.3 Primary economy

The primary sector of the economy is the sector of an economy making direct use of natural resources. This includes agriculture, forestry and fishing, mining, and extraction of oil and gas. This is contrasted with the secondary sector, producing manufactured and other processed goods, and the tertiary sector, producing services. The primary sector is usually most important in less developed regions, and typically less important in industrial regions.

The manufacturing industries that aggregate, pack, package, purify or process the raw materials close to the primary producers are normally considered part of this sector, especially if the raw material is unsuitable for sale or difficult to transport long distances.

In Joe Morolong municipality, the main underlying economic drivers are the primary sector with its strong mining component. The contribution of the primary sector to the municipal economy is 32%.

The primary sector accounted for 30.11% of persons employed in the municipality in 2007 and decreased from 37.66% in 2001. Agriculture accounts for 10.9% even though it only contributes 3% value to the economy. Mining employs 21.69% of the workforce in the primary economy and contributes to 30% of the value to the economy.

Mining is therefore an essential driving force in the municipality. Spending patterns in the tertiary sector will be especially dependent on the mining sector. Mining and quarrying is the single biggest employer of all economic activities in the municipality.

Employment in agriculture has halved between 2001 and 2007, whilst employment in mining has increased from 15.97% to 19.21%. The contribution of mining and agriculture to the economy has decreased very slightly between 1995 and 2010.

4.4.1.4 Conclusion of extraction

Water and mining forms the two most important natural elements of extraction in the municipality. Water is required for all forms of life and habitation. Villages have traditionally settled along the riverbeds. The region is semi-arid and water is a scarce resource that needs to be conserved and managed in a responsible manner to ensure any forms of life or sustainable habitation.

Mining forms the backbone of employment and is the main source of income to households in the region. The six active mines in the municipality are in the manganese region of Hotazel and Black Rock.

The municipality is still very dependent on mining as an extraction method from the natural environment. The semi-arid environment is also a sensitive environment that is prone to desert formation if overused by poor agricultural practices or abandoned mines that had not been properly rehabilitated.

4.4.2 Human Resources

4.4.2.1 Human development

Education

"Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mineworker can become the head of the mine, that a child of farmworkers can become the president of a great nation. It is what we make out of what we have, not what we are given, that separates one person from another."¹¹⁹

- Higher than the national norm of 18%, approximately 32% of the municipal population has no formal education.
- Much lower than the national norm of approximately 73%, only 64% has either primary or secondary schooling.
- Only 3% of the population has tertiary qualifications as compared to 8% - 9% for the country as a whole.

South Africa as a whole has serious challenges in terms of education levels of its people. Unacceptably high illiteracy levels exist among the poor with little or no chance to progress in life. Joe Morolong municipality has an over-supply of primary, intermediate and middle schools evenly spread out over the municipality, but lacks 5 high schools to comply with the norm. Only 3% of schools exceed the 1:40 teacher learner ratio.

¹¹⁹ MANDELA, N.R. 1995. *Long walk to freedom. Cape Town: Little Brown and Co.* 630 p.

Housing

A fairly large proportion (89%) of the municipal population owns a house, of which only 2% still owe anything on their houses. This reflects the fact that land came at an extremely low price in traditional villages and houses are in general owner built and not very large. A further 4% rent houses and 6% occupy a dwelling rent free.

The largest portion of dwelling types (83%) is free standing traditional houses. 13% of the local population live in backyard dwellings, which is normally an indication of a lack of access to housing.

In general, ample open space exists in all villages for future housing purposes throughout the municipality.

Land ownership is based upon an informal tenure right and is protected under the Interim Protection of Informal Land Rights Act 31 of 1996. The act protects the communal tenure status of home owners until eventual formalisation/tenure upgrading to free standing title deeds or similar ownership as registered at the deeds office.

Houses in traditional settlements are commonly defined as informal housing due to the traditional building materials used to construct it. House construction methods are not approved by the National Home Builders Registration Council (NHBC) and therefore do not normally qualify at banks as collateral. Safety measures in terms of the South African Bureau of Standards (SABS) are not commonly followed and house building plans are generally not submitted to council for approval and inspection during construction. As a result, many of the houses may not be as durable or even safe under stressed circumstances.

An argument may also be raised that houses built in traditional settlements are a traditional way of life that had been followed for centuries and provides the opportunity for more people to have access to affordable home ownership.

Employment

The dependency ratio in 2007 of economically inactive persons (younger than 16 and older than 64) to the economically active population were 45% who depended on 55%. In the economically active population in 2001, 51% were unemployed as compared to the average 38% of the district municipal area.

The 51% unemployment rate in 2001 are further exacerbated by the low average income of the people who are employed and who have to care for the economically inactive and unemployed population, who combined make up 73% of the total municipal population.

Crime

Occurrences of crime in the municipality is approximately 20% than that of the national norm and thus very low, with approximately 1000 reported cases versus the national average of 4500 cases per 100,000 persons per annum.

The large number of police stations relative to the population (almost four times higher than the national norm) can be attributed to the vast distances that need to be covered for a policeman to reach a crime scene. There may also be a smaller number of police officers manning each police station, which may even the numbers out.

Joe Morolong municipality also has approximately 8 murders per 100,000 people per year versus the national murder rate of 33 murders per 100,000 persons per year.

4.4.2.2 Urban development

Housing densities

Rural areas such as the Joe Morolong LM typically have low housing densities. Housing densities that are too high are not ideal, but densities that are too low also poses challenges. The rural lifestyle is characterised by low densities and densification is an alien concept in these areas. The rural lifestyle includes the keeping of some poultry, a vegetable garden and a personal refuse site at the back of the garden to burn solid waste. Therefore it goes against these survival methods to propose high density development.

Higher densities (stand sizes of 350m² to 500 m²) is a long shot from the common 2500 m² sized "stands". Housing densities then equates to approximately 4 units per hectare. Although the disadvantages of a smaller stand exist, the benefits is water connections to houses, the provision of better road and storm water services and high mast lighting. In some cases water bourne sanitation may be possible. Other benefits of higher densification is

the economical provision of public transport services i.e. taxi and bus routes. Facilities such as clinics, libraries, police stations, schools, community halls etc. can be accessible within walking distance.

Therefore a change in outlook may be required and phased in over a period of time in certain areas to make it possible for government to make true to its promises of basic services and shelter to all.

Spatial integration

The two formal town towns of Hotazel and Vanzylsrus are compact developments with no open undeveloped land between suburbs.

Figure 66: Vanzylsrus (Source: Google Earth)

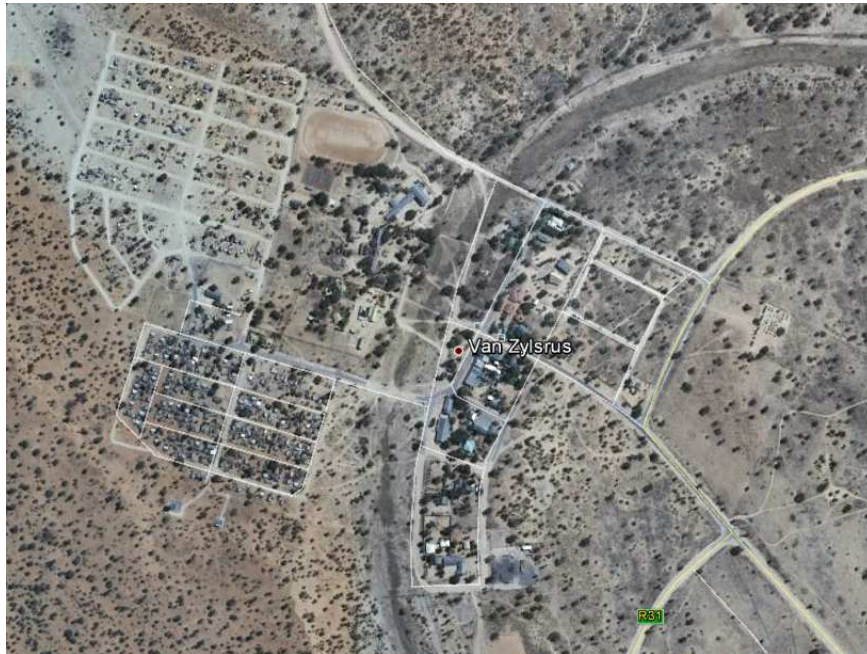


Figure 67: Hotazel (Source: Google Earth)



Traditional settlements in the Joe Morolong municipality do not reflect the common dualistic “apartheid” urban spatial planning patterns, but is also a direct product of the previous regime planning methods. Traditional settlements were formed due to forced removals to the homelands. Joe Morolong municipality predominantly formed part of Bophutatswana. Very few economic or agricultural opportunities existed in these areas and no real

economic centres developed. A scattered settlement pattern developed where people had to find means to survive at water sources and subsistence farming.

A fragmented development pattern prevents the benefits of a more concentrated settlement where businesses can develop with a sustainable client base and sufficient buying power. Resources are scattered and spread out and transport costs prevents any profitable business or services development.

The scattered settlements do not interact and is spatially and economically fragmented. Proposals will be made to address this unsustainable situation through push and pull factors that would draw people to a number of identified service centres where some benefits of densification can be reaped.

Quality of settlement environment

In terms of most standards, the quality of the rural settlement environment is generally poor. A basic level of services are provided, sufficient natural open space for sport and recreation exists, but a severe lack of other services such as good health services, dentists, libraries etc. exist. On the other hand, the traditional settlements lack some of the typically urban problems such as very violent crimes, congestion, squatter camps etc. which makes it attractive to some.

Access to services

Roads: The N14 is the only major national road and in good condition. Most roads are graded gravel roads. The condition of the gravel roads are generally in poor condition, making transport difficult. There is also a lack of access roads to certain centres, forcing long detours.

Water: The majority of households (95%) have access to water, although 15% need to travel more 200 m to the tap. Of the whole population, 88% have access to standpipes and 7% have access to yard or house connections. In general, the basic requirements of provision of water have been met, bar the 5% without access.

Sanitation: The majority of houses (97%) have VIP or similar toilets outside the dwelling, with a very small percentage of persons with in-house flush toilets, mostly within Vanzylsrus and Hotazel.

Electricity: 82% of the local population has access to electricity, which is a relatively high and currently acceptable access rate.

Refuse Removal: 2% of households (in the two formal towns) have access to refuse removal. The remaining population makes use of backyard refuse sites or a communal refuse site. Solid waste sites poses a water contamination and disease risk.

Cell phone network coverage: 53% of the population has access to telecommunication in their house (which is mostly cell phones and not land lines). Cell C, Vodacom, MTN and 8ta covers cell phone reception in most areas throughout the municipality. Internet via 3G is mostly available in Hotazel.

4.4.3 Production

4.4.3.1 Secondary economy

This sector generally takes the output of the primary sector and manufactures finished goods. These products are then either transported or sold to local consumers and to places where they are suitable for use by other businesses. This sector is often divided into light industry and heavy industry. Many of these industries consume large quantities of energy and require factories and machinery to convert the raw materials into goods and products. They also produce waste materials and waste heat that may pose environmental problems or cause pollution.

The employment rate in the secondary sector in the Joe Morolong municipality has remained constant at approximately 12% between 2001 and 2007. The secondary sector only contributes 3% to the municipal economy, but had been steadily increasing between 1995 and 2010 with 7.1% per year. This is by far the fastest growing economic sector in the municipality. This growth is driven by manufacturing, electricity, gas and water related activities.

4.4.3.2 Tertiary economy

The service sector consists of the "soft" parts of the economy, i.e. activities where people offer their knowledge and time to improve productivity, performance, potential, and sustainability. The basic characteristic of this sector is the production of services instead of end products. Services (also

known as "intangible goods") include attention, advice, experience, and discussion. The production of information is generally also regarded as a service, but some economists now attribute it to a fourth sector, the quaternary sector.

Employment in the tertiary sector in the municipality has increased slightly, especially in the wholesale, retail, repairs, hotels and restaurants sub-sectors. The tertiary sector is by far the largest employer contributing 40% of all employment. The tertiary sector contributes 15% value to the local economy and is increasing at 2.3% per year from 1995 to 2010. The main drivers of the growth is wholesale, retail trade, catering and accommodation.

4.4.4 Decomposition

Decomposition (or rotting) is the process by which organic material is broken down into simpler forms of matter. The process is essential for recycling the finite matter that occupies physical space in the biome. Bodies of living organisms begin to decompose shortly after death. Although no two organisms decompose in the same way, they all undergo the same sequential stages of decomposition.

One can differentiate abiotic from biotic decomposition (biodegradation). The former means "degradation of a substance by chemical or physical processes", e.g. hydrolysis. The latter one means "the metabolic breakdown of materials into simpler components by living organisms", typically by microorganisms.¹²⁰

Organic materials decompose at a much quicker rate than inorganic materials, although it is influenced by factors such as temperature, moisture etc. In dry areas such as Joe Morolong municipality, decomposition of organic material can be very slow and may survive for decades.

Chemical decomposition or breakdown of inorganic matter is the separation of a chemical compound into elements or simpler compounds. It is sometimes defined as the exact opposite of a chemical synthesis. Chemical decomposition is often an undesired chemical reaction. The stability that a chemical compound ordinarily has is eventually limited when exposed to

¹²⁰ WIKIPEDIA. 2012. Secondary sector of the economy.
<http://en.wikipedia.org/wiki/Decomposition> Date of access: 09 Apr 2012.

extreme environmental conditions like heat, radiation, humidity or the acidity of a solvent. These factors are relevant in land fill sites where inorganic matter is disposed of.¹²¹

Where waste is generated at a faster pace than what it can decompose or chemically degrade, there is a build-up of waste over time. This is the case for almost all local authorities world-wide. Waste can be sorted for recycling before being dumped in the land fill site to reduce its impact in the production cycle.

Solid waste

Solid waste is not removed by the municipality and households dispose of solid waste either to communal refuse sites or backyard refuse sites, where the waste is normally burned or left to decompose. The waste poses health risks to water sources and the spread of disease.

Waste water treatment

Almost no households have access to water bourne flush toilets and no waste water treatment plants exist.

A large number of pit latrines is found in the rural areas and are generally not concentrated enough to cause an environmental hazard and can be naturally absorbed and decomposed of, but still needs to be monitored well, especially where it is located close to rivers.

Storm water and river system

Storm water is in general disposed of by graded gravel road surface storm water systems that lead to the rivers. Erosion problems occur in traditional villages during heavy down pours.

¹²¹ WIKIPEDIA. 2012. Secondary sector of the economy.
http://en.wikipedia.org/wiki/Chemical_decomposition Date of access: 09 Apr 2012.

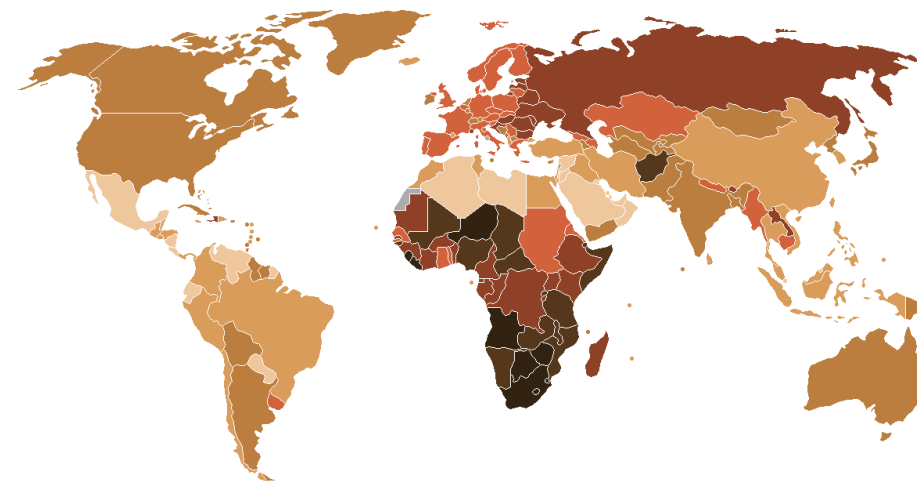
Atmospheric pollution

Due to very limited industrial activity, no real air pollution risks exist, except for the mentioned asbestos contamination. Asbestos becomes easily airborne and can travel long distances by air.

Aquatic pollution

In terms of pollution to the river run off areas, solid waste, washing purposes and sanitation waste water poses a risk. There is a fair amount of solid waste being transported to the river from the streets. The pollution poses a risk to the delicate water ecosystems downstream.

Cemeteries¹²²



South Africa has one of the highest mortality rates per 100,000 people per year as indicated above. The high mortality rate requires proper cemetery planning in municipalities. Informal and unlicensed cemeteries exist scattered throughout the municipality. Due to excavability reasons, some cemeteries may be located close to rivers where the soil is easier to excavate by hand tools. This practise poses serious health risks where bodies may be buried below the water table and contaminates the groundwater sources. The number of farm cemeteries is unknown, but are usually limited in size.

¹²² WIKIPEDIA. 2012. Secondary sector of the economy.
http://upload.wikimedia.org/wikipedia/commons/d/d7/Death_rate_world_map.PNG Date of access:
09 Apr 2012.

4.4.5 Enables and destabilisers

Enablers and destabilisers are factors in the closed cycle that exerts influence over the main production factors. It can either support or destabilise activities within the closed cycle.

4.4.5.1 The property market

The property market is what provides homes to households and supports a functional social order. Without shelter, a basic human need, social instability follows. Of the municipal population, 89% owns a house (of which 87% is paid off). Most people have houses and most own their houses, which is a very positive aspect of the area. In terms of definitions of informal and formal housing, the picture may change. Many houses are built with “temporary” materials e.g. clay bricks, unfixed grass roofs etc. What may seem the norm and a perfectly acceptable house in traditional terms, may mean an unsafe, unapproved and temporary structure in terms of current building regulations.

The majority of houses in traditional settlements did not submit building plans for approval, had inspections carried out by the municipality, registered with the National Home Builders Registration Council (NHBC), is subject to SABS norms or conform to by laws. For this reason, banks do not accept houses as collateral for loans.

Furthermore, due to the communal land on which the house is built, houses do not possess individual title deeds that can be transferred or sold. Tenure and fixtures are protected under the Interim Protection of Informal Land Rights Act 31 of 1996, but will have to wait for future tenure upgrading or formalisation to participate in the property market.

4.4.5.2 Governance and legislation

Much had been done to alleviate the situation of the poor since 1994, after the “apartheid” regime has been abolished, but poverty is still rife. The government had focused its energies over the last decade or so to create a better life for the previously disadvantaged. Legislation had been passed, policies and programmes adopted to eradicate poverty and to create equal opportunities and employment.

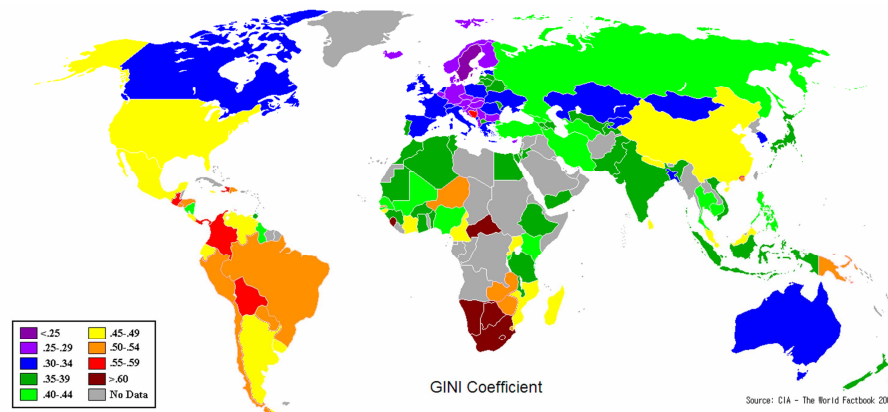
Planning legislation is undergoing major changes from a fragmented legislative environment to a unified and stream lined Spatial Planning and Land Use Management Act (SPLUMA), which is anticipated to be soon enacted. SPLUMA aims to eventually replace and repeal all other planning legislation. Land use development control will be implemented through Land Use Management Systems in terms of the Act, guidelines in the provision of SDF's are outlined in the Act and proper direction is given through the help of tribunals to guide and manage development applications that would fulfil the goals of the Act. The Act would have a major impact on spatial planning on a municipal level.

Joe Morolong municipality has serious challenges in managing its area of jurisdiction. No income base from rates and taxes is present and subsequently no municipal finances to provide basic services to its residents. The municipality is very dependent on grants and subsidies from district, provincial and national government. The municipality does not possess strong economic centres to drive growth and provide municipal income, which in turn hampers proper municipal management. The main focus is to provide basic services to its people and a platform for economic activity to survive and grow.

One of the major obstacles to development in the area is the fact that no individual tenure exists. All property is owned communally and cannot be sold, transferred or used as collateral for loans. Tenure upgrading should be highly prioritised in a manner that would suit the traditional authorities as representatives of the communities. The stumbling block of communal land ownership has also driven private investors away that do not want to risk investment on land that does not directly belong to it. The process to subdivide a portion of land to be sold to an investor is also extremely cumbersome and can take several years.

4.4.5.3 Equity and inequality

Figure 68: GINI Coefficient over the world¹²³



The Gini coefficient measures the inequality among values of a frequency distribution (for example levels of income). A Gini coefficient of zero expresses perfect equality where all values are the same (for example, where everyone has an exactly equal income). A Gini coefficient of one (100 on the percentile scale) expresses maximal inequality among values (for example where only one person has all the income).

South Africa has the second highest Gini coefficient in the world of 67 after Namibia with 74. There is a large divide between the poor and the rich, and the greatest divide is between rich and poor black people.

Many changes have occurred in both poverty and inequality since the fall of Apartheid. National survey data from 1993, 2000 and 2008 are used to show that South Africa's high aggregate level of income inequality increased

¹²³ WIKIPEDIA. 2012. List of countries by income inequality.
<http://upload.wikimedia.org/wikipedia/commons/c/c5/GINIretouchedcolors.png> Date of access: 09 Apr 2012.

between 1993 and 2008. The same is true of inequality within each of South Africa's four major racial groups. Income poverty has fallen slightly in the aggregate but it persists at acute levels for the African and Coloured racial groups. Poverty in urban areas has increased. There have been continual improvements in non-monetary well-being (for example, access to piped water, electricity and formal housing) over the entire post-Apartheid period up to 2008.

From a policy point of view it is important to flag the fact that intra-African inequality and poverty trends increasingly dominate aggregate inequality and poverty in South Africa. Race-based redistribution may become less effective over time relative to policies addressing increasing inequality within each racial group and especially within the African group. Rising inequality within the labour market – due both to rising unemployment and rising earnings inequality - lies behind rising levels of aggregate inequality. These labour market trends have prevented the labour market from playing a positive role in poverty alleviation. Social assistance grants (mainly the child support grant, the disability grant and the old-age pension) alter the levels of inequality only marginally but have been crucial in reducing poverty among the poorest households. There are still a large number of families that are ineligible for grants because of the lack of appropriate documents. This suggests that there is an important role for the Department of Home Affairs in easing the process of vital registration.¹²⁴

In Joe Morolong, the divide between the rich and poor are very visible. Poverty is commonplace in the traditional settlements and very few has risen beyond this situation. Almost no middle class exists and all houses are of similar low cost with a handful of more expensive individual houses. The only middle class neighbourhoods exist in the formal towns of Hotazel and Vanzylsrus, where the mining activities take place. Of the population, 47% of households earn less than R4,800.00 per annum, that is R400,00 per month.

4.4.5.4 Funding and income

Joe Morolong municipality is a mainly subsistence farming and mining area with various micro retail outlets, which employs most people. Minimum wage

¹²⁴ Leibbrandt, M. et al. (2010), "Trends in South African Income Distribution and Poverty since the Fall of Apartheid", OECD Social, Employment and Migration Working Papers, No. 101, OECD Publishing, © OECD. doi:10.1787/5kmms0t7p1ms-en

for labour in mining is determined by the state. Many have criticised the South African government of excluding many labourers through the practise of enforced minimum wages, which had driven the mining sector to increase mechanisation of its activities.

Access to capital to the poor is also a common complaint. The major banks are not willing to loan seed capital to Small Medium and Micro Enterprises (SMME's) due the high failure rates of start-ups and lack of business knowledge and skills amongst SMME's. Furthermore, banks do readily lend money to first time home owners of affordable housing. Government (Development Bank of SA) is setting up a fund to bridge and partially subsidise the funding gap between subsidised housing and the lower end of the housing market. This measure would grant greater access to capital to the poor.

Access to land is a national problem due to past practises of apartheid forced removals and the Land Claims Commission has managed to compensate or return various communities to its rightful properties. The recent Green Paper on Land Reform 2011 aims to address and speed up the land restitution issues in South Africa.

Joe Morolong municipality currently has no income from rates and taxes, which means that the municipality is severely challenged to fulfil its obligations to its residents. The municipality is made up of traditional settlements on communal land, which do not contribute to the municipal income base. This brings about a serious challenge to the local municipality, which has no sustainable source of taxation or income.

Income from rent is derived from 4% of the municipal population, who rent their houses. Rent in general is low and do not form a substantial part of household income in general.

Most businesses are small or focus on personal services e.g. general dealers, tuck shops, telephone services, taverns, salons, burial services and vehicle repairs. Business profits are generally marginal from these mentioned activities.

4.4.6 SWOT Analysis

| | Strength | Weakness | Opportunity | Threat |
|------------------------|----------|----------|-------------|--------|
| Extraction | | | | |
| Water | | | | ✓ |
| Land | | | | ✓ |
| Primary Economy | ✓ | | | |
| Human Resources | | | | |
| Human Development | | | | |
| - Housing | | ✓ | | |
| - Employment | | ✓ | | |
| - Crime | ✓ | | | |
| Urban Development | | | | |
| - Housing densities | | | | ✓ |
| - Spatial integration | | ✓ | | |

| | Strength | Weakness | Opportunity | Threat |
|--------------------------------|----------|----------|-------------|--------|
| - Quality of urban environment | | ✓ | | |
| - Access to services | | ✓ | | |
| Productivity | | | | |
| Secondary economy | | | ✓ | |
| Tertiary economy | | | ✓ | |
| Decomposition | | | | |
| Solid waste | | | | ✓ |
| Waste water | | | | ✓ |
| Storm water and rivers | | | | ✓ |
| Atmospheric pollution | ✓ | | | |
| Aquatic pollution | | | | ✓ |
| Cemeteries | | | | ✓ |

| | Strength | Weakness | Opportunity | Threat |
|-----------------------------------|----------|----------|-------------|--------|
| Enablers and Destabilisers | | | | |
| Property market | | | ✓ | |
| Governance and legislation | | | | ✓ |
| Equity and inequality | ✓ | | | |
| Funding and income | | ✓ | | |

5. The Spatial Development Framework

The preceding sections described and assessed the implication of the complexities, opportunities, and challenges of the municipal area. The vision for the municipality confirms the intension of creating a local authority committed to sustainable development and improved quality of life for its people. This is the basic guide to actions and strategies proposed in this SDF in working towards realising the vision. The first and a very central issue to consider is the fact that Joe Morolong's ability to intervene and contribute is limited to its powers and functions. This reinforces the need for developing partnerships with the private sector, neighbouring municipalities, the district municipality and other organs of government.

The question that remains is: "How do we do it?" The following sections aim to lay the foundation for that answer, by providing a set of building blocks to be used to restructure the municipal area, and to guide and facilitate growth and development where appropriate.

5.1 Strategic Objectives

5.1.1 Overall objectives

As shown in the chapter dealing with the Institutional Framework, there exist a multitude of principles, directives, and guidelines for spatial planning and development at national and provincial level. In terms of the White Paper on Spatial Planning and Land Use Management, 2001, "*The overall aim of the principles and norms is to achieve planning outcomes that:*

- restructure spatially inefficient settlements;
- promote the sustainable use of the land resources in the country;
- channel resources to areas of greatest need and development potential, thereby redressing the inequitable historical treatment of marginalized areas;
- take into account the fiscal, institutional and administrative capacities of role players, the needs of communities and the environment;
- stimulate economic development opportunities in rural and urban areas; and

- support an equitable protection of rights to and in land."

The various principles and directives can be translated into a set of **collective development objectives** in accordance with the national agenda that form the overarching objectives of the Spatial Development Framework, namely -

- To promote sustainable development;
- To promote efficient development;
- To promote equitable development;
- To ensure integrated development, and
- To improve the quality and image of the physical environment.

Table 27 : Development objectives

| Objective | Description |
|----------------|--|
| Efficiency | The objective of efficiency requires that optimal development levels and functionality must be achieved with the minimum expenditure of resources. The concept relates to both functional and operational aspects and includes issues such as growth management, optimal utilisation of strategic locations, usability, mobility, productivity, and accessibility. The lack of executive functions limits the RLM in achieving this at a detail level. |
| Sustainability | The objective of sustainability requires the sustainable management and use of both natural and man-made resources. Land use and development decisions must promote a harmonious relationship between the built and the natural environment while ensuring that land development is sustainable over the long term. Other aspects that need to be considered in the sphere of sustainability are conservation, environmental health and degradation, economic sustainability and community satisfaction. The principle of sustainable development is particularly relevant in RLM as far as the Biosphere is concerned. Finding means of achieving balance between the conservation of this area and economic development is an important focus area of the Spatial Development Framework. |

| | |
|-----------------------------|--|
| Equity | The objective of equity addresses social justice and fair and equal access to opportunities, facilities or networks. Through planning, all residents irrespective of race, gender, ethnicity, faith or income should be dealt with in an equitable way. The objective of equity also refers to the manner in which planning will address the inequitable legacy inherited from the past. |
| Integration | The objective of integration requires that the separate and diverse elements involved in development planning and land use should be combined and coordinated into a more complete or harmonious whole. The objective of integration reflects the need to integrate systems, policies and approaches in land use planning and development. Firstly, it requires that the planning process is integrated, and secondly look at spatial integration of different land uses, transportation, and places of living with places of working and shopping and relaxing. |
| Livability and image | Livability and image include aspects such as convenience, safety, security and all other aspects related to one's experience of the physical environment, either as a resident or as a visitor. This aspect also directly relates to the marketability of the area from a qualitative perspective. |

5.2 Specific objectives relating to Joe Morolong

The analysis of the municipality's Strategic Institutional Framework, most notably the Integrated Development Plan, showed the local authority's development objectives for the area. These objectives were further augmented by the results of the spatial analysis, which indicated certain key aspects that need to be dealt with in the municipality. Together, the outcome of these two sets of analysis informed the specific development objectives for the municipal area that might be considered:

Table 28: Development interventions

| Development interventions | Development probability |
|---|-------------------------|
| 1. Stimulate development and growth where there is proven demand. | High |
| 2. Use future growth and development to consolidate and to improve municipal performance. | Medium |
| 3. To ensure sustainable use of environmental resources, their enhancement and replenishment. | High |
| 4. Capitalise on the valuable role of environmental resources. | High |
| 5. Enhance the uniqueness, ecological sustainability, and liveability of the municipal area. | High |
| 6. Meet community needs and promote community values and aspirations. | Low |
| 7. Ensure that the municipal structure has timeless qualities and that it does not short-sightedly respond to the mere current needs, circumstances, and fashion. | Medium |
| 8. Create new social and economic opportunities and to improve access to the existing ones. | Medium |
| 9. Promote the viability of public transport. | Low |
| 10. Promote all aspects of spatial integration. | Medium |
| 11. Enrich people's lives, as well as to enhance uniqueness and identity of municipality by means of a readable municipal form. | Medium |
| 12. Enhance the functionality of all the elements constituting the municipal area. | High |
| 13. Create healthy, comfortable and safe living and working environments for all. | Medium |
| 14. Instil business confidence in the municipal area as a whole by providing an enabling spatial framework that supports development. | High |

The development probability assigned to the objects allows one to prioritise and target those objectives that can have the biggest impact on the

development of the municipal area. It is clear that certain objectives will remain problematic although not unimportant. The probability to achieve objectives informs the spatial development strategies addressed below.

5.3 Strategies

The assessment highlighted a number of issues or principles that should guide spatial development. The following have been identified as being critical to the development of the municipality:

- **Rehabilitation and maintenance based development approach**
The Council has been successful in its endeavours to eradicate service backlogs. While one recognises that there will be a continuous demand to accommodate new growth it will be important to focus on sustaining the current asset base if future development is a priority. The Council can simply not afford the current rate of degradation and decline in the quality of its current assets. It will therefore be necessary to reprioritise the Council's budget and develop full scale asset management plans based on a Comprehensive Municipal Infrastructure Plan (CMIP).
- **Infill and compaction to accommodate short and medium term growth**
The assessment has shown that spatially the urban areas of Joe Morolong has reached a undesirable configuration that seriously disadvantage current residents and in the process isolate them for access to opportunities, amenities and resources. The development of available and suitable areas should be prioritised. There should be sufficient land to accommodate short and medium term growth.
- **Improved access and mobility**
To continuously improve the access and mobility to the people of Joe Morolong should be the highest priority of the Council. Where low density settlement is a challenge and where there is no indication that these patterns can be changed in the long term, it is important that the Council adopts an approach of bringing people to facilities and amenities rather to taking facilities and amenities to the people.
- **High premium on environmental conservation**
The very nature of the Joe Morolong environment is the catalyst for some of the core activities in the municipal area. The nature of agricultural and tourism activities is largely a function of environmental conditions.

Deterioration in environmental conditions will imply a declining agriculture and tourism sector and hence negative impact on the local economy through job losses and the general decline of the economy.

- **Promote job creation and prevent job losses**
The mining is the main generators of job opportunities in the local economy. The mining sector is by far the biggest employment generator but it is also the sector shedding jobs at a very high rate. Retaining jobs in the mining sector should be a very high priority for the Council. In order to achieve this, the Council will have to establish a cooperative partnership with the mining sector in the municipality.

5.3.1.1 Alignment with District development strategies

The above strategies and objectives were developed after an intensive analysis phase. They were also developed to align with the development strategies of the District SDF. Only the district SDF development strategies **relevant** to the Joe Morolong SDF include:

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.

- To enforce environmental and land-use management regulations
- To institute/do proper traffic and freight management that is required for the implementation of this strategy? Is this in place?

The Joe Morolong SDF makes recommendation on the role and responsibilities of Mines in the municipality. Mines play an important role in the development of the municipality but the type of activities can have a negative impact on agricultural activities, urban growth and the environment. These aspects are addressed and recommendations are made to ensure sustainable development takes place in a sustainable manner.

Development Strategy 2: The development of a series of smaller economic growth centres around a series of existing, smaller towns.

- To develop Local Nodes in places like Churchill, Bothithong, Heuningvlei, Blackrock, Hotazel, and Vanzylsrus
- To attract new businesses, especially manufacturers, to the district and retain existing ones

This has been dealt with by proposing a hierarchy of nodes in the municipality. This is done through local nodes and human development hubs. Guidelines for the future development of these nodes have also been included to ensure the optimal growth of these centres and to ensure they are environments that will attract possible future business

Development Strategy 3: The development of a polycentric network of “Human Development Hubs” in the densely populated rural areas.

- To develop a limited number of villages along a public transport corridor into Human Development Hubs
- To enforce environmental and land-use management regulations

A series of human development hubs have been identified. To enforce environmental and land use management regulation a series of spatial planning tools and guidelines are used.

Development Strategy 4: The introduction of an economy based on intensive agricultural production and agro-processing in the densely populated rural areas.

- To rationalise the fragmented, scattered pattern and build a new intensive agriculture and agro-processing economy in the area
- To attract new businesses, especially manufacturers, to the district and retain existing ones
- To enforce environmental and land-use management regulations

The SDF accommodates and guides agricultural activities in the densely populated rural areas and attempts to implement a self-sustaining subsistence farming culture. This gives communities the opportunity to grow and enter the agro-processing market.

Development Strategy 5: The retention and deepening of the game-farming and tourism-based economies in the less densely populated rural areas.

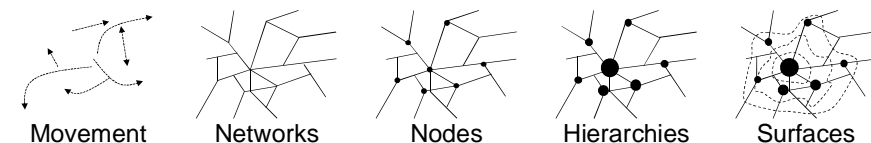
- To manage, protect and further develop the existing extensive game and cattle-farming and tourism area to the west of the mining belt
- To enforce environmental and land-use management regulations

Farming is a rapidly changing industry in the municipality. These elements are dealt with and guidelines are given to assist the municipality and the people in the municipal area to deal with this reality.

6. Spatial concepts

The spatial framework is developed through an interrelated set of nodes, networks and surfaces. The essence of development in this system is the movement of people, goods and services that produces the basic impetus for developing functional relationships between otherwise independent and unrelated elements. The movement of people, goods, and services are channelled along specific routes that describe a **network of interaction**. Where networks intersect the opportunity for people, goods and services develop to interact and this gives rise to activity nodes. The intensity of interaction gives rise to the development of a **hierarchy of nodes** of different sizes depending on the level of interaction taking place in a node. This one dimensional system of networks and nodes are tied together through **surfaces** that fill the areas between the nodes and networks.

Figure 69 : The development concept



A nodal system has the following characteristics with the subsequent implications for the SDF:

Table 29: A nodal system and the consequences for the SDF

| Characteristics of a nodal system | Implications for the SDF |
|--|--|
| 1. Movement sustains the system. If movement stops the system disintegrated, conversely, the better or higher the volume of movement of people goods and services are the more vibrant and viable the system is. | Overall, the total municipal area is characterised by a poor network of roads and low movement levels are experienced in most parts of the municipal area. The modes of transport, low transport volumes, and even the fact that households are not mobile or constraint in their mobility limits the options for the Council. |
| 2. A change in the extent and intensities of movement causes changes in the shape and structure of the system. | The best prospect for an improved spatial structure is in the areas subject to higher intensities of movement. The Council can do little to improve movement apart from |

| | |
|--|--|
| For example, increased road traffic creates the opportunity for better quality roads and business opportunities. | continuously improving access to key areas and facilities. |
| 3. An open system tends to sustain its structure and form over very long periods. | The low energy levels in some parts of the system will make large scale structural changes difficult to achieve. The approach will rather be to consolidate, optimise, and adjust the functioning of the spatial system within its framework and parameters. |
| 4. From varying starting points and conditions, systems with more or less the same type of energy inputs and organisation, develop similar end conditions and structures. Urban areas across the world have more or less the same structural characteristics notwithstanding diverse starting points and conditions. | The structural elements of the spatial system are recognised. The relative strength of the system components, business, residential, industrial development, agriculture, etc. is determined by local economic growth imperatives. |

In order to address spatial issues and restructure development in the municipality spatial restructuring tools are required. To ensure the alignment with provincial spatial policies six spatial structuring elements have been identified and are proposed to guide future development in the municipality. These tools should be used in a practical manner to ensure sustainable high quality settlements.

- The key objective of the structuring elements is as follows:
- Contain urban sprawl
- Promote urban and social integration
- Promote higher densities
- Create quality urban environments
- Promote pedestrian friendly environments and movement patterns
- Create a sense a place
- Enhancement of investment opportunities
- Simplifying decisions-making regarding development applications.

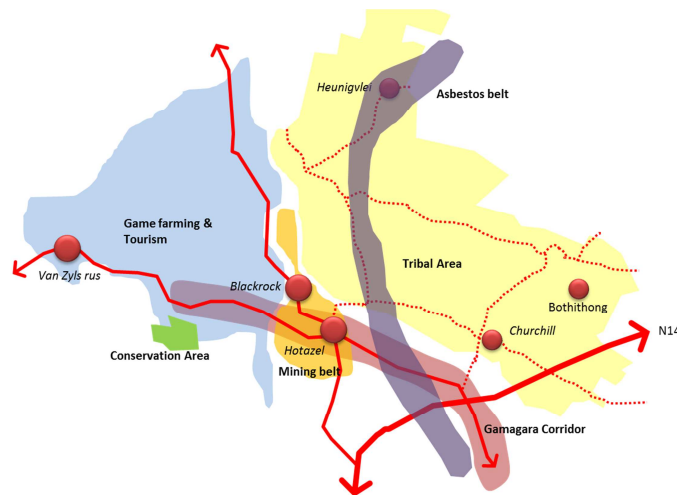
The spatial tools used include:

- Urban Edge
- Nodes
- Corridors
- Activity Streets
- Densification
- Smart growth
- Surfaces

6.1 Conceptual framework

The conceptual framework brings together the development concept of movement, networks, nodes, hierarchies, and surfaces. It takes cognizance of the development perspective and preferred scenarios. The following figure shows how the broad development concept is applied in the Joe Morolong Local Municipality.

Figure 70: The application of the development concept



In this broad application of the development concept, the following are of relevance:

6.2 Nodes

The municipality is dominated by rural villages and three notable local nodes. The local nodes are Vanzylsrus, Hotazel and Blackrock. These nodes are small and Hotazel and Blackrock serve as mining towns.

The second subtype of nodes is the Human Development Hubs as were defined above. These nodes focus on the human element and the empowerment of its residents through training and education so as to be the catalysts for development.

The District Municipal SDF has identified the following Human Development Hubs:

- Heuningvlei
- Bothithong
- Churchill
- Mmamathane
-

These Hubs are identified to focus investment efforts and to provide general facilities e.g. clinics, governmental satellite offices, training centres, tertiary education etc. in a concentrated area where public transport services are provided.

6.3 Networks

6.3.1 Transport networks

The municipality is characterised by limited accessibility. In order to facilitate development an integrated, well-functioning, and maintained network system is very important. Functioning urban centres will increase economic opportunities in the municipality if accessibility is improved. This will also assist in the promotion of tourism and local economic development in general.

6.3.2 Service networks

Services infrastructure networks all focus on the urban core with only basic service networks covering the small rural settlements in the municipality. Access to water is one of the biggest obstacles to development in the municipality. Apart from the general absence of surface water, the available water from boreholes is often not fit for human consumption.

6.4 Surfaces

The areas filling the gaps between the nodes and networks are utilised for 4 main groups of activities. These activities have been assessed in detail but it is worth highlighting some key aspects.

6.4.1 Rural area

This area, covering the western half of the municipality, is largely characterised by farming activities and tourism. The most important activity in terms of tourism in the municipality is built around game farming and hunting. This is a growing industry. Game farming and hunting is also associated with other extensive agricultural practices and are not localised but distributed through the whole municipal area. It has a wide ranging impact and can fulfil an important job creation role in the municipality, but more importantly, it can contribute to economic stability in the area.

6.4.2 Tribal areas

Tribal areas make up a large and important area of the municipality. In terms of location, these areas remain isolated. The areas are generally well serviced and do link to sustainable agricultural activities. However, the extent of economic activities in these areas might not be sufficient to serve as a general catalyst for development. The key challenge for the Council remains to improve the access to public facilities and opportunities for people in these areas.

6.4.3 Mining

Mining contributes to general economic activity and local benefits are in the form of job creation, albeit relatively small given the extent of capital investment. One should also consider the impact of mining through the stimulation of undesirable migration and urbanization and its impact on agriculture and the environment in general. The impacts have direct and indirect consequences. Some of these impacts can do irreversible damage while others can be managed. It is not within the scope of the SDF to resolve these issues but they need to be highlighted.

The Gamagara corridor is the mining belt in the John Taolo Gaetsewe and Siyanda districts and runs from Lime Acres and Danielskuil to Hotazel where it cuts across the Joe Morolong local municipality. This corridor focuses on the tremendous iron ore and manganese reserve in the area and being able to develop the area to facilitate this development, but also to create a simultaneous parallel socioeconomic context to provide for the community in 30 or so years when the mineral reserves are depleted.

7. Spatial development framework proposals

The SDF map had been prepared in an A0 sized format and includes the Municipal SDF and the Local SDF's for the Nodes and Human Development Hubs. Please refer to the separate A0 SDF map for more details.

Included in this document are the local SDF maps.

8. Spatial policies and strategies

The spatial development concept starts by identifying the **natural structuring elements** that exist in municipalities. These constitute pre-existing conditions in the municipal area which to a large extent dictate spatial form and development patterns because of the restrictions that these elements often place on development. The natural structuring elements include physical barriers such as mountains, ridges, and rivers or natural resources such as conservation areas, mineral deposits, and high potential agricultural land.

Secondly, the spatial development concept looks at the division between urban and rural environments through the application of an **urban development boundary**.

The spatial development concept will subsequently address the **urban and rural environments** in terms of the nodes, networks, and surfaces that apply to those environments.

Finally, the spatial development concept looks at the **movement network** that exists that connects the different elements, and how this should be strengthened to enhance the interaction between the various elements.

The spatial development concept also deals with certain non-spatial issues such as cultural heritage and municipal identity.

The spatial development concept follows an approach of minimalism (i.e. "less is more"). This means that, taking into consideration current growth dynamics, it is better to make a few key development proposals that will focus development energy to areas where agglomeration advantages can be

created and a difference can be made in the spatial structure as opposed to identifying every possible development opportunity and never reaching critical mass with any of those.

In the rest of this chapter, each of the spatial structuring elements will be dealt with in terms of the following three aspects:

- General description and characteristics.
- The identification of the elements in Joe Morolong.
- Principles and guidelines for implementation and management.

It should be borne in mind that the Joe Morolong Spatial Development Framework remains a broad strategic planning framework due to the large geographic space that it covers. It cannot therefore make detail proposals for specific areas. For that purpose, Local Spatial Development Frameworks or precinct plans must be drafted.

8.1 Nodes

Nodes are concentrations of urban development located at accessible locations such as modal interchanges and the intersections of public transport routes. These nodes should create areas of agglomeration advantages that are able to attract business and economic developments to these areas. Well-functioning urban nodes are vibrant areas comprising shopping, work, social and cultural opportunities and public transport facilities in a high quality, safe public environment.

In order to align with the provincial and district SDFs the following hierarchy of nodes will be used:

- **Regional Nodes:** These are areas/towns of significance in terms of scale, location, impact, diversity and agglomeration of function (facilities, services and economic activities), which have a significant impact on the Northern Cape Province as a whole.
- **Local Nodes:** This refers to the local settlements and public places. A node that has functional linkages with and impacts not extending beyond the borders of the Local Municipality in which it is located. Typically such a node will include: (1) the full spectrum of schools from primary to secondary; (2) a number of clinics offering basic health services; (3) a number of general health practitioners and dentists' offices; (4) a local police station; (5) a limited range of housing types, with the freestanding

house on a separate stand still the most dominant form; (6) a shopping area/district with many of the national chain shops and a number of take away shops and maybe a family restaurant; (7) branch offices of Banks; and (8) a few light industries, typically located in or around the central business district.

- **Human Development Hub:** This order node is described as a node that serves its inhabitants, as well as those that can reach it by bicycle or by public transport in no more than thirty minutes. This node typically has a primary school, sometimes a secondary school, other social facilities such as clinics, and a mobile police office. This node also has some retail elements such as small shops and take-away restaurants.

From an urban efficiency and functionality perspective, the clustering of community, social and business facilities in nodes around points of highest accessibility is of vital importance, i.e. -

- By clustering facilities, a high quality node can be created that can serve as the heart of communities and promote social interaction.
- Multiple neighbourhoods can be served by social services in central points.
- The sharing of facilities between various services (e.g. buildings, logistics, parking etc.) can take place.
- Central clusters ensure enhanced accessibility and convenience for residents.

It is proposed that the following general principles apply to the development and management of nodes:

- In order to support the effective development of nodes in the municipality, the development of urban non-residential land uses, such as business, retail, community facilities, and social services should be restricted to nodal areas.
- Nodes should typically be located at the main access points in urban areas, typically at the intersection of a major mobility route and the major collector route.
- These nodes should show a large degree of public investment in infrastructure, public domain and social services.
- Nodes must be characterised by mixed-use, high intensity activity and higher density residential development (maximum FAR's, coverage and

height should not be restricted).

- The manner in which parking in the nodal areas are treated is of importance. Large parking lots adjacent to streets should not be promoted. Buildings should be placed as close to street boundaries as possible to facilitate pedestrian movement and to define and shape the public space.
- Extroverted as opposed to introverted development patterns and typologies must be promoted.
- Site layouts and building designs of individual developments must take cognisance of and support public transport and pedestrian movement.

The following hierarchy of nodes can be found in or are proposed for the Joe Morolong Municipality:

- Local nodes
- Human development hubs

8.1.1 Local Nodes

Local Nodes: Vanzylsrus, Hotazel, and Blackrock

- **Prime location for higher order office and small retail development.**
- **A variety of goods, services and speciality products are offered.**
- **Higher density residential development should form an integral part of the environment. However, residential development in the CBD must comprise business development on ground floor.**
- **Investment in the quality of the public environment and good urban management are key to retaining existing and attracting new high order business activities.**
- **The Local Development Node serves one or more neighbourhoods.**
- **Nature of land uses are focused on local business development and the provision of local community and social services.**
- **Higher density residential development should be provided around the nodes.**
- **Focus should be on the creation of small business opportunities for**

local development.

- Because these nodes are the focus centres in local neighbourhoods, they should also fulfil the function of centres of socialisation for the local population. As such, each node should be structured around a public open space such as a square or park.
- The nodes should be integrated with public transport facilities, and should as far as possible be located in such a manner that it is within walking distance for a large section of the local population.
- Main routes linking the nodes with the internal neighbourhood should have a strong pedestrian focus.

8.1.2 Human development hubs

A node that serves its inhabitants, as well as those that can reach it by bicycle or by public transport in no more than thirty minutes. Typically such a node will include (1) primary schools, and in some cases, secondary schools with boarding facilities; (2) clinics; (3) formal freestanding houses on separate stands; (4) a local or mobile police office; (5) a multi-service Thusong Centre; and (6) a number of locally-owned and operated shops, take away shops and the occasional restaurant. In addition to this, and in accordance with the concept of the “polycentric regional network”, such a hub, together with a series of other such human development hubs, jointly offer the full spectrum of public services.

Proposed Human Development Hubs: Churchill and Bothithong

- Investment focused on providing at least basic services.
- Provide rudimentary public amenities and social services.
- Discourage further extension of settlements.
- Focus on improved linkages.

Human Development Hubs proposed by the John Taolo G. District Municipality SDF:

- Churchill

- Bothithong
- Mmamathane
- Heuningvlei

The John Taolo G. District Municipality SDF proposes the four abovementioned Human Development Hubs. It had been decided not to include Mmamathane or Heuningvlei.

Mmamathane was omitted due to the fact that it does not have enough households to justify the critical mass sub-minimum for a Human Development Hub. Churchill also has a very small population, but contains the main municipal building and does therefore play an important administrative function in the region. Churchill is also en-route to Kuruman and is therefore located on an important axis for future growth. This axis had also been identified for the public transport route between Bothithong and Kuruman.

Heuningvlei had been omitted due to the presence of unacceptable levels of asbestos contamination. Refer to 4.1.2.1 hereunder for more details. The findings are that no large public investments should be made in Heuningvlei due to sustainability as a Human Development Hub. Only public investments that relate to the provision of basic services should be encouraged.

The main purpose of these hubs is to act as rural service centres and as central places in the rural environment where basic day-to-day services are delivered to the rural communities. The types of services that could be found in these centres include -

- Municipal satellite offices.
- Social and Support Services.
- Small scale (convenience) retail.
- Tourism facilities and services.
- Transportation services.

It is also possible for these centres to have unique characteristics or identities that make them attractive for certain types of development.

The following general guidelines are valuable and applicable to the Joe Morolong municipal area and its rural nature, specifically the small rural settlements and villages. They are:

- *Build on Existing Settlement Areas, Nodes and Corridors*

It is envisaged that the location of residential settlements, where possible, is developed adjacent to or as an extension onto existing settlements; or planned at key nodal areas and along main access routes.

- *Steep Slopes*

Settlements must not be established on slopes steeper than 1:6 metres. This is to reduce the occurrence of soil erosion on steep slopes and reduces costly construction of housing infrastructure on steep slopes.

- *Conservation of Farmlands*

Consideration must be given to the carrying capacity of the land (level of agricultural potential of farm land) and, in so doing, reserve as far as possible good farmland for commonage areas and farmlands.

- *Protection of Commercial Farming Enterprises*

It is accepted that not all existing commercial enterprises can be excluded in the demarcation of settlement and commonage areas. However, it is strongly suggested that these enterprises be accommodated as far as possible in the phasing of development of settlement areas.

- *Appropriately Serviced Densification Zones*

To ensure that densification of an area does not lead to an undesirable environmental impact, it is essential that densification zones be planned and appropriately serviced in terms of water, sanitation, solid waste and refuse removal, etc.

- *Identification and Resettlement of Emerging Farmers*

It is further proposed that in terms of DLA/DALA's proposed Integrated Land Redistribution and Agricultural Development Policy, a database of potential emerging farmers be established and that processes be initiated to identify emerging farmers within the proposed settlement zones. It is envisaged that owners of large numbers of cattle/stock be moved out of the proposed settlement zones and accommodated on farming land elsewhere in order to make additional commonage land available within the settlement zones.

- *Environmental Impact of Settlement Planning*

The STEP Programme has produced guidelines for wise land use decisions per conservation category i.e. conserving endangered ecosystems and to limit the loss of biodiversity.

It is proposed that these guidelines be applied to all rural settlement areas in the municipality as they can direct and assist in the preferred outcomes of rural areas.

There is a strong debate on whether it is best to bring services to people or to bring people to services. Joe Morolong is characterised by a number of rural villages that are sparsely spread out over vast distances. The population also does not move a lot and walks as their main mode of transport. One possibility to improve this situation and make opportunities and services available to the people of Joe Morolong is to provide free bus services along selected routes in order for people to commute from their residence to Kuruman when necessary. This option is not new and is used when learners are transported to schools and back since it is simply impractical to bring schools close to all learners. The issue to be addressed is therefore the cost of transporting people compared to the cost of establishing service centres in the human development hubs. The aim with both is to improve access to services and community facilities.

8.1.2.1 Heuningvlei Asbestos Contamination¹²⁵

- Environmental exposure is still a concern as fibres from un-rehabilitated mine dumps can become airborne and may be inhaled by humans. The concentration of asbestos in ambient air is not known, as no monitoring is currently undertaken. In addition, very little is known about the impact of asbestos (prevalence of asbestosis and mesothelioma) in the Northern Cape. The Provincial Department of Health does not keep any statistics on these diseases, other than those from occupational exposure.
- There are currently no operational Asbestos Mines in the Northern Cape and therefore no occupational exposure. However, asbestos is still perceived as an important issue because of the many un-rehabilitated mine dumps that still have the potential to pollute the environment and cause asbestosis or mesothelioma. The public also still has access to some of these dumps, and some individuals recover the asbestos for resale further increasing the potential hazard.

¹²⁵ VAN WEELE, G. 2011. *John Taolo EMF Desired State*. 120 p.

- Secondary impacts of asbestos pollution are likely to occur in the Northern Cape, considering the use of materials contaminated with asbestos for a variety of purposes, including school playgrounds and sports fields, roads and buildings.
- An indicator, “Rehabilitation of Asbestos Mines” is used to measure the number and location of un-rehabilitated asbestos mine dump sites in the Northern Cape. This was done by recording the Government’s response to issues of asbestos raised by stakeholders, because there is no existing state data in this regard. This indicator monitors the mitigation methods currently in place for the impacts of the previously high demand for asbestos.
- The poor state of rehabilitation of the asbestos industry made all previously contaminated areas a serious constraint for development due to the associated health risks.
- The area at risk is approximately 1500 km² in the Joe Morolong Local Municipality (GIS calculation).
- The need for rehabilitation of asbestos pollution by quantifying the risk associated with a specific pollution site is a prerequisite for development in any asbestos polluted region. It is important to realise that the success of rehabilitation necessarily depends on the sustainability of the rehabilitative measures applied. The trend is in-situ rehabilitation. The main reason is associated with the disturbance of the asbestos, and the fact that the particles become loose again and the associated health risks.

The high risk areas are the areas where asbestos were:

- Mined,
- Stored,
- Used in industrial processes, and
- Transported

Therefore a project in the area should be subject to a screening process which is specifically designated to identify high risk areas. Findings from the Kalahari Asbestos Polluted Roads Prioritisation System report:¹²⁶

¹²⁶ *KGALAGADI DISTRICT COUNCIL. 2002. Kalahari Asbestos Polluted Roads Prioritisation System. 97 p.*

- Areas that had been identified as polluted:
- Greater JTG area is polluted
- 300 km of roads are polluted
- 32 schools are polluted
- Government property are polluted
- Private property (residential and others) are polluted
- Some mines are rehabilitated others not

The KAPI (Kalahari Asbestos Polluted Roads Index) database serves as a good starting point from where one can address issues relating to the asbestos contamination problem. The survey to the communities included:

- Communities within a 5 kilometer radius of known sites.
- Communities within 1-2 kilometers of sources, downwind, or with defined flow paths of (water, roads, topography) and where population densities were greatest.
- These locations were discussed with local community groups or residents to verify locations

Heuningvlei study:

- 89 Sites were assessed
- 46 residential sites were assessed
- 70% of residential sites assessed are contaminated
- 26 houses out of the 46 assessed used asbestos for building materials (the remaining houses had only soil pollution).
- There was a high prevalence of asbestos-cement sheet roofs.
- 3 out of the 4 schools assessed contained asbestos contamination (2 schools used asbestos in building materials and 1 had only soil contamination).
- Asbestos in building materials is not as “friable” (prone to disintegration and becoming airborne), but is still subject to abrasion.

Sites in Heuningvlei were surveyed and classified according to the following criteria:

Low risk: No asbestos contamination or asbestos building materials in good condition. No remediation is required.

Low to moderate risk: Asbestos building materials in fair to good condition. Not a priority for remediation but should be considered for an inspection.

Moderate: 1% – 3% contamination traces with regular or constant exposures.

Moderate to High: Higher contamination and more exposure.

High: poor condition materials with high level of exposure.

Results for Heuningvlei:

- 87 sites tested
- 1 site low risk (1%)
- 26 sites low to moderate risk (30%)
- 6 sites moderate risk (7%)
- 8 moderate to high risk (9%)
- 25 sites high risk (29%)

Conclusions and recommendations of these studies were:

- That the study did not survey all areas of potential contamination. Additional screening level surveys should be completed in communities not assessed as part of this effort.
- There is a need for site specific surveys, inspections and consultations prior to actual remediation of the impacted communities.
- That a systematic road survey should be completed within communities potentially impacted as a follow-up to this study.
- That a pilot project needs to be implemented to test the work methods, clearance levels, post-remediation air quality and long-term sustainability of remediation efforts.
- That additional community awareness and capacity building is needed.

Further recommendation of the asbestos workshop by the then Dept. of minerals and Energy in 2008:

- All legislation that allows mining of asbestos has been repealed i.e. no more issuing of permits / rights
- Continuous awareness campaigns about the dangers of asbestos.
- Stringent rules against the use of asbestos must be cross-cutting.
- Forging of strong partnerships of the different Departments, NGO's, communities, etc.

- Establish health promotion to exposed communities.
- Critical assessment of the mining of tiger eye-presence of asbestos
- Allow minimal land use activities in all rehabilitated areas.

What is relevant is the recommendation to allow minimal land use activities on rehabilitated areas, which excludes the development of these areas to a great extent.

The following three broad categories are proposed to indicate developmental sensitivity in asbestos areas:

High sensitivity:

- All known areas where asbestos exposure duration potential is high e.g. disused asbestos mines
- The presence of asbestos in material used to construct e.g. roads, buildings etc.
- Presence of contaminated soil e.g. Hotazel Station, Railway line to Kimberley, etc.
- Red dots on map, including the purple buffer zones and railway line.

Medium sensitivity:

- The geological region where the Crocidolite Asbestos is known to be found.
- All areas within the dark blue polygon along the ridge.

Low sensitivity:

- Areas that does not fall into the above-mentioned categories

Proposals:

High sensitivity:

- Development Zones with stringent asbestos mitigation measures.
- Inspections should be carried out. Further studies should be conducted to decide upon remediation measures, where required.
- The Land Use Management System should provide restrictive measures for proposed developments e.g. EIA.

Medium sensitivity:

- Development Zones with moderate measures in place to mitigate should asbestos contamination arise.
- Inspections should be carried out. Further studies should be conducted to decide upon remediation measures, where required.
- The Land Use Management System should provide restrictive measures for proposed developments e.g. Environmental study: Basic Assessment.

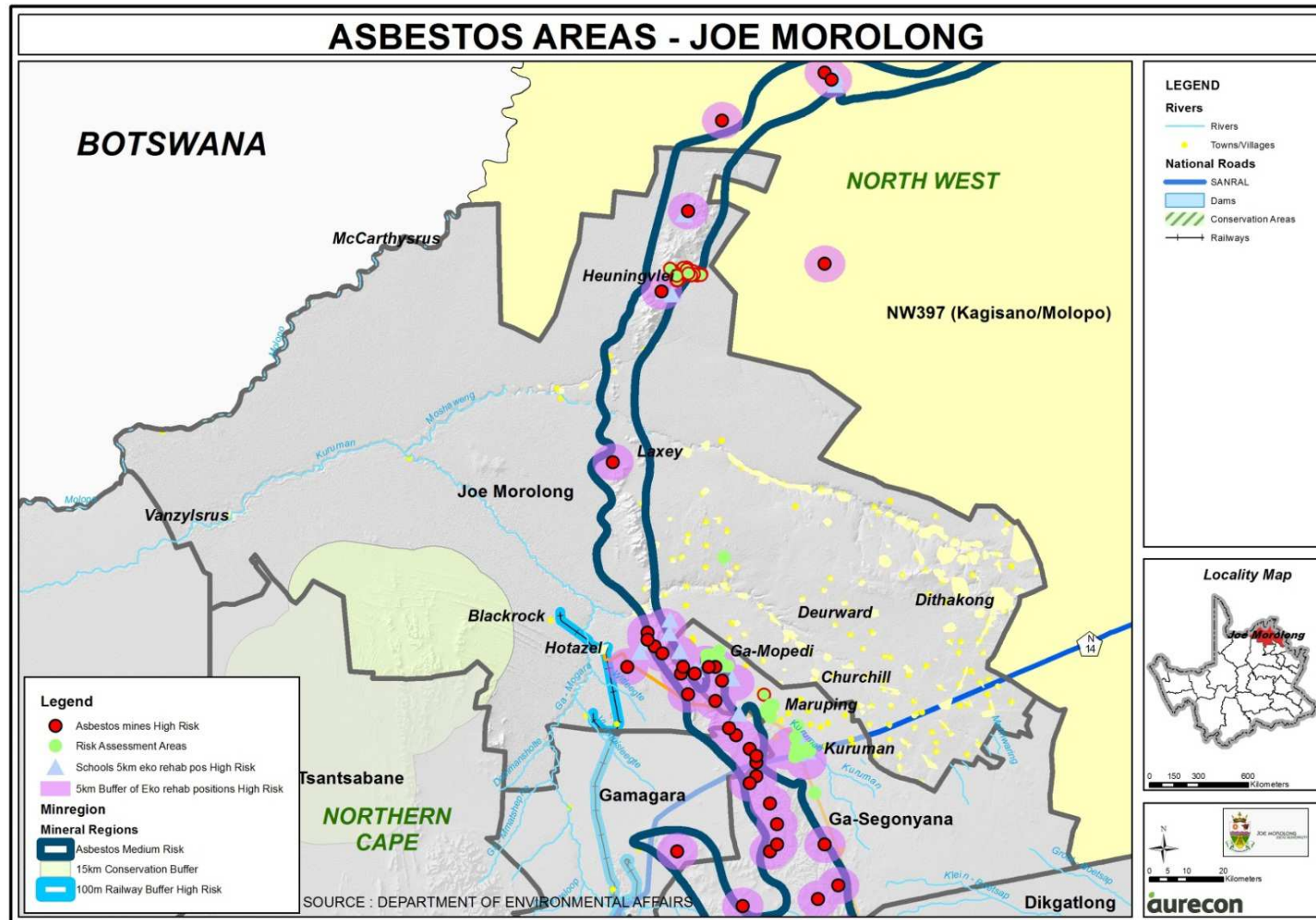
Low sensitivity:

- Development Zones with minimal measure in place other than asbestos awareness programs.

General:

- It is proposed that the Joe Morolong Land Use Management System provide detailed measures for all development applications or changes of land use in high and medium asbestos sensitivity zones.
- Development applications within these areas should apply for approval to the local authority and indicate measures to prevent disturbance of the asbestos or further contamination of the area.
- In general, large public investment should not be encouraged by council. Only public investment related to the provision of basic services should be allowed.

Map 29 : Asbestos contamination areas



8.1.2.2 Pockets of poverty

The Provincial SDF defines poverty according to the Human Development Index was developed by the United Nations Development Programme (UNDP) based upon the notion that development is there to provide long, informed and comfortable lives. HDI consists of three concepts namely:

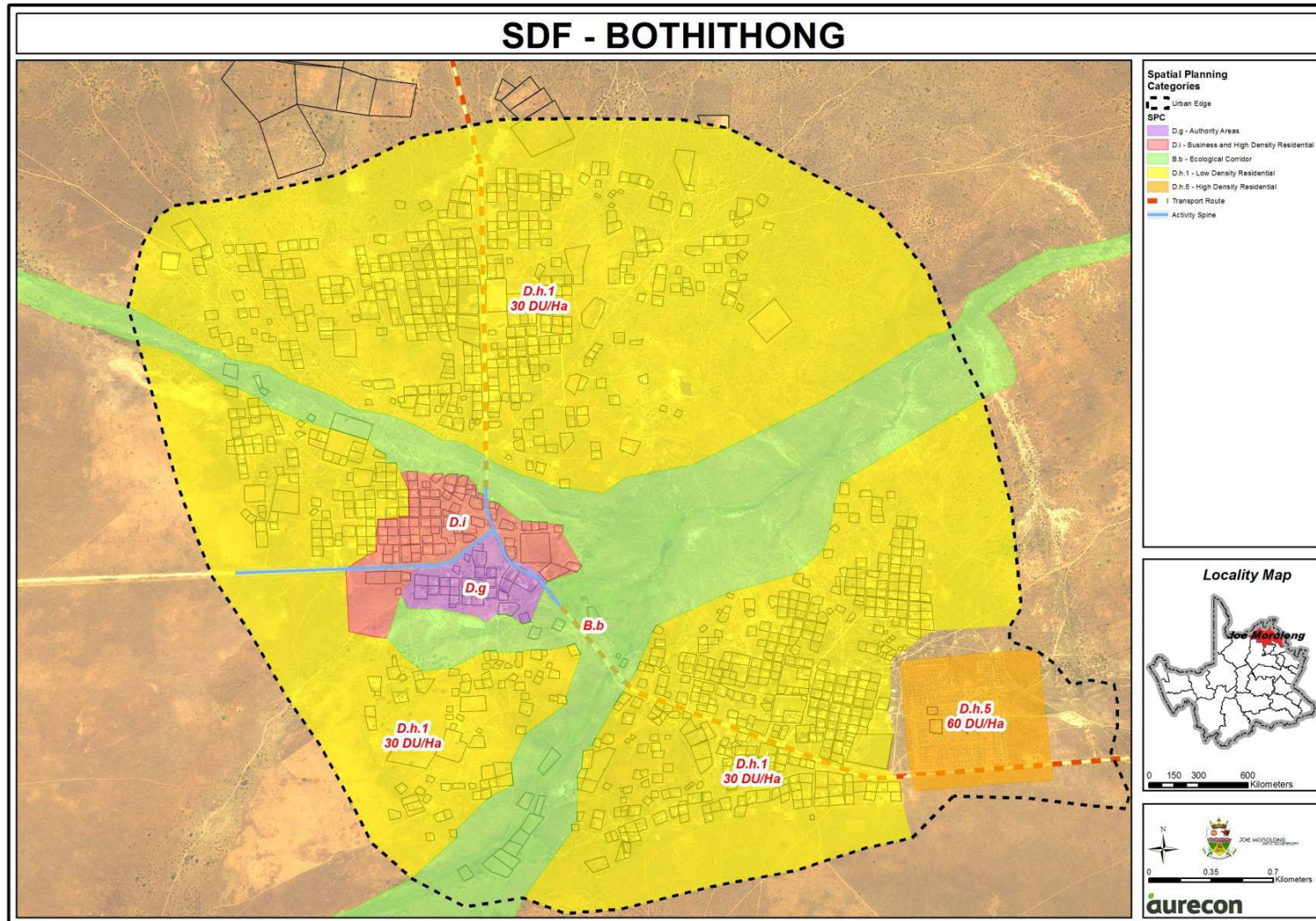
- Longevity (life expectancy)
- Educational attainment
- Income (Gross Domestic Product per capita)

Performance of each variable is measured as a value between 0 and 1. A value above 0.8 is high development and a value below 0.5 is considered a low development status. The average HDI for the Northern Cape is 0.55.

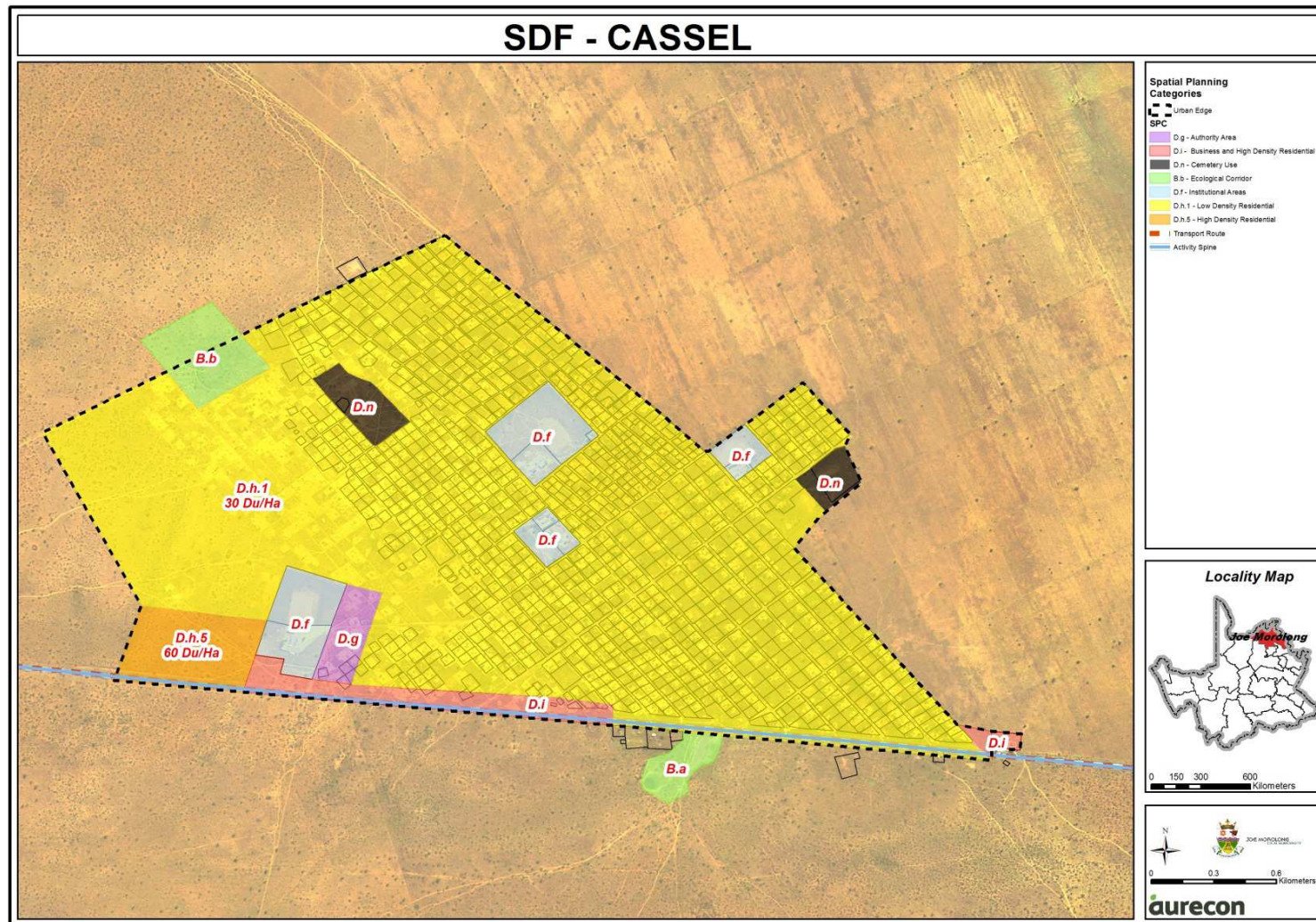
The municipality has a large number of communal or tribal villages. These settlements are mostly made up of informal structures or structures built with traditional materials. Almost no economic opportunities exist and only basic services are provided.

Refer to the composite SDF map to see the villages that represent the “pockets of poverty” where poverty and HDI is at its lowest. People living in these areas need to be given opportunities to better their lives.

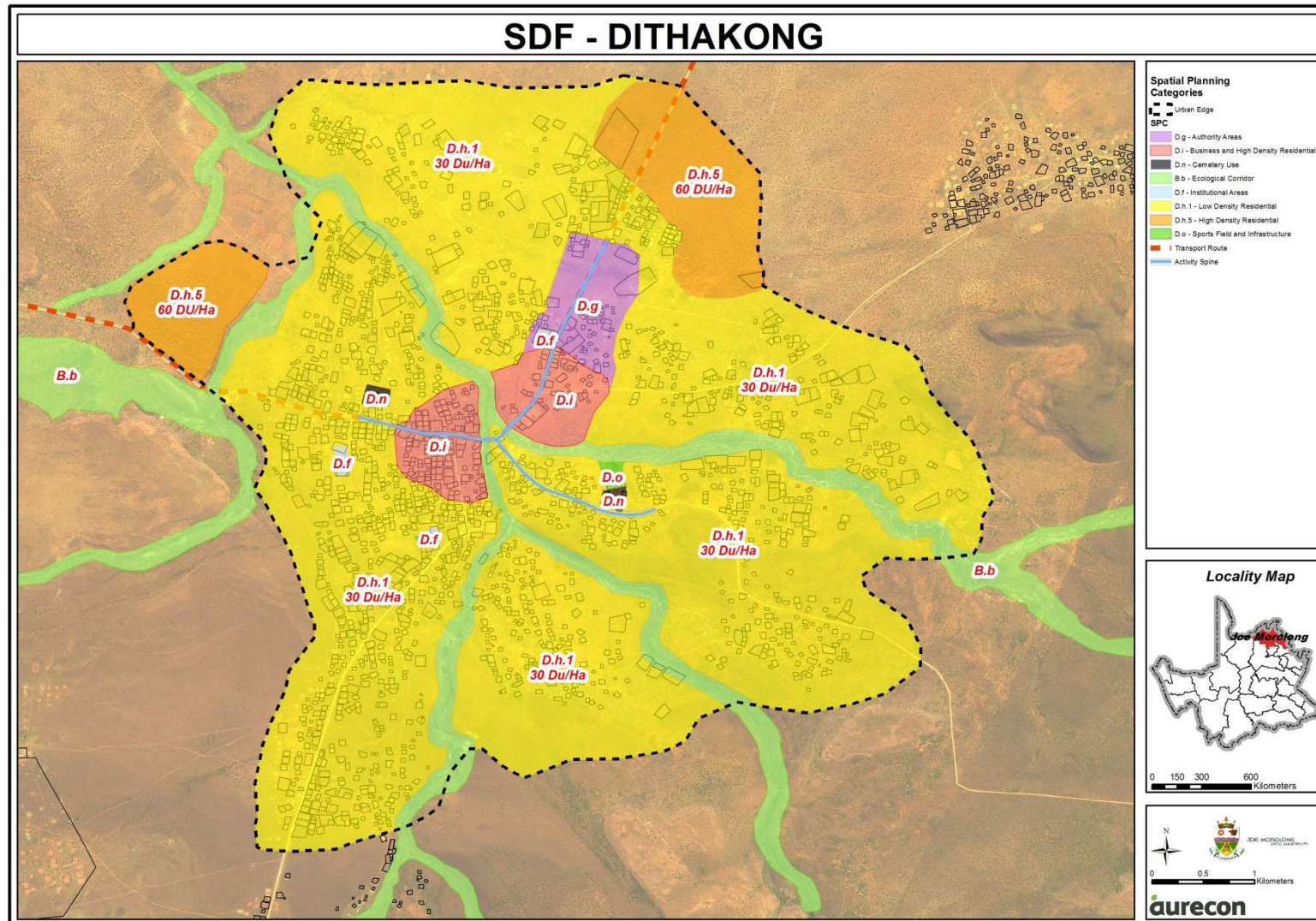
Map 30 : Bothithong Human Developmnet Hub



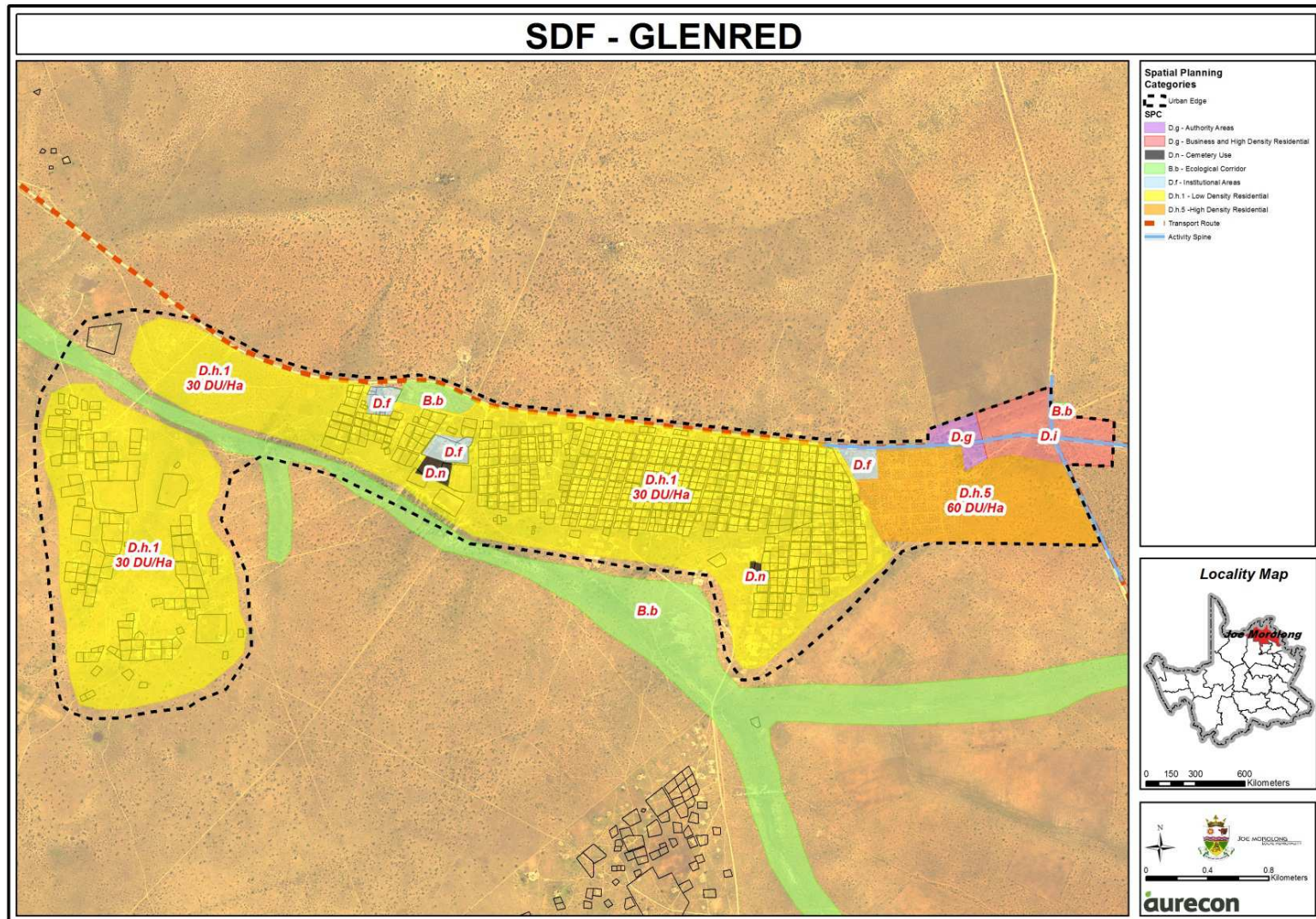
Map 31 : Cassel Human Development Hub



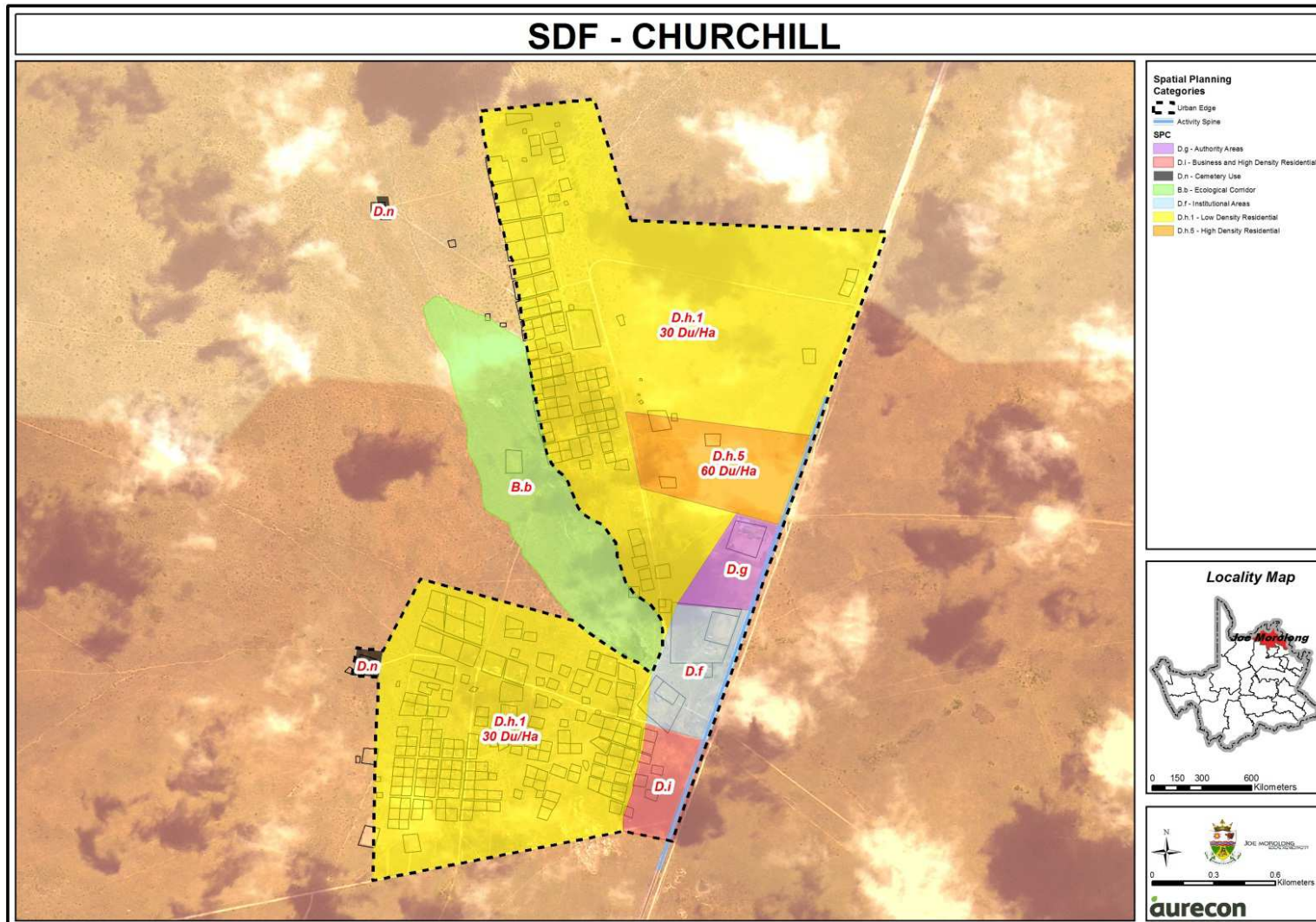
Map 32 : Dithakong Human Development Hub



Map 33 : Glenred Human Development Hub



Map 34 : Churchill Human Development Hub



8.1.2.3 Future neighbourhood development

Having assessed the major activity areas and the densification priority areas in the municipal urban areas, it is also important to look at the residential settlement areas that lie between these activity areas, and the principles that should apply to the development of those areas.

Residential development, in particular residential development for lower income groups, must focus on social and economic integration and inclusion. Settlement development should form an integral part of the urban areas and no housing development initiatives must be identified outside of these areas.

It is proposed that all future settlement developments that take place in the municipal area shall adhere to the principles of the policy document Breaking New Ground: A Comprehensive Plan for the Development of Sustainable Human Settlement. These include principles such as:

- Residents should live in a safe and secure environment, and have adequate access to economic opportunities, a mix of safe and secure housing and tenure types, reliable and affordable basic services, educational, entertainment and cultural activities, health, welfare and police services.
- Ensure the development of compact, mixed land use, diverse, life-enhancing environments with maximum possibilities for pedestrian movement and transit via safe and efficient public transport in cases where motorised means of movement is imperative.
- Ensure that low-income housing is provided in close proximity to areas of opportunity.
- Integrate previously excluded groups into urban areas and the benefits it offers, and to ensure the development of more integrated, functional and environmentally sustainable human settlements, towns and cities. The latter includes densification.
- Encourage Social (Medium-Density) Housing.
- Multi-purpose cluster concept will be applied to incorporate the provision of primary municipal facilities, such as parks, playgrounds,

sports fields, crèches, community halls, taxi ranks, satellite police stations, municipal clinics and informal trading facilities.

- Enhancing settlement design by including design professionals at planning and project design stages, and developing design guidelines.
- Social housing must be understood to accommodate a range of housing product designs to meet spatial and affordability requirements.

The residential settlement areas in Joe Morolong require its own particular interventions over and above the standard principles as set out above. The following indicates the development strategies applicable to them.

It is proposed that development and investment in these service centres should focus on creating sustainable human settlements.¹²⁷

The general qualities that must be achieved are-

- The area must be attractive, safe and convenient for people to live in.
- Residents must have access to residential amenities such as local businesses, transport facilities and social and community facilities.
- The area should have a functional local economy.
- The area must be linked to other urban areas through efficient and affordable movements systems to ensure people's access to goods and services outside of the townships.
- Development and investment in these service centres should focus on creating sustainable human settlements.¹²⁸

The following interventions are proposed-

- Residential densification should take place around the activity network

¹²⁷ UN-Habitat defines a sustainable human settlement as one "where all have adequate shelter, a healthy and safe environment, basic services, and productive and freely chosen employment".

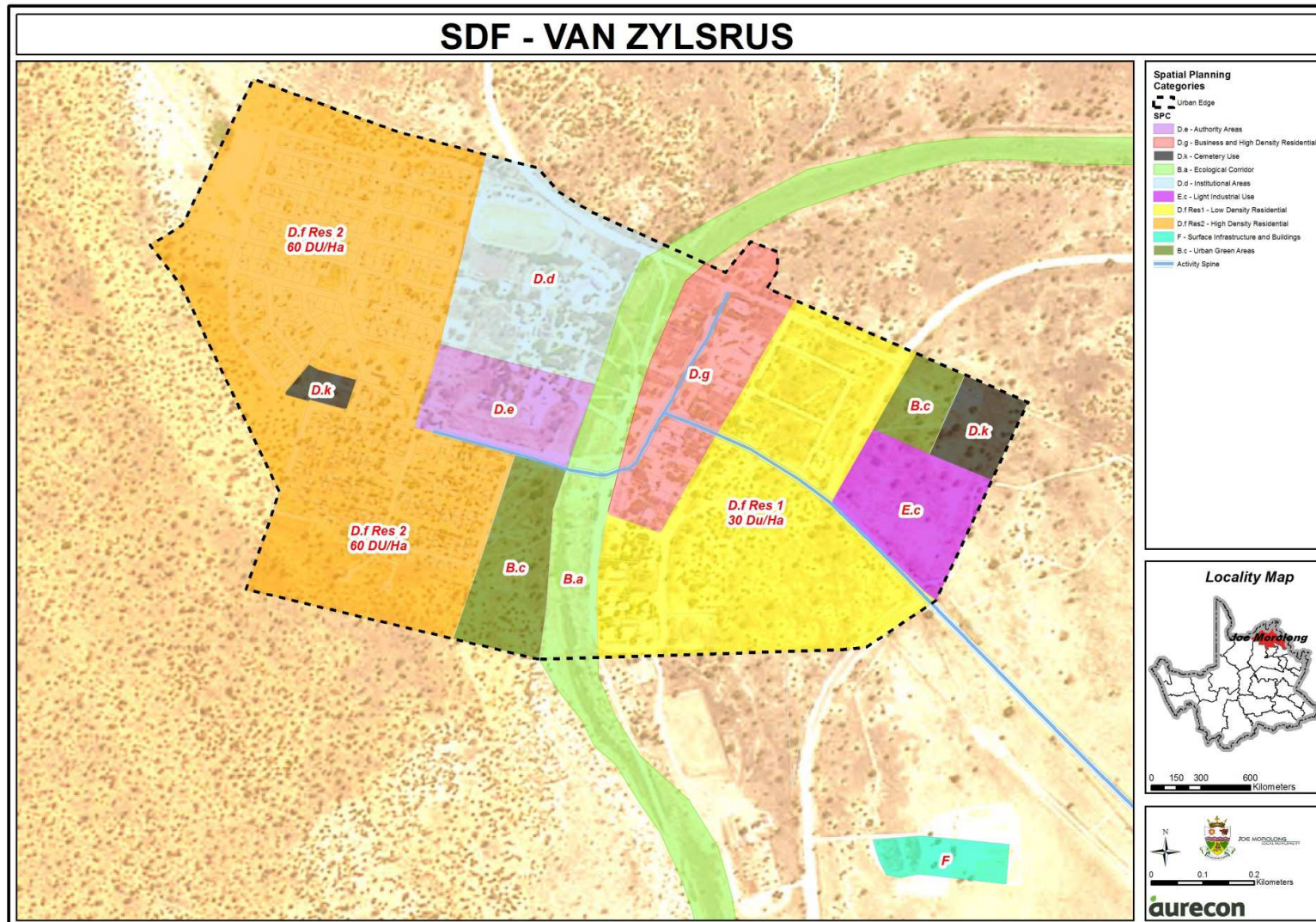
¹²⁸ UN-Habitat defines a sustainable human settlement as one "where all have adequate shelter, a healthy and safe environment, basic services, and productive and freely chosen employment".

to create a proper mixed land use, integrated urban node.

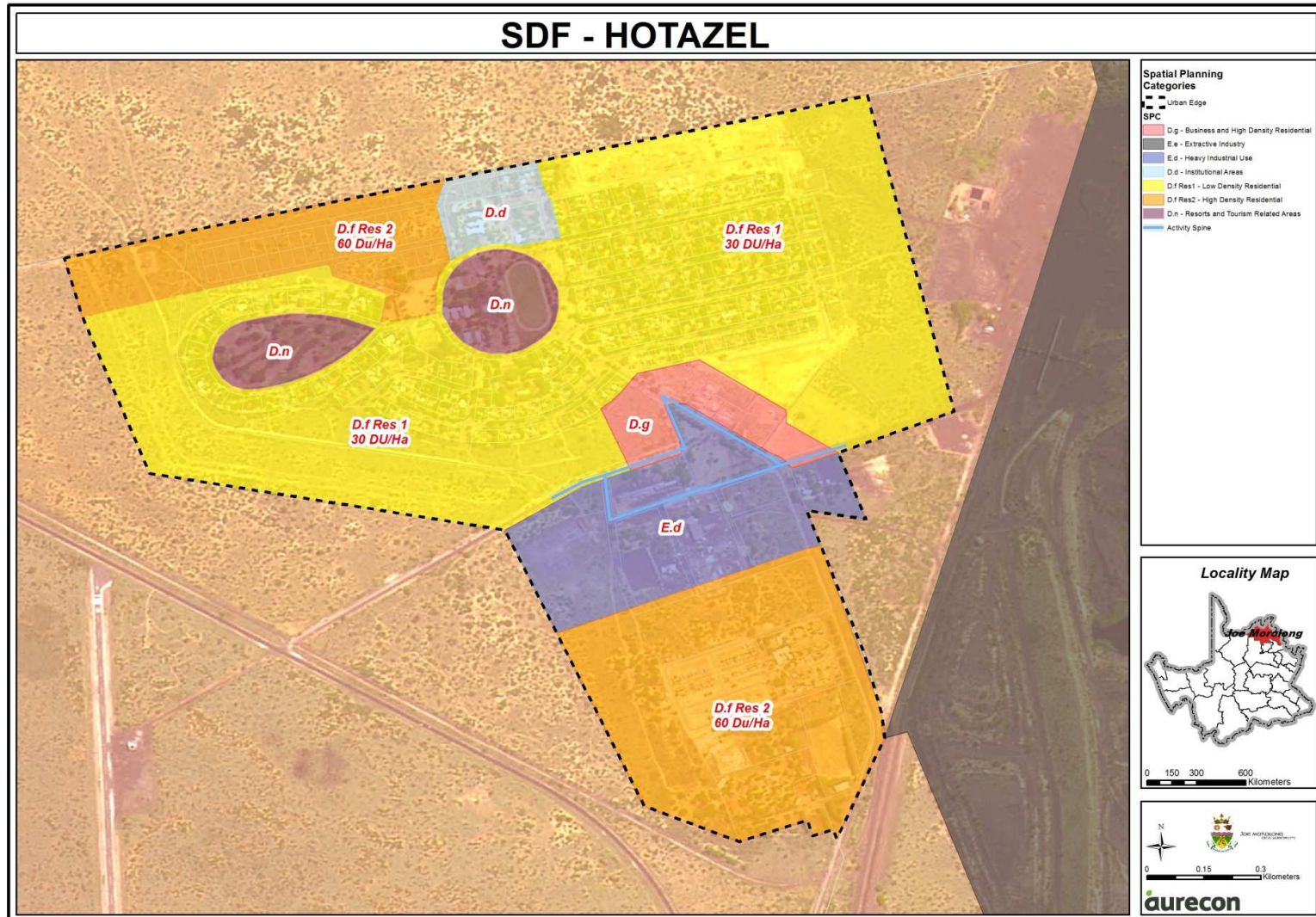
- Infill housing developments must take place on vacant land parcels that are suitable for development.
- The development of public open spaces such as parks, playgrounds and sports fields should be a focus of capital investment in these areas. The development of these facilities should be integrated with the activity node.

The figures below show the development concepts as they apply to Vanzylsrus, Blackrock and Hotazel. Development opportunities are low and further constrained by the low growth rate in the municipality. In general any type of development should be welcomed in these areas. Spatial structuring tools can hamper development and for that reason only a few tools have been identified to guide development in these towns.

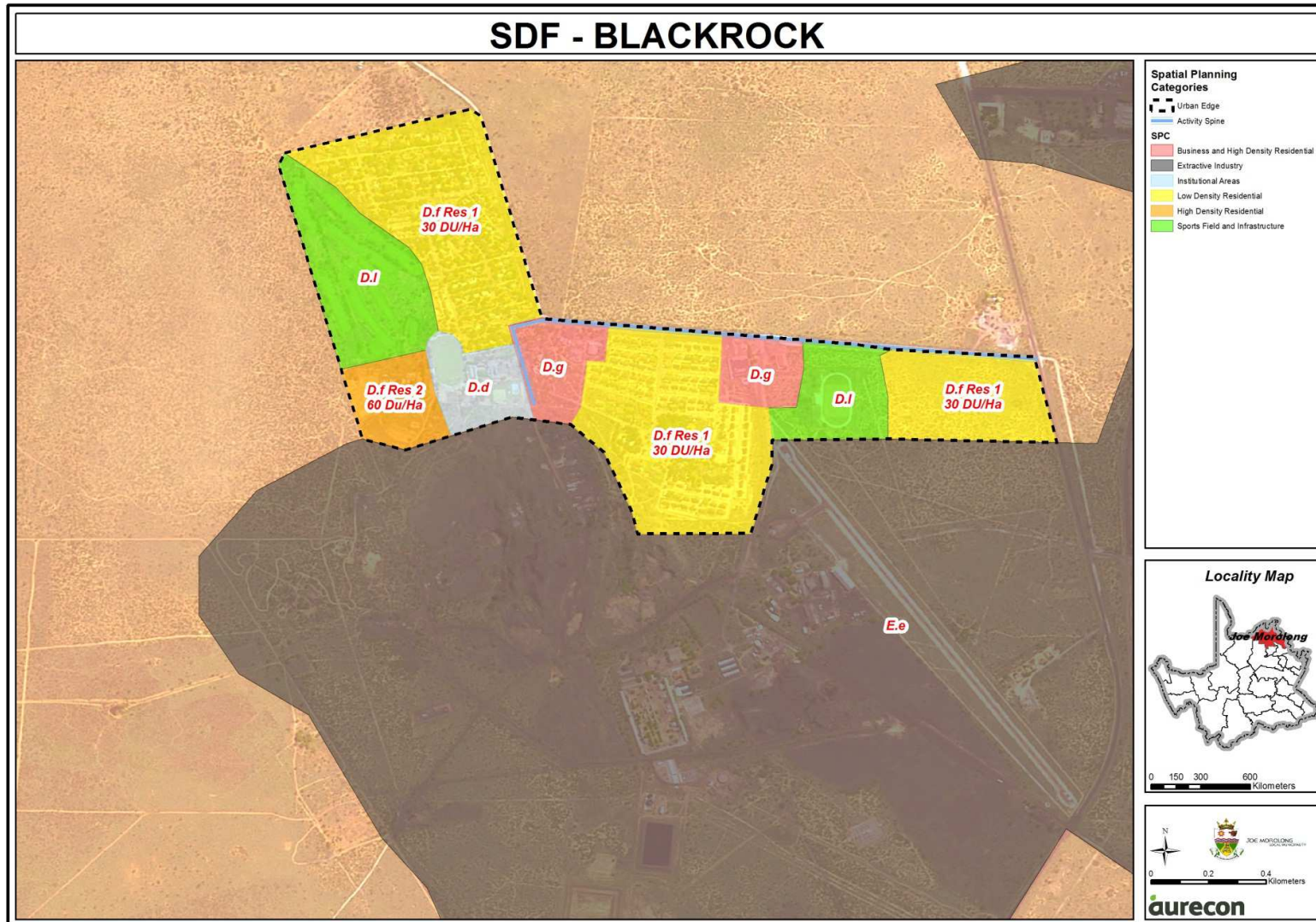
Map 35: Vanzylsrus development concept



Map 36: Hotazel development concept



Map 37: Blackrock Development concept



The following will apply to Vanzylsrus:

- Any business and commercial activities should be limited to SPC D.g; business and high density residential zones.
- Future development areas have been indicated on the map. This is sufficient space to accommodate any development for a period of at least 10 years.
- Higher densities can be allowed for in the densification zones.
- The urban edge will keep development close to opportunities and will not put unnecessary pressure on current infrastructure
- Development is not supported within the 100 year floodline. In addition, development should be setback from the 100 year floodline. Buffers ranging from 10 to 40 metres are generally applied to the floodline to ensure protection of habitat outside of the flood zone. Where the drainage system is too small to calculate a floodline, then development must be setback at least 20 metres from the top of the bank of the drainage line. This ensures that the heads of catchments are kept open allowing for more infiltration and less flooding downstream.

The following will apply to Hotazel:

- The urban edge will keep development close to opportunities and will not put unnecessary pressure on current infrastructure
- There are a lot of vacant stands to allow for future residential development in the densification areas. Any new housing should be provided for in these areas. This will allow for infill development.
- mixed uses should be considered at higher densities

The following will apply to Blackrock:

- The urban edge will keep development close to opportunities and will not put unnecessary pressure on current infrastructure
- Sufficient land is identified for future commercial development
- Additional areas had been identified for residential expansion and an area marked for higher density housing.

8.1.2.4 Cost comparison between service centre establishment and transporting people to main urban areas

Two options are considered to enhance accessibility; the establishment of rural service centres and or improving transport and mobility.

8.1.2.4.1 The cost of establishing rural service centres

The cost for establishing and running a rural service centre was done based on creating a hypothetical centre comprising of 400 people:

Table 30: Elements included in rural service centre

| Facility/element | Number to be provided |
|-----------------------------|-----------------------|
| Number of residential stand | 137 |
| Community hall | 1 |
| Clinic | 1 |
| Postal facility | 1 |
| Primary school | 1 |
| Crèche | 1 |

The capital cost of such a venture is shown below. The total estimated capital cost for the account of the Council is in the order of R11 million. This is based on the assumption that any private developer, for example a business, will pay its own capital cost.

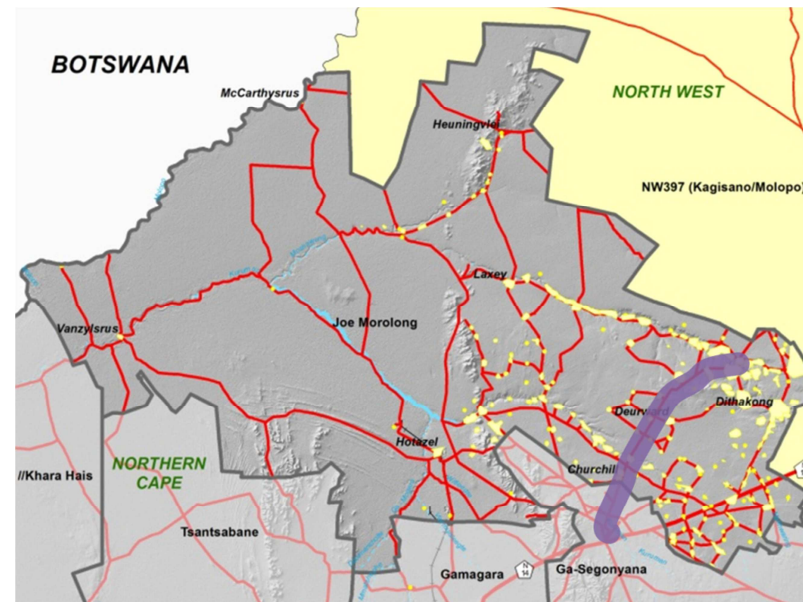
Table 31: Capital cost of developing a basic service centre (R'000)

| | Structu res | Wat er Bul k | Water Reticula tion | Sanitat ion Bulk | Sanitati on Reticula tion | Electri city | Soli d was te | Roa ds Bulk | Roads Reticula tion |
|--------------------|----------------|-----------------------|---------------------------|------------------------|------------------------------------|-----------------|------------------------|-------------------|---------------------------|
| Public investment | 11 083 | 238 | 28 | 0 | 590 | 1 163 | 0 | 347 | 14 |
| Private investment | 4 001 | 7 | 6 | 0 | 7 | 13 | 0 | 6 | 0 |
| Total investment | 15 084 | 245 | 34 | 0 | 598 | 1 175 | 0 | 353 | 14 |

The associated operating cost is in the order of R40 082 rand per month or R480 980 per annum. This implies an effective cost of R293 per household per month. This is only the infrastructure's operating cost and excludes the cost of staffing and running the facilities itself. One should expect that there will be very little cost recovery and furthermore that facilities such as postal facilities, schools and clinics must be a provincial priority otherwise they will not materialize in the service centre. As indicated earlier, these service centres are dependent on a sustainable threshold population within reach of such a centre. The low population densities in the rural areas will make it very difficult to proliferate these types of settlements through the municipal area. As indicated in the earlier assessment there are two, maybe three, points where such a centre might be considered but it still does not solve the problem of general accessibility to services and community facilities.

8.1.2.4.2 A transport solution to increase access to services

An alternative option is to transport people to Kuruman. A possible bus route was identified to give maximum coverage of the municipal area. The analysis is based on the assumption that a free bus service is provided on the route that runs regularly from the furthest point, starting in the morning to Kuruman and then return again in the afternoon. The possible route is shown on the next map.



To meet practical demands the busses should depart at 06:00 in the morning and will then arrive in Kuruman at about 09:00. People can then go about their business and the busses can depart again at 14:00. The last people should be at their destination around 17:00 in the afternoon. The characteristics of the proposed route are as follows:

Table 32: Transport rout characteristics

| Route no | Description | Route length single leg (km) | Travelling time (hours) | Km per month | Trips per week |
|----------|-------------------------------------|------------------------------|-------------------------|--------------|----------------|
| 1 | Bothithong to Kuruman via Churchill | 76,5 | 2.18 | 2448 | 4 |

The following costs were used for calculation purposes:

Table 33: Transport unit costs

| Element | Cost |
|---------------------------------|-----------|
| Cost of a bus | 1 500 000 |
| Running cost / km | 5.50 |
| Driver salary /month | 6 000 |
| Number of bus drivers | 1 |
| Overheads / month | 2 400 |
| Interest rate/annum | 9% |
| Capital redemption (months) | 36 |
| Payment per month | R 47 700 |
| Average speed with stops (km/h) | 35 |
| Days per week serviced | 4 |

The following costs were estimated for the route.

| Rout Description | Running cost/ month | Salaries | Capital redemption | Total cost/ month | Cost / km | No of household served | Cost per household/ month |
|-------------------------------------|---------------------|----------|--------------------|-------------------|-----------|------------------------|---------------------------|
| Bothithong to Kuruman via Churchill | 13 464 | 6 000 | 47 700 | 67 164 | 27,44 | 11357 | 5,91 |

8.1.2.4.3 Service centres versus a bus service

The assessment has shown that the cost per household in establishing rural service centres is in the order of R293 per month. If it is practical to service the same amount of households through establishing service centres then the operating cost to Council will be in the order of R1.275 million per month while the bus service should cost about R70 000 per month based upon an assumed 4350 households served. Furthermore, a bus service can be instituted fairly easily while establishing service centres will be a very lengthy process starting with land

expropriation and extensive negotiations through to construction and then a logistically difficult management and maintenance process.

The biggest benefit of a bus service is its flexibility and ability to provide better coverage. Bus routes can be managed and change to meet changing demands. Giving people the opportunity to access all the facilities in town open up opportunities and choices. On the other hand rural service centre (one may equate this to agri-villages) are very inflexible once established it cannot be changed. These service centres will have to function without any economic base and people settled there will be locked into an environment with very little choices and options. It can very easily develop into clusters of poverty.

8.2 Networks

8.2.1 Corridors and linkages

The typical elements of a development corridor are –

- Major movement infrastructure such as a railway line or highway acting as the spine of the corridor;
- Supporting movement infrastructure such as local access roads that will provide access for land uses situated adjacent to the main movement spine (typically the main movement line provides a high level of visibility to land uses while adjacent roads provide access to land uses.)
- The main movement spine should preferably act as a conduit for public transport, with public transport facilities located along the corridor.
- Forces of attraction along the corridor, such as major destination points along the corridor, which creates the development impetus for eventual linear development along the corridor.
- High intensity land uses along the length of the corridor.

What is important to understand is that the corridor need not take the form of a continuous integrated band of activity. At points of highest access along the central spine, development will be more intense and of a higher order while at locations of lower access, lower intensity development or even part of a natural open space network may be found.

In the JM Local Municipality the following corridor is proposed as is in the NCSDF and DM SDF: The Gamagara Corridor

Currently, the Northern Cape provincial government, in collaboration with the national government, municipalities, communities and private sector role-players in the area, is exploring the possibility of developing a mining corridor along the main mining deposits and activities in the region.

Called the Gamagara Corridor, this venture holds enormous potential for:

- **Responsible mining that benefits everyone in the region;**
- **The development of a much bigger mining-beneficiation sector in the area;**
- **Agricultural production and agro-processing and the establishment and expansion of cooperatives in these sectors;**
- **The setting up and expansion of light industrial and service industries in the area; and**
- **Cooperative, integrated and sustainable human settlement planning and development in the wider region.**

The Joe Morolong SDF takes note of development corridors but there is currently no routes or areas that fulfil the requirements of a successful development corridor. A mini-corridor is proposed to accommodate a bus service to increase mobility and allow people in the municipality access to services. There is a strong case for the development of activity spines, which will be discussed in the following section.

8.2.2 Activity Spines

Activity spines can be defined as concentrated development along mobility routes, which are typically also major public transport routes. Development can either take the form of continuous linear development or a series of nodes along the activity spine.

The network of nodes is reinforced by a system of activity spines, which connect with these nodes. The criteria for identifying the activity spines in Joe Morolong were –

- These activity spines must be linked to the major routes in order to support public transport where feasible.
- The activity spines must have a functional relationship with the nodes, typically acting as destinations on the activity spines.

The activity spines must have a degree of demonstrated development potential. It is proposed that the main roads and major intersections in of all of the identified service centres be classified as activity spines.

Although there are other high order roads that could in theory also qualify as activity spines, it is important to rather focus development energy to specific areas (see principle of minimalism under “Constructing the Spatial Development Concept”).

It is proposed that the activity spines should be characterised by the following –

- High intensity, mixed land uses.
- High density residential development, either directly adjacent to the street or within a distance of 200m from the activity spines.
- The activity spines can be developed as continuous linear development areas or in the “beads-on-a-string” form. The nature of public transport and the length of the route should determine the development pattern. The longer the street the more the development pattern should focus on the beads-on-a-string form. Shorter distances are more conducive to continuous linear development.
- Activity spines should show a large degree of public investment in infrastructure and the public domain.
- Large parking lots adjacent to streets should not be promoted. Buildings should be placed as close to street boundaries as possible to facilitate pedestrian movement and to define and shape the public space.
- Site layouts and building designs of individual developments must take cognisance of and support public transport and pedestrian movement.

- Activity spines must achieve a balance between promoting access, creating pedestrian friendly environments, and accommodating mobility.

8.3 Surfaces

8.3.1 Rural development

Rural areas are defined as “the sparsely populated areas in which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas.”¹²⁹ As shown in the contextual analysis, the largest part of the municipality comprises of a rural environment. The spatial development framework must therefore focus on how to enhance and support appropriate rural development in the area. The rural environment in Joe Morolong is essentially made up of the following four elements:

- Agriculture.
- Natural Open Spaces.
- Rural service centres and towns.
- Conservation and tourism.
- Mining

The rural environment should be protected from development that is not in line with the rural character of the area. The most important principle that applies is that development should be restricted and that the rural character should be maintained. These areas are typically removed from major nodes or activity areas with little chance of functional integration, which means that any inappropriate development in these areas will contribute to an inefficient spatial form and functionality. Any uses that would normally occur in urban or suburban areas should not be approved outside the urban edge.

It is proposed that the following principles apply when evaluating applications for developments outside the identified

¹²⁹ Source: National Rural Development Framework, 1997

urban areas:

- Uses should be rural in nature, or should require a rural setting in order to be functional or viable.
- The development should not require extensive service infrastructure.
- The development should not have any negative environmental impact.
- The development should not create possibilities for other developments to establish in the area.
- Uses that primarily service the local market.
- Uses which are resource based.
- Uses which are located at a defined and approved service delivery centre.

It is proposed that the typical land uses that can be permitted in the rural environment include:

- Nature conservation/sensitive natural areas.
- Agricultural activities.¹³⁰
- Tourism and related activities.
- Conference and training facilities.
- Recreational facilities which are essentially rural in nature.
- Farm stalls and home industries.
- Resource based industries.
- Any other uses that in the municipality's discretion fit in with the character of the area outside the urban edge, provided that such development adheres to the criteria set out above.

It is proposed that the following conditions must apply to development in rural areas -

¹³⁰ Refer to section on High Potential Agricultural Land for an indication of appropriate and sustainable agricultural development.

- Subdivisions of farm portions for exclusive rural residential use or so-called rural/country estates should only be permitted around and contiguous to existing urban areas.¹³¹
- Country estates, which are not situated adjacent to urban areas, should be considered with great caution. Strict requirements must be laid down for the provision of engineering services to and within these estates to ensure that it does not lead to environmental problems. The ability to provide services according to the standards set by the municipality is a pre-requisite. These estates, outside the urban edge, should not bear any service delivery burden or consequences, financial or otherwise, for the municipality.
- Illegal land uses on farm portions, such as industrial and commercial developments that have no direct relation to agriculture, should be eradicated and moved to the urban areas or the rural towns.
- Mining activities in the rural environment may not be permitted within natural areas, or high potential agricultural areas.

8.3.1.1 Rural Housing Development

There is a need for rural housing development in the municipality and the sustainable delivery of such housing is a priority. However, the danger of accommodating housing developments in rural environments without thorough consideration is that islands of poverty are created which have no potential for future economic development or intensive provision of social and community facilities.

It is proposed that to ensure that residents of rural settlements are not just housed in any rural location, which is devoid of services, facilities and economic opportunities, certain principles should apply that must inform the development of rural housing. These are –

- Rural housing should be developed as close as possible to existing rural service centres, or, more ideally, as close as possible to urban areas in Joe Morolong

¹³¹ Rural Residential refers to residential land uses in the rural environment outside of the context of a rural service centre or village. It mainly refers to agricultural holdings or subdivided farm portions where people live without being involved in any form of agriculture.

- Rural housing should focus on providing housing to people who are connected to the rural economy.
- Rural housing development should focus on particular locations in the rural environment where consolidated settlements can be developed. By focusing housing developments in particular locations in the rural environment, it will become possible to develop more sustainable settlements with all basic social services and facilities, rather than having small scattered housing settlements across the rural environment where it is not feasible to provide services and facilities to each of those settlements.

8.3.1.2 Traditional settlements

The municipality's influence in traditional settlement development is restricted by their powers and functions. The land in these areas is the domain of the chief and land is acquired through permission to occupy in a communal land ownership system. This creates a lack of private ownership and thus little potential for private development. Subsistence farming is the largest activity in these areas with few development opportunities. Development is also further restricted by the immovable nature of the people who reside in these areas.

It is therefore proposed that the following apply to traditional settlements:

- The municipality ensures free basic services only in these areas.
- Uses should be rural in nature, to protect the nature and character of the traditional lifestyle.
- Any development should in no way impact negatively on the environment
- This can only be done in agreement with the tribal authority.

8.3.2 Natural Open Space System

Natural open space consists of areas or physical elements that have valuable ecological characteristics and include -

- Mountains and ridges
- Rivers and dams
- Environmentally sensitive areas
- Drainage lines
- Riparian zones

The protection and management of the municipality's natural environment is important for the following reasons –

- The ecological integrity of the natural open space is important in order to maintain natural systems and processes.
- The protection of the natural visual quality of the area increases the attractiveness, liveability, and investment potential of the area.
- The natural open space plays an important role in the social, mental, and physical well-being of residents.
- The natural environment forms the basis for tourism in Joe Morolong and it is therefore imperative that the natural environment is conserved to ensure the long term sustainability of the tourism industry in the municipality.

It is proposed that the following principles should apply to the natural open space system:

- The natural open space system should be protected from intrusive, irresponsible and ad hoc developments that damage the ecological integrity as well as visual quality of these areas. These include urban development, mining activities and agriculture.
- A continuous open space system must be developed in the municipality. This means that in certain areas where natural open space is currently affected by activities the municipality must intervene in order to ensure that these ecological corridors can be created and are able to function appropriately.
- Focus should be placed on and resources allocated to those consolidated natural open space areas where long term ecological sustainability can be achieved.

Although the Spatial Development Framework aims to make development proposals that respect the ecological integrity and environmental sustainability of the area, it has been necessary in certain instances to re-

evaluate environmental potential against development potential in order to achieve the truly sustainable development of the area.¹³²

8.3.2.1 Agricultural Land

Historically agricultural land has not played a significant role in urban structuring. This is based on the need for agricultural production areas in close proximity to the settlements on account of cost advantages due to proximity to the market, direct and indirect employment opportunities for settlement dwellers, stimulation of secondary business activities (e.g. marketing) and food security.

These areas should be reserved as prime agricultural land in the municipality and be protected from any development or land uses that may have a negative impact on the agricultural potential of the area.

It is proposed that the following activities may typically be permitted in the high potential agricultural area:

Table 34: Activities permitted in the high potential agricultural area

| Activity | Definition |
|-----------------------------------|---|
| Agriculture | The cultivation of land for crops and plants or the breeding of animals or the operation of a game farm on an extensive basis on natural veld or land. |
| Agri-Industry and Agri-Processing | An enterprise for the processing of agricultural products on a farming unit or within a rural area owing to the nature, and fragility of such agricultural products (e.g. abattoirs, farm pack stores, etc.). |
| Agri-Village | A private settlement situated within an agricultural area and where residence is restricted to bona fide farm workers and their dependents of the farms involved in the development. |
| Agri-Tourism | A type of tourism in which travellers travel to rural areas to experience the activities and lifestyles of people living and working in the agricultural sector. |

¹³² "Sustainable development" means the integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generations. Source: National Environmental Management Act, 1998

8.3.3 Mining

Mineral resources were, and will be central to key developments in the municipal area. The development of mineral resources contributes to development through increased economic activities and benefits. The importance of mining development cannot be over emphasized. However, the location of mineral deposits and potential mining areas are clearly overlapping with other uses that cause tension and conflicts to exist. The ideal will be to have these activities coexisting but it is doubtful whether this is possible. With the large mineral deposits that do exist, the pressure for further mining will undoubtedly increase.

In dealing with mining developments, the following principles should apply:

- Mining development is supported within the sectoral framework of national legislation and policies.
- No informal settlement will be allowed on mining land.
- Satisfying the demand for infrastructure, housing and services will be for account of the mining companies. Should investments be required from the Council to meet the needs of mining companies, it will only be done once the acceptable performance guarantees are provided by the mining companies.

8.3.4 Tourism

Linked to the presence of high quality natural environments in the municipality, one of Joe Morolong's niche development areas is rural based tourism.

The following tourism sectors are active in the municipality -

- Heritage tourism
- Eco-tourism
- Outdoor recreation
- Agricultural tourism/game farming

Two very important principles, which the tourism development areas must adhere to, are quality and accessibility. Quality refers to aspects such as

environmental management, availability of essential engineering services infrastructure, land use management, development control and architectural standards. Accessibility refers to the availability of and quality of movement infrastructure such as roads and rail as well as the availability of transport services in the area.

Proposed tourism facilities and services, which may be permitted in the tourism focus areas, include-

- Guest Houses and lodges.
- Cultural Villages.
- Environmental education centres.
- Restaurants, tea gardens.
- Wellness centre/spa.
- Infrastructure that serves the tourism facilities.

8.4 Spatial planning tools

8.4.1 The Urban Edge

One of the major issues that affects the future development and spatial structure of the municipality is urban growth management. National and provincial policy directives demand of local authorities to compact urban areas and prevent continuous outward urban sprawl.

The urban edge is defined as an institutional boundary within the municipality with the sole purpose of containing physical development and sprawl and re-directing growth towards a more integrated, compact and efficient urban form.

Peripheral locations are faced with continuous outward development pressures and are typically seen as the perpetrators of sprawl. The delineation of an urban edge is vital for achieving an efficient and sustainable municipality through -

- Containment of urban sprawl;
- Intensification of development;
- Integration of urban areas;
- Protection of valuable agricultural, natural and cultural resources;

- The optimum use of existing resources in established urban areas, such as bulk service infrastructure, roads and public facilities, and
- Reducing the need for commuting as well as commuting distances.

The value of having a long term urban development boundary for the municipality is that –

- It enables long term, focused planning for infrastructure and services delivery;
- It provides certainty in the market, and
- It enables integrated, pro-active long term spatial planning which can direct and manage growth and development.

8.4.2 Infill and densification

Densification is not an end in itself, but a means to achieve more efficient utilisation of transport, the creation of the necessary population thresholds to support community and business facilities and to prevent low density outward expansion and development on land, which is valuable from an ecological or agricultural perspective. In the case of a pedestrian orientated community like Joe Morolong, densification helps with improving access to key facilities and amenities in the town.

It is proposed that:

- Higher density development should be focused around and within walking distance from major activity areas and transport services.
- Densities should decrease as the distance away from major activity areas increases. Higher densities in the wrong locations or which are removed from major activity areas and transport routes can be harmful to urban efficiency and sustainability.
- Densification should capitalise on existing available infrastructure.

Aspects that may influence the level of densification in a particular local context include –

- Availability of infrastructure and services which can support higher density residential development.
- Heritage aspects.

- Socio-economic characteristics.
- Topography.

General guidelines for densification can be summarised as follows:

- Promote average gross residential density of 30du/ha₃ in urban settlements dependent on public transport.
- Promote average gross residential density of 15du/ha in small rural villages not dependent on public transport.
- Densities should increase toward major access routes and strategic centres or cross roads as follows:
- Medium residential densities >15du/ha – 60du/ha within 1km of major transport route.
- High densities – will only be restricted by FAR, coverage and height:
- 100m of activity spines
- in the urban core and CBD's
- mixed uses should be considered at higher densities
- Activity / development spines/streets can be promoted along mobility routes if offset and parallel to (service roads) or, perpendicular and linking to activity streets (access routes) are provided.

Table 35: Density considerations

| Residential density factor | | Plot size (assume 60% of urban land for net residential use) | Appropriate location | Configuration/zoning | Comment |
|----------------------------|-----------------|--|------------------------------------|----------------------|---|
| 1 | 1du/ha – 5du/ha | 1ha- 1200m ² | Abutting and up to 2km outside the | Agricultural Single | There should be a gradual transition to |

| | | | | | |
|----|------------|------------------------|------------|--|--|
| | | | Urban Edge | Dwelling | countryside NOTE: in some cases e.g. CBD abutting Urban Edge and "Urban wall" may be appropriate |
| 2 | 5-30du/ha | 1200-300m ² | "suburbs" | Single dwelling SPC: D.f Res1: low density residential | areas not abutting public transport route nor CBD's / nodes where residents wish to enjoy low density lifestyle outside of 1km walking distance |
| 3a | 30-60du/ha | 250-80m ² | | "Town houses" (group housing - can be Single Dwelling) SPC: D.f Res 2: high density residential | within walking distance of main routes |
| 3b | 30-60du/ha | 250-80m ² | | "BNG" / GAP housing (can be Single Dwellings, Group Housing, General Residential SPC: D.f Res 2: high density residential | conforms with BNG policies – should be located close to public transport corridors and areas of urban opportunity – high densities less suitable in rural settlements. |

| | | | | | |
|---|-------------|---|---|----------|---|
| | | | | | |
| 4 | 75-250du/ha | 80m ² to equivalent of "24m ² plot" = multi story | Abutting / close (say within 100m) of spine route | SPC: D.g | generally 2-4 storey apartments – can go higher (20 storeys = 450du/ha) suitable for urban context on major routes and within nodes. Density determined by FAR, coverage and height restrictions. Suitable for social housing. |

8.4.2.1 Means of achieving densification

Densification can take place in the developed areas of Joe Morolong, on vacant infill sites within the developed areas and on green field sites that are within the town's planned growth direction which should be accommodated within the urban edge. The general process of densification takes place in a number of ways and is supported by a range of zoning and land use regulations.

Means or ways of achieving densification include:

- Additional dwelling units
- Construction of attached/detached second dwellings including the changing of non-residential buildings, or parts of buildings, to residential buildings (e.g. garages).
- Subdivisions
- Subdivision of land and redevelopment at higher densities.
- Consolidation and redevelopment
- Block consolidation of erven with redevelopment at higher densities.

- Consolidation with redevelopment at higher densities including the demolition and integration of existing structures.
- Increased land use rights
- Increasing the existing bulk rights through the extension of the building or adding one of floors to accommodate an increased number of units.
- Higher density infill on underutilised land
- Higher density infill on vacant and under- utilised land throughout the built area of the City.
- Large scale precinct development
- Consolidation of sites within a street block to create a single larger parcel for redevelopment into multi-storey units.

It is proposed that in order to achieve densification in Joe Morolong, the focus should be on:

Higher density infill development on vacant and underutilised land. This is applicable to Blackrock, Hotazel and Vanzylsrus. Taking into account the current growth patterns and the current availability of vacant stand, this should be the priority of the municipality in terms of new development and densification.

8.4.3 Smart Growth

The urban edge is not an isolated management tool, but rather part of a package of urban growth management tools that all need to be employed equally vigorously by the local authority in order to achieve desired, sustainable and efficient urban growth management.

Internationally, a sustainable approach to growth management aptly called “**smart growth**” is seen as the most efficient way of developing urban areas. Smart Growth is a collection of urban development strategies aimed at reducing sprawl and promoting growth that is balanced and fiscally, environmentally and socially responsible. Smart Growth tries to promote growth and development in areas with optimal opportunity, and offers an antidote to the sprawl that has resulted from unlimited low-density development further and further away from the urban centres. Rather than

simply restricting development, smart growth is focussed on how and where new development should be accommodated.

The principles of smart growth are –

- New growth and development must be leveraged to improve existing areas of opportunity.
- Redevelopment of existing areas must be promoted rather than abandoning existing infrastructure and facilities only to rebuild it farther out.
- Development must be “town-centre”, transit and pedestrian oriented.
- Integrated, mixed-land uses must be promoted in strategic locations.

It is proposed that, in order to support the successful implementation of the urban edge, the municipality must focus on employing the following strategies:

- **Management Zones** along the urban edge. Well-functioning urban environments are structured around zones of diminishing intensity as it moves away from areas of highest opportunity. Typically the fringe of urban areas are characterised by what is termed the urban-rural transition zone, comprising low density urban development, low intensity, extensive land uses and semi-rural activities such as nurseries. The urban edge should therefore not denote a clear divide between urban and rural, but rather include management zones along the edge that makes provision for a gradual transition from an urban to a rural environment. The area directly inside the urban edge should look at lower urban intensities, while the areas directly outside the urban edge should make provision for semi-rural and rural residential activities.
- **Promoting Infill development** refers to the identification of vacant land parcels within the demarcated urban areas, amongst existing developments, and developing these parcels of land according to their optimal development potential levels.
- **Promoting Densification in and around strategic locations** is an important antidote to urban sprawl as it looks at providing high numbers of housing units in strategic, highly accessible locations with high levels of access to economic and social

opportunities. If the housing demand, or part thereof, can be satisfied through centrally located high quality higher density residential development then there will be less demand for low density residential developments on the periphery. The secret to success for stimulating the demand for higher density residential living is the quality of the urban environment in which these developments are located. These areas should therefore be focus areas for public investment in infrastructure, social services, streetscape and urban design, open spaces and general high quality, positive performing urban environments.

- **Managed expansion** refers to the gradual and incremental outward growth of a settlement (i.e. the so-called ripple effect), but within demarcated urban development boundaries (or urban edge), as opposed to leap frog developments that are not physically and functionally integrated with the main urban area.

8.4.4 Town Image and Public Spaces

Town image and the quality of public spaces relate to the convenience, safety, security and enjoyment to residents and visitors' experience of the municipal area. To achieve a positive town image with positive performing urban environments, the local authority must focus on urban management together with land use management.

It is proposed that the following aspects receive attention:

- Entrances into Joe Morolong's urban areas should be celebrated through signage, monuments or other prominent features.
- Strategic sites, which provide settings for landmarks, should be identified and utilised. Buildings located at these positions should have landmark qualities.
- Important views and vistas should not be obstructed by development.
- Public urban spaces should be well designed in terms of their function and the role they play within the urban structure and community life.
- Any development should make a positive contribution to the public environment, whether it is an urban or rural setting.

- Main roads should be developed as important public space elements and treated as such with the planting of trees, maintenance of sidewalks and the provision of well designed, coordinated street furniture such as dustbins, bollards, benches, bus shelters etc.

8.4.5 Cultural heritage

Although cultural heritage is not necessarily always spatial in nature, or are not necessarily always on the same scale as other components of the spatial development concept, it is necessary to address it as part of the spatial development proposals. It forms an important part of the spatial environment and development proposals can have a harmful impact on the area's cultural heritage.

South African National Heritage Legislation makes provision for the protection of all natural and man-made heritage objects and intangible heritage. This includes rare phenomena like interesting rock formations, mountains, vistas, trees, bio-spheres, buildings, ruins, roads, animal or man-made tracks, fields, drifts, dams and furrows, graves, artwork, marked or unmarked places of worship or other religious or cultural uses etc. It also includes intangible heritage like folklore, folk art, folk dances, traditions, written and aural history, place names etc.

In general, South African National Heritage Legislation stipulates that anything older than 60 years is regarded as of potential heritage value and may therefore not be destroyed or altered without written permission by the South African National Heritage Council. Even younger objects that the general public and/or the South African National Heritage Council may regard as of heritage value can be declared as Heritage Site/Objects with the same protection.

It is proposed that the following principles apply to developments with a possible impact on cultural heritage:

- All new developments should therefore consider heritage resources as part of the environmental impact assessment process.
- All developments that affect existing structures older than 60 years or those that have been afforded protected status must adhere to the provisions of the relevant legislation.

- All gateways should be maintained as significant features. Signage along routes in the vicinity of gateways must be avoided.
- Major landmarks should be conserved.
- Historical sites such as forts, battlefields, cemeteries etc. should be well maintained.

8.4.6 Municipal Urban Open Space System

The municipal open space system is a network of both natural and man-made open spaces in the urban environment. The latter includes parks, hard open spaces such as town squares and active open spaces such as sports fields.

The development of a planned, interlinked open space network provides the urban environment with variety, legibility and visual relief. It also provides residents with an opportunity to enjoy open space, recreation and general amenity without having to travel great distances. It also provides for flood attenuation, management and urban agriculture opportunities.

It is proposed that with the challenges with access to water in the urban area new open spaces should be considered carefully. Maintaining high quality public environments with appropriate public open spaces is of particular importance in the densification priority zones.

9. Implications for land use

The Northern Cape SDF proposes a system that would aid the Land use management System of the local authority. The system provides “Spatial Planning Categories” (SPC) of land for specific uses, which is to be displayed geographically on a map. Any application for development can then be measured against the respective SPC to measure its suitability for the area and further studies or motivations for the development if need be.

The first step in the process would be to identify a broad based “Environmental Constraints and Development Suitability Plan”. The following types of value can be defined to define each land parcel’s value for its purpose:

- Intrinsic value: aesthetic, heritage or cultural value.
- Instrumental value: potential use or function of site.
- Systemic value: the role of the site or feature in ecological, social or economic system.
- By using the above-mentioned values, the following broad zones can be classified:
- No development zone: no development allowed due to environmental or infrastructural constraints and the fact that the sites have a high intrinsic and systemic value.
- Conditional development zone: developments can be allowed under certain conditions to mitigate the detrimental effects of the development.
- Development zone: Sites with a low intrinsic and systemic value, sites that form part of designated urban expansion zones.

9.1 Spatial Planning Categories

These zones do not grant any rights nor does it prevent the municipality to request specialist studies. The UNESCO biosphere reserve zonation model is used to ultimately determine land use classifications.







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

Table 36: Spatial Planning Categories (Source: Northern Cape SDF 2011)

| Category | Description | Classification Criteria |
|-------------------|-----------------------------------|--|
| Category A | Designated Core Conservation Area | <ul style="list-style-type: none"> a) Areas of high conservation importance to be protected from development b) Generally only non-consumptive land-uses allowed conditionally. |
| Category B | Natural Buffer Area | <ul style="list-style-type: none"> a) Areas that serve as a buffer between Category A and Category C areas. b) Providing an appropriate interim classification for conservation-worthy areas that do not have statutory protection, including ecological corridors and areas worthy of rehabilitation. c) Appropriate sustainable development and non-consumptive land-uses may be allowed conditionally. |
| Category C | Agricultural areas | Rural areas where extensive and intensive agriculture is practiced. |
| Category D | Urban-related areas | Areas accommodating a broad spectrum of urban-related development and associated services and infrastructure. |
| Category E | Industrial areas | Areas accommodating industrial activities and associated infrastructure and where very high intensity of human activity and consumptive land-use occur. |

| | | |
|-------------------|--------------------------------------|---|
| Category F | Surface infrastructure and buildings | All surface infrastructure and buildings not catered for in the above categories, including roads, railway lines, power lines, communication structures, etc. |
|-------------------|--------------------------------------|---|

Table 37: Detailed description of Spatial Planning Categories according to NCPSDF for SPC A:

| CATEGORY A: CORE AREAS | | |
|------------------------|--|---|
| SUB - CATEGORY | | DESCRIPTION |
| A.a | Statutory Protected Areas | Areas designated in terms of legislation for biodiversity conservation, defined categories of outdoor recreation and resource use. |
| | | Conservation purposes are purposes normally or reasonably associated with, the use of land for the protection of the natural and/or built environment, including the protection of the physical, ecological, cultural and historical characteristics of land against undesirable change (adapted from Draft Spatial Planning and Land Use Management Bill, 2011). |
| A.a.1 | Wilderness Areas (declared in terms of NEMPA 57 of 2003) | |
| | <p>Areas characterised by their intrinsically wild and pristine appearance and character, or that are capable of being restored to such, and which are undeveloped, without permanent improvements or human habitation. Such areas are declared to:</p> <ul style="list-style-type: none"> a) protect and maintain the natural character of the environment, biodiversity resources, associated natural and cultural resources; b) provide environmental goods and services; c) provide outstanding opportunities for solitude and primitive outdoor experiences; and d) provide controlled access to those who understand and appreciate wilderness, and those who wish to develop such an understanding. | |

| | |
|-------|---|
| A.a.2 | <p>Special Nature Reserves (declared in terms of NEMPA¹³³ 57 of 2003)</p> <p>Areas characterised by sensitive, ecologically outstanding ecosystems or natural habitats, natural communities' populations or species, or unique geological or biophysical features conserved primarily for scientific research, educational and limited nature-based recreational purposes.</p> |
| A.a.3 | <p>National Parks (declared in terms of NEMPA 57 of 2003)</p> <p>Designated to protect areas of national or international biodiversity importance; or containing a representative sample of South Africa's natural systems, scenic areas or cultural heritage sites; or the ecological integrity of one or more ecosystems. National parks provide spiritual, scientific, educational, recreational and tourism-related opportunities which are mutually and environmentally compatible and can contribute to local and regional economic development.</p> |
| A.a.4 | <p>Nature Reserves, including provincial, local authority and registered private nature reserves (declared in terms of NEMPA 57 of 2003)</p> <p>Areas of significant ecological, biophysical, historical, or archaeological interest or that are in need of long-term protection for the maintenance of its biodiversity or for the provision of environmental goods and services. Nature reserves are declared to</p> <ol style="list-style-type: none"> supplement the systems of wilderness areas and national parks in South Africa; sustainable provide natural products and services to local communities; enable the continuation of traditional resource uses; and provide nature-based recreational and tourism opportunities. |
| A.a.5 | <p>Protected Environments (declared in terms of NEMPA 57 of 2003)</p> <p>Areas may be declared as a protected environment to:</p> <ol style="list-style-type: none"> Conserve the area as a buffer zone for the protection of a wilderness area, special natural reserve, national park, world heritage site or nature reserve. Enable owners of land to take collective action to conserve |

¹³³ *National Environmental Management: Protected Areas Act 57 of 2003*

| | |
|-------|--|
| | <p>biodiversity on their land and to seek legal recognition for such actions.</p> <ol style="list-style-type: none"> Protect the area if it is sensitive to development due to its – <ul style="list-style-type: none"> Biological diversity; Natural, cultural, historical, archaeological or geological value; Scenic and landscape value; or Provision of environmental goods and services. Protect a specific ecosystem outside of a wilderness area, special nature reserve, national park, world heritage site. Ensure that the use of natural resources is sustainable. Control change in land use if the area is earmarked for declaration as, or inclusion in, a wilderness area, national park or nature reserve. |
| A.a.6 | <p>Forest Wilderness Areas/Forest Nature Reserves (in terms of s 8 [1] of National Forests Act 84 of 1998)</p> <p>Declared forest wilderness areas and forest nature reserves include:</p> <ol style="list-style-type: none"> natural forests, i.e. tract of indigenous trees whose crowns are largely contiguous and which comprise all other floral and faunal forest elements; woodlands, i.e. a group of indigenous trees which are not a natural forest, but whose crowns cover more than 5% of the area bounded by the trees forming the perimeter of the group: and natural habitats or ecosystem components. |
| A.a.7 | <p>Marine Protected Areas (declared in terms of Marine Living Resources Act 18 of 1998)</p> <p>Areas declared as a marine protected area:</p> <ol style="list-style-type: none"> For the protection of communities, populations or species of fauna and the biophysical features on which they depend; To facilitate fishery management by protecting spawning stock, allowing stock recovery, enhancing stock abundance in adjacent areas, and providing pristine communities for research; or To mitigate any conflict that may arise from competing uses in that area. |
| A.a.8 | <p>World Heritage Sites (declared in terms of World Heritage Convention Act</p> |

| | |
|-------|--|
| | 49 of 1999) Cultural ¹³⁴ or natural ¹³⁵ areas that has been: a) Included on the World Heritage List, or the tentative list of the Republic, and has been proclaimed as a World Heritage Site, or b) Proclaimed to be a special heritage site for management in accordance with the Act (such areas cannot be referred to as a World Heritage Site). |
| A.a.9 | World Heritage Sites (declared in terms of Mountain Catchment Areas Act 63 of 1970) Areas declared as mountain catchment areas that provide for the conservation, use, management and control of such land. |

¹³⁴ For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as **'cultural heritage'**: monuments, architectural works, works of monumental sculpture and painting, elements of structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science, groups of buildings, groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science, sites, works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

¹³⁵ For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as **'natural heritage'**: natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view, geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation, natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Objectives:

- These areas must be protected and development under normal circumstances is not allowed.

Policies:

- Development of biodiversity areas must be facilitated with the help of innovative public-private partnerships.
- Non-consummative activities such as passive outdoor recreation activities and tourism to be allowed.
- The development of any new protected area must be researched and the integration of such areas with their surrounding and uses must form part of such a research program.

9.1.1 SPC B – Buffer Areas

Table 38: Detailed description of Spatial Planning Categories according to NCPSDF for SPC B:

| CATEGORY B: NATURAL BUFFER AREAS | | |
|----------------------------------|----------------------------------|--|
| SUB - CATEGORY | | DESCRIPTION |
| B.a | Non-Statutory Conservation Areas | Areas voluntarily set aside by land owners and managed for conservation purposes in terms of the legislation applicable to the current zoning of such land and not in terms of dedicated conservation legislation. |
| B.a.1 | Contractual Conservation Areas | Areas designated for conservation purposes in terms of an agreement with a conservation agency, or between landowners, a lease agreement, or servitude. This category includes conservancies and biodiversity stewardship sites. |

| | |
|-------|---|
| B.a.2 | Private conservation areas Areas zoned as private open space zone II ¹³⁶ in terms of Scheme Regulations in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO), for the primary use of conservation. Also areas unofficially designated and managed for conservation purposes by the relevant land owner. |
|-------|---|

| | | |
|-------|--|--|
| B.b | Ecological Corridors | Linkages between natural habitats or ecosystems that contribute to the connectivity of the latter and to the maintenance of associated natural processes. |
| B.b.1 | <u>Freshwater Ecosystem Priority Areas (FEPA)</u> (in terms of National Freshwater Ecosystem Priority Areas Project) Identified river and wetland FEPAs and fish support areas, including a generic buffer of 100m, measured from the top of bank of the river or the delineated riparian area, whichever is larger, and measured from the outside edge of the wetland (Implementation Manual for Freshwater Ecosystem Priority Areas, Aug 2011). | |
| B.b.2 | Rivers or riverbeds (incl. 32 m buffer) (in terms of NEMA ¹³⁷ 107 of 1998) All other perennial and non-perennial rivers and wetlands, including a buffer of 32m based on the generic buffer width used | |

¹³⁶ Private Open Space refers to any land which has been set aside for utilization primarily as a private site for sports, play, rest or recreational facilities or as an ornamental garden or pleasure garden and includes public land which is or will be leased on a long-term basis and a cemetery, whether public or private (Scheme Regulations made in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO).

¹³⁷ National Environmental Management Act 107 of 1998.

| | |
|-------|--|
| | for aquatic features in the Listing Notices of the Environmental Impact Assessment Regulations, 2010 (GN R544, GN R545 and GN R546). |
| B.b.3 | Other Natural Areas <ul style="list-style-type: none"> a) Sensitive Coastal Areas. b) Tracts of natural vegetation that form part of, or link ecosystems components (i.e. tracts of natural vegetation acting as a buffer zone between rivers located in FEPA Fish Support Areas and Fish Sanctuaries, and Category C and D areas). c) Any other natural areas that are conservation-worthy and which form linkages to natural areas within Category C and D areas. |

| | | |
|-------|-------------------------|---|
| B.c | Urban Green Areas | Municipal open spaces (including playgrounds) that form in integral part of the urban structure (including areas zoned Open Space Zone I and II). |
| B.c.1 | <u>Public Park</u> | |
| B.b.2 | <u>Landscaped Areas</u> | |

Objectives:

- Create a continuous network of natural resources areas throughout the municipality that maintain ecological processes and provide ecosystem services (e.g. benefits that people derive from ecosystems).
- To create a continuous network of natural resources areas throughout the Municipal area that maintain ecological processes and provide ecosystem services and these include the provision of

water, arable soil, disaster amelioration, recreational opportunities, etc.

Policies:

- The management of such systems must honour long-standing benign uses by local people.
- No structures and permanent human habitation will be permitted below the 1:50 year flood line of the Orange River and or any other local river or storm water component in the municipality.
- In the case of existing building, resorts and developments below the flood line and or where the flood line has been altered, the development and or redevelopment may be allowed on the condition that a comprehensive flood management plan is drawn up and approved by the various authorities. Such a plan must focus on flood proofing buildings, construction of buildings on fill above the flood level, buildings on piers and columns and taking into consideration the flood height, duration of floods and velocity of water flow.
- Any modification of an SPC B area is subject to an appropriate environmental off-set of quid pro quo. Such off-set could be in the form of other SPC B land being formally designated as SPC A, mitigation banking (i.e. putting an appropriate amount of monetary capital into a trust to fund conservation initiatives where required) and implementation of the SDI approach as prescribed in the NCPSPSF Toolkit D10.¹³⁸

¹³⁸ Northern Cape: Provincial Development and Resource Management Plan/ Provincial Spatial Development Framework: Final Draft 2012

9.1.2 SPC C – Agricultural Areas

Table 39: Detailed description of Spatial Planning Categories according to NCPSPSF for SPC C:

| CATEGORY C: AGRICULTURAL AREAS | | |
|--------------------------------|------------------------------|---|
| SUB - CATEGORY | | DESCRIPTION |
| C.a | Extensive agricultural areas | Agricultural areas covered with natural vegetation, used for extensive agricultural enterprises, e.g. indigenous plant harvesting, extensive stockfarming, game-farming, eco-tourism. |
| C.a.1 | Bona-fide Game Farms | |
| C.a.2 | Extensive Stock Farms | |

| | | |
|-------|---|--|
| C.b | Intensive agricultural areas | Agricultural areas used for intensive agricultural practices, e.g. crop cultivation, vineyards, intensive stock farming on pastures. |
| C.b.1 | Cultivated Areas | |
| C.b.2 | Plantations and Woodlots. Plantations, i.e. group of trees cultivated for exploitation of the wood, bark, leaves of essential oils in the trees; forest produce, i.e. anything which appears or grows in such plantation including any living organisms and any product of it. | |

Objectives:

- To assist in the development of the agricultural sector of the municipality into a Provincial and National Asset.
- Develop and utilise the comparative economic advantages vested in agriculture.

- To protect high potential agricultural land from non-agricultural development outside of the Urban Edge of the various towns.
- Utilise agricultural land in terms of the principles of sustainable agriculture.

Policies:

- Any modification of an SPC C area is subject to an appropriate environmental off-set or quid pro quo. Such off-set could be in the form of other SPC B land being formally designated as SPC A, mitigation banking (i.e. putting an appropriate amount of monetary capital into a trust to fund conservation initiatives where required) and implementation of the SDI approach as prescribed in the NCPSDF Toolkit D10.¹³⁹
- Any enhanced development rights on SPC C areas must be subject to the establishment of a Special Management Area where the ethos of sustainable agriculture is served in practice.

9.1.3 SPC D – Urban Areas

Table 40: Detailed description of Spatial Planning Categories according to NCPSDF for SPC D:

| CATEGORY D: URBAN-RELATED AREAS | | |
|---------------------------------|-----------|--|
| SUB - CATEGORY | | DESCRIPTION |
| D.a | Main Town | Towns accommodating Category A Municipalities (i.e. metropolitan areas and the seat (capital town) of Category C Municipalities (District Municipalities), |

¹³⁹ Northern Cape: Provincial Development and Resource Management Plan/ Provincial Spatial Development Framework: Final Draft 2012

| | | |
|-----|------------------------------|---|
| D.b | Local Town | Towns accommodating the seat (capital town) of Category B Municipalities (Local Municipalities). |
| D.c | Rural Settlements | Smaller towns and rural settlements that fall under the jurisdiction of Category B Municipalities (i.e. towns and rural settlements forming part of a Local Municipality). |
| D.d | Tribal Authority Settlements | Formal and informal residential areas under the ownership of tribal authorities ¹⁴⁰ . |
| D.e | Communal Settlements | Settlements that have been planned, classified and subdivided in terms of the former Rural Areas Act 9 of 1987 and which, in terms of the Transformation of Certain Rural Areas Act 94 of 1998, can be transferred to a legal entity of the community's choice. |
| D.f | Institutional Areas | Areas designated for schools, colleges (areas zoned Institutional Zone I ¹⁴¹); churches and |

¹⁴⁰ The following Tribal Authorities are present in the Municipality:

- BATLHAPING BA GA SEHUNELLO
- BATLHAPING BOO PUDUHUTSWANA BA GA JANTJIE
- BATLHARO BA GA MOTLHWARE
- BATLHARO BA GA PHADIMA
- BATLHAPING BOO PHUDUHUTSWANA BA GA MAHURU
- BATLHAPING BOO PHUDUHUTSWANA BA GA THAGANYANE
- BATLHAPING BOO PHUDUHUTSWANA BA GA PHETLHU
- BATLHARO BA GA LOTLHWARE
- BATLHAPING BOO PUDUHUTSWANA KWA BOTHITONG

¹⁴¹ Any reference made to zonation of erven refers to the Scheme Regulations made in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO).

| | | |
|-------|--|---|
| | | mosques (areas zoned Institutional Zone II) and areas zoned Institutional Zone III. |
| D.f.1 | <u>Place of Instruction</u> (Institutional Zone I) | |
| D.f.2 | <u>Place of Worship</u> (Institutional Zone II) | |
| D.f.3 | <u>Institution</u> (Institutional Zone III) | |

| | | |
|-------|-------------------------------------|---|
| D.g | Authority Areas | Areas designated for governmental purposes and other official uses, e.g. municipal offices, offices of parastatals (Telkom, Eskom) (areas zoned Authority Zone I and II). |
| D.g.1 | Government Uses (Authority Zone II) | |
| D.g.2 | Municipal Uses (Authority Zone I) | |

| | | |
|-------|--------------------------------|---|
| D.h | Residential Areas | Areas designated for residential purposes, e.g. single title erven, group housing, estates (areas zoned Residential Zone I-IV), 'GAP housing' ¹⁴² and residential smallholdings. |
| D.h.1 | Single Residential House | |
| D.h.2 | Group Housing | |
| D.h.3 | Guest House | |
| D.h.4 | Flats/Residential Building | |
| D.h.5 | Mixed Density Residential Area | |
| D.h.6 | GAP Housing | |
| D.h.7 | Low Cost Housing | |

¹⁴² 'GAP housing' refers to a category of residential units that falls between the housing units provided by the state (< R100 000) and those provided by the private sector (>R250 000). The GAP housing market typically caters for the people earning between R3 500 and R10 000 per month, which is too little to enable them to enter the private property market, yet too much to qualify to state assistance.

| | | |
|--------|--------------------|--|
| D.h.8 | Informal Housing | |
| D.h.9 | Small Holdings | |
| D.h.10 | Residential Estate | |

| | | |
|-------|------------------|---|
| D.i | Business Areas | Areas designated for activities associated with retail and service industries, e.g. shops, restaurants, professional offices (areas zoned Business Zone I). |
| D.i.1 | Business Premise | |
| D.i.2 | Shop | |

| | | |
|-------|--------------------------|--|
| D.j | Service Related Business | Areas designated for other business activities associated with service trade industries, e.g. laundrettes and light manufacturing industries (areas zoned Business Zone II; and industries associated with motor vehicle sales, repairs (areas zoned Business Zone III). |
| D.j.1 | Service Trade Industry | |
| D.j.2 | Service Station | |

| | | |
|-------|---------------------|---|
| D.k | Special Business | Areas designated for special business activities associated with casinos and gambling houses (areas zoned Business Zone IV) and areas identified for adult entertainment (areas zoned Business Zone V). |
| D.k.1 | Casino | |
| D.k.2 | Adult Entertainment | |

| | | |
|-----|-----------------|--|
| D.l | SMME Incubators | Areas designated for Small Medium and Micro Enterprises (SMMEs) and associated infrastructure and services focused on community-based service trades and retail. |
|-----|-----------------|--|

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|-----|---------------------------------|--|
| D.m | Mixed Development Areas | Use Areas designated for innovative combinations of land use, e.g. residential/light business; light industry/light business (in terms of various municipal zonings). |
| D.n | Cemeteries | Cemeteries and formal burial parks (zoned Open Space II), excluding crematoriums. |
| D.o | Sports fields & Infrastructure | Dedicated sports fields together with the associated infrastructure, parking areas, and services. |
| D.p | Airport Infrastructure and | Areas designated as airport together with the infrastructure and services associated with the airport and its activities (Transport Zone I). |
| D.q | Resorts & Tourism Related Areas | Resorts (areas zoned Resort Zone I) and tourism-related nodes and amenities that form part of a designated Hospitality Corridor. |
| D.r | Farmsteads & Outbuildings | Main farmsteads, including on-farm infrastructure required for farm logistics, e.g. houses, sheds, packing facilities, etc. |

Objectives:

- Develop sustainable primary and secondary towns that will promote the well-being of the residents.
- End apartheid style planning designs.
- Promote sustainable activities.

Policies:

- Urban edge: prevent outward sprawl, contain and integrate spatial planning, protect valuable natural resources and prevent the fragmentation of agricultural land.
- Nodes: focus development on identified nodes in terms of the hierarchy identified.
- Activity streets: focus non-residential uses on activity streets.
- Densification and in-fill planning: efficient use of existing resources, protection of natural assets, promotes public transport development and improvement pedestrian access.
- Spatial Planning Categories to inform future development applications and Land Use Management System.
- “Breaking New Ground” (BNG) principles for neighbourhood developments.
- Urban open space: maintain visual quality, attractiveness, livability and investment.
- Town image: celebrate town entrances; provide landmark sites, no obstructions to important views and vistas, well designed public urban spaces, planting of trees, provision of public furniture.
- Human Development Hubs: clusters of villages identified for human development and investments focus.

9.1.4 SPC E – Industrial Areas

Table 41: Detailed description of Spatial Planning Categories according to NCPSDF for SPC E:

| CATEGORY E: INDUSTRIAL AREAS | | |
|------------------------------|-----------------------|---|
| SUB - CATEGORY | | DESCRIPTION |
| E.a | Agricultural industry | Agriculture-related industrial development, e.g. silos, wine cellars, packing facilities (areas zoned Agricultural Zone II), excluding abattoirs. |

| | | |
|-----|-----------------------------|--|
| E.b | Industrial Development Zone | Dedicated industrial estate ideally linked to an international, or national, port that leverages fixed direct investments in value-added and export-orientated manufacturing industries. |
|-----|-----------------------------|--|

| | | |
|-------|-------------------------------------|---|
| E.c | Light industry | Areas designated for light industrial activities associated with the service industry (e.g. repair of motor vehicles) including warehouses and service stations (areas zoned Industrial Zone I and II). |
| E.c.1 | Light Industry (Industrial Zone I) | |
| E.c.2 | Light Industry (Industrial Zone II) | |

| | | |
|-----|----------------|--|
| E.d | Heavy Industry | Areas designated for robust industrial activities e.g. chemical works, brewery, manure, processing of hides, abattoirs, stone crushing, crematoriums (areas zone Industrial Zone III). |
|-----|----------------|--|

| | | |
|-----|---------------------|--|
| E.e | Extractive industry | Settlements and infrastructure associated with multiple consumptive resource extraction, e.g. mining (Special Zoning). |
|-----|---------------------|--|

- Ensure the sustainable use and protection of the environment.
- Ensure that the development and design of Industrial areas is in a manner that supports the existing economy.

Objectives:

- To establish industrial Precincts in the various towns and the provision of infrastructure to harvest and process the resources available.

Policies:

- To identify an Industrial Precinct for each of the towns where the opportunity for manufacturing exist.

9.1.5 SPC F – Surface Infrastructure and Buildings

Table 42: Detailed description of Spatial Planning Categories according to NCPSPDF for SPC F:

| CATEGORY F: SURFACE INFRASTRUCTURE & BUILDING | | |
|---|------------------------------------|---|
| SUB - CATEGORY | | DESCRIPTION |
| F.a | National roads | National roads proclaimed in terms of the National Roads Act 7 of 1998. |
| F.b | Main roads | Provincial and regional roads proclaimed in terms of the Roads Ordinance 19 of 1976. |
| F.c | Minor roads | Regional and local roads proclaimed in terms of the Roads Ordinance 19 of 1976. |
| F.d | Public Streets | Public streets and parking areas within main town and rural settlements (areas zoned Transport Zone II and III respectively). |
| F.e | Heavy Vehicle Overnight Facilities | Areas designated for heavy vehicle parking and overnight facilities (areas zoned Transport Zone IV). |
| F.f | Railway lines | Railway lines and associated infrastructure (areas zoned Transport Zone I). |
| F.g | Power lines | Power lines and associated sub-stations and infrastructure. |
| F.h | Telecommunication infrastructure | Any part of the infrastructure of a telecommunication network for radio/wireless communication including, voice, data and video telecommunications, which may include |

| | | |
|--|--|--|
| | | antennae; any support structure, equipment room, radio equipment and optical communications equipment provided by cellular network operators or any other telecommunication providers and all ancillary structures needed for the operation of telecommunication infrastructure. |
|--|--|--|

| | | |
|-----|-----------------------------|---|
| F.i | Renewable energy structures | Any wind turbine or solar voltaic apparatus, or grouping thereof, which captures and converts wind or solar radiation into energy for commercial gain irrespective of whether it feeds onto an electricity grid or not. It includes any appurtenant ¹⁴³ structure or any test facility which may lead to the generation of energy on a commercial basis. |
|-----|-----------------------------|---|

| | | |
|-----|-------------------|----------------------------|
| F.j | Dams & Reservoirs | Major dams and reservoirs. |
|-----|-------------------|----------------------------|

| | | |
|-----|--------|---|
| F.k | Canals | Constructed permanent waterways, e.g. irrigation canals and storm water trenches. |
|-----|--------|---|

| | | |
|-----|----------------------------------|---|
| F.l | Sewerage Plants and Refuse Areas | Areas designated as municipal and private sewerage treatment plants and refuse areas. |
|-----|----------------------------------|---|

¹⁴³ Appurtenant structure means any structure or accessory necessary for, or directly associated with generation of renewable energy.

Objectives:

- To provide and maintain adequate infrastructural services throughout the municipality.

Strategy:

- To provide designated areas for heavy industrial uses that would negatively affect other uses.

Table 43: Development Guidelines for SPC's

| SPC | Type of development. | Condition |
|----------|---|---|
| A | No development allowed. | |
| B | Resort development. 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. |
| C | Agricultural development and infrastructure required for extensive and intensive agricultural land-uses. Resort development on game farms. 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 | a) Must be undertaken in |

| | | |
|----------|---|--|
| | developments required by the economic sectors. | accordance with site-specific design and planning guidelines. b) All industry 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 industry must be regulated and managed in accordance with sustainability standards (e.g. ISO 14001) |

The Joe Morolong SDF recognises these guidelines and makes a full attempt to align its strategies accordingly to ensure an integrated spatial planning policy document. Land Use Management system in the municipality

It is important to recognize that the proposals outlined in the Spatial Development Framework do not constitute any development rights in terms of these areas. It merely outlines the proposed longer term spatial development structure deemed to be most appropriate taking into consideration the various influencing factors. Individual development applications are still subject to the normal detailed investigation to determine whether an environmental authorisation can be obtained, to consider physical constraints such as flood lines and geotechnical characteristics, and servicing constraints such as the availability of bulk services.

The overall development tool that is applied to coordinate the management and changes of land use rights in the municipal area is the

land use management systems. For this purpose, an attempt has been made to align the intentions of the broader land use proposals as described on the Municipal Spatial Development Framework, as well as the more detailed categories in the Local Spatial Development Frameworks with common terminology and definitions used in a typical Land Use Management System. The broad overall alignment of these various categories is depicted on the attached next table.

Table 44: Primary and allowable land uses per Spatial Planning Category

| Single Residential House D.h.1 | Mixed Density Residential Area D.h.5 | Core Business 1 D.i | Other Business D.i | Heavy Industrial E.d | Light Industrial E.c | Institutional D.f | Extensive Agriculture C.a | Intensive Agriculture C.b | High Potential Agricultural Land C.a & C.b | Extractive Industry E.e | Authority Areas (Municipal) D.g | Authority Areas (Government) D.g | Ecological Corridor B.b | Open Space B.c | Sport/Resorts / Tourism D.q | Surface Infrastructure F |
|-----------------------------------|---|--------------------------|--------------------------|-------------------------|-------------------------|------------------------|--------------------------------------|--------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| CULTURAL HERITAGE SITE | CULTURAL HERITAGE SITE | ACCOMMODATION ENTERPRISE | ACCOMMODATION ENTERPRISE | BAKERY | BAKERY | CAFETERIA | AGRICULTURE | AGRICULTURE | AGRICULTURE | AGRICULTURE | ABBATOR | AGRICULTURE | AGRICULTURE | CAFETERIA | CONSERVANCY | BUILDERS YARD |
| DWELLING UNIT | DWELLING UNIT | CAFETERIA | CAFETERIA | BUILDERS YARD | BUILDERS YARD | CONFERENCE FACILITY | CONSERVANCY | CONSERVANCY | CONSERVANCY | CAFETERIA | AERODROME | BUILDERS YARD | CONSERVANCY | CARAVAN PARK | CONSERVATION PURPOSES | CAFETERIA |
| PROTECTED AREAS | FLAT | COMMERCIAL USE | CONFERENCE FACILITY | CAFETERIA | CAFETERIA | CULTURAL HERITAGE SITE | CONSERVATION PURPOSES | CONSERVATION PURPOSES | CONSERVATION PURPOSES | CONSERVANCY | AGRICULTURE | CAFETERIA | CONSERVATION PURPOSES | CONSERVANCY | CULTURAL HERITAGE SITE | COMMERCIAL USE |
| | GROUP HOUSING | CONFERENCE FACILITY | CULTURAL HERITAGE SITE | COMMERCIAL USE | COMMERCIAL USE | DWELLING UNIT | CULTURAL HERITAGE SITE | CULTURAL HERITAGE SITE | CULTURAL HERITAGE SITE | CONSERVATION PURPOSES | BUILDERS YARD | CONFERENCE FACILITY | CULTURAL HERITAGE SITE | CONSERVATION PURPOSES | HIGH POTENTIAL / UNIQUE AGRICULTURAL | CONFERENCE FACILITY |
| | PROTECTED AREAS | CULTURAL HERITAGE SITE | DISPENSING CHEMIST | CULTURAL HERITAGE SITE | CULTURAL HERITAGE SITE | INSTITUTION | DWELLING UNIT | DWELLING UNIT | HIGH POTENTIAL / UNIQUE AGRICULTURAL | CULTURAL HERITAGE SITE | CAFETERIA | CONSERVANCY | DWELLING UNIT | CULTURAL HERITAGE SITE | PRIVATE OPEN SPACE | CULTURAL HERITAGE SITE |
| | RETIREMENT VILLAGE | DISPENSING CHEMIST | DRIVE-IN RESTAURANT | DRY CLEANERS | DRY CLEANERS | PLACE OF INSTRUCTION | HIGH POTENTIAL / UNIQUE AGRICULTURAL | HIGH POTENTIAL / UNIQUE AGRICULTURAL | PROTECTED AREAS | HIGH POTENTIAL / UNIQUE AGRICULTURAL | CARAVAN PARK | CONSERVATION PURPOSES | HIGH POTENTIAL / UNIQUE AGRICULTURAL | DWELLING UNIT | PROTECTED AREAS | DWELLING UNIT |
| | SECOND DWELLING UNIT | DRIVE-IN RESTAURANT | DRIVE-THROUGH RESTAURANT | ELECTRICAL PURPOSES | ELECTRICAL PURPOSES | PROTECTED AREAS | PROTECTED AREAS | PROTECTED AREAS | | MINING | CEMETERY | CULTURAL HERITAGE SITE | PROTECTED AREAS | HIGH POTENTIAL / UNIQUE AGRICULTURAL | PUBLIC OPEN SPACE | ELECTRICAL PURPOSES |
| | | DRIVE-THROUGH RESTAURANT | DWELLING HOUSE OFFICE | FACTORY | FUNERAL PARLOUR | PUBLIC OPEN SPACE | TRIBAL AUTHORITY SETTLEMENT | TRIBAL AUTHORITY SETTLEMENT | | PROTECTED AREAS | CONFERENCE FACILITY | DWELLING UNIT | PUBLIC OPEN SPACE | MUNICIPAL PURPOSES | RECREATION | HIGH POTENTIAL / UNIQUE AGRICULTURAL |
| | | DRY CLEANERS | DWELLING UNIT | FUNERAL PARLOUR | LAUNDRAMAT | PUBLIC WORSHIP | | | | | CONSERVANCY | ELECTRICAL PURPOSES | | PROTECTED AREAS | | MUNICIPAL PURPOSES |
| | | DWELLING HOUSE OFFICE | ELECTRICAL PURPOSES | INDUSTRY | LIGHT INDUSTRY | | | | | | CONSERVATION PURPOSES | GOVERNMENT PURPOSES | | PUBLIC OPEN SPACE | | OFFICE |
| | | | | | | | | | | | | HIGH POTENTIAL / UNIQUE AGRICULTURAL | | | | |
| | | DWELLING UNIT | FLAT | LAUNDRAMAT | MUNICIPAL PURPOSES | | | | | | CREMATORIUM | | | RECREATION | | PARKING GARAGE |
| | | ELECTRICAL PURPOSES | GROUP HOUSING | LIGHT INDUSTRY | NURSERY | | | | | | CULTURAL HERITAGE SITE | INSTITUTION | | | | PURPOSED ROADS |
| | | FLAT | GUEST HOUSE | MOTOR GRAVEYARD | OFFICE | | | | | | DWELLING UNIT | MUNICIPAL PURPOSES | | | | PROTECTED AREAS |
| | | FUNERAL PARLOUR | HOME ENTERPRISE | MUNICIPAL PURPOSES | PARKING GARAGE | | | | | | ELECTRICAL PURPOSES | OFFICE | | | | RAILWAY PURPOSES |
| | | GOVERNMENT PURPOSES | INTERNET CAFE | NURSERY | PROTECTED AREAS | | | | | | GOVERNMENT PURPOSES | PLACE OF INSTRUCTION | | | | STREET OR ROAD |
| | | GROUP HOUSING | KIOSK | OFFICE | PUBLIC OPEN SPACE | | | | | | HIGH POTENTIAL / UNIQUE AGRICULTURAL | PROTECTED AREAS | | | | TAXI HOLDING AREA |
| | | GUEST HOUSE | MEDICAL CONSULTING ROOMS | PANEL BEATING | SERVICE INDUSTRY | | | | | | INSTITUTION | PUBLIC OPEN SPACE | | | | TAXI PARKING AREA |
| | | GYMNASIUM | NURSERY | PARKING GARAGE | TAXI HOLDING AREA | | | | | | KENNELS | RAILWAY PURPOSES | | | | TAXI RANK |
| | | HOME ENTERPRISE | OFFICE | PROTECTED AREAS | TAXI PARKING AREA | | | | | | LIFESTOCK YARD | RECREATION | | | | TELECOMMUNICATION |
| | | HOTEL | PLACE OF REFRESHMENT | PUBLIC OPEN SPACE | TAXI RANK | | | | | | MUNICIPAL PURPOSES | TELECOMMUNICATION | | | | TRANSPORT USES |
| | | INSTITUTION | PROTECTED AREAS | RAILWAY PURPOSES | TELECOMMUNICATION | | | | | | OFFICE | TRIBAL AUTHORITY SETTLEMENT | | | | |
| | | INTERNET CAFE | PUBLIC OPEN SPACE | SCRAP YARD | TRANSPORT USES | | | | | | | | | | | |
| | | KIOSK | RESIDENTIAL BUILDING | SERVICE INDUSTRY | VEHICLE WORKSHOP | | | | | | PARKING GARAGE | | | | | |
| | | LAUNDRAMAT | RESTAURANT | TAXI HOLDING AREA | WHOLESALE TRADE | | | | | | PLACE OF INSTRUCTION | | | | | |
| | | DJOLOR ENTERPRISE | RETIREMENT VILLAGE | TAXI PARKING AREA | | | | | | | PRIVATE OPEN SPACE | | | | | |
| | | MEDICAL CONSULTING ROOMS | SECOND DWELLING UNIT | TAXI RANK | | | | | | | PROTECTED AREAS | | | | | |
| | | MUNICIPAL PURPOSES | SERVICE ENTERPRISE | TELECOMMUNICATION | | | | | | | PUBLIC OPEN SPACE | | | | | |
| | | NURSERY | SHOP | TRANSPORT USES | | | | | | | RAILWAY PURPOSES | | | | | |
| | | OFFICE | SPAZA | VEHICLE WORKSHOP | | | | | | | RECREATION | | | | | |
| | | PARKING GARAGE | TEA GARDEN | WHOLESALE TRADE | | | | | | | TAXI HOLDING AREA | | | | | |
| | | PLACE OF AMUSEMENT | TELECOMMUNICATION | | | | | | | | TAXI PARKING AREA | | | | | |
| | | PLACE OF INSTRUCTION | | | | | | | | | TAXI RANK | | | | | |
| | | PLACE OF REFRESHMENT | | | | | | | | | TELECOMMUNICATION | | | | | |
| | | PRIVATE CLUB | | | | | | | | | VEHICLE WORKSHOP | | | | | |
| | | PROTECTED AREAS | | | | | | | | | | | | | | |
| | | PUBLIC OPEN SPACE | | | | | | | | | | | | | | |
| | | PUBLIC WORSHIP | | | | | | | | | | | | | | |
| | | RAILWAY PURPOSES | | | | | | | | | | | | | | |
| | | RECREATION | | | | | | | | | | | | | | |
| | | RESIDENTIAL BUILDING | | | | | | | | | | | | | | |
| | | RESTAURANT | | | | | | | | | | | | | | |
| | | RETIREMENT VILLAGE | | | | | | | | | | | | | | |
| | | SECOND DWELLING UNIT | | | | | | | | | | | | | | |
| | | SERVICE ENTERPRISE | | | | | | | | | | | | | | |
| | | SHOP | | | | | | | | | | | | | | |
| | | SOCIAL HALL | | | | | | | | | | | | | | |
| | | SPAZA | | | | | | | | | | | | | | |
| | | TAVERN | | | | | | | | | | | | | | |
| | | TAXI HOLDING AREA | | | | | | | | | | | | | | |
| | | TAXI PARKING AREA | | | | | | | | | | | | | | |
| | | TAXI RANK | | | | | | | | | | | | | | |
| | | TEA GARDEN | | | | | | | | | | | | | | |
| | | TELECOMMUNICATION | | | | | | | | | | | | | | |
| | | TRANSPORT USES | | | | | | | | | | | | | | |
| | | VEHICLE SALES LOT | | | | | | | | | | | | | | |

9.2 Establishing Integrated Land Management Areas

Three main types of conservation protection systems are proposed below:

9.2.1 Biosphere Reserves

Definition: “Areas of terrestrial and coastal/marine ecosystems, or a combination thereof, which are internationally recognised within the framework of UNESCO’s MaB (Man and the Biosphere) Programme”. Biospheres are not proclaimed nature reserves. Biosphere Reserves are nominated by governments. It is an inter-governmental programme in terms of the Seville Strategy. Each Biosphere has three functions namely: development, conservation and logistical support. Development refers to the action taken to foster human and economic development; conservation refers to biological diversity and genetic material and logistical support to scientific research, education and financial support.

9.2.2 System of protected nature areas

The following applications exist:

- Integration of reserves with its surrounding areas established as conservancies
- Recognition and management of ecological corridors that link formal conservation areas.
- Management of private land that form part of ecological corridors and sustainable use of resources through Special Management Areas.

9.2.3 Conservancies

Conservancies promote sustainable land use over a group of larger land units. Urban and developed areas can also be included in the form of “Urban Conservancies”. A conservancy is defined as a group of farms or

natural areas, on which the land owners have pooled some or all of their resources for the purposes of conserving natural resources on the combined properties. These resources include wildlife and their habitats, indigenous vegetation, forests, catchments, sites of geological and archaeological importance, and generally undisturbed natural and scenic landscapes.

9.2.4 Special Management Areas

An SMA is defined as ‘an area of excellence and good practice’, where the ethos of sustainable development is served in practice. An SMA is further described as a cadastral geographical unit, which is formally recognised and managed as an area where environmental sustainability is promoted in practice and in accordance with international standards for environmental sustainability.

An SMA should only be established over a land unit designated by the Surveyor General and registered at the office of the Registrar of Deeds. Both public and private land can be declared a SMA, and both natural, cultivated (i.e. farmland) and inhabited land can be included into an SMA. Privately-owned land can be declared an SMA by establishing a contractual agreement between the landowner and the relevant municipality.

10. Implementation framework

Where the community needs generally focus on basic needs and access to services, the Council’s own interpretation of its needs, highlights land as a key focus for addressing spatial development and development in general. Any implementation strategy linked to the SDF will therefore have to address the following key areas:

1. **Improved land management capabilities** and capacities to address all the issues underlying land, development and ownership.

2. **Access to basic services** which is directly linked to the improvement of the primary and secondary nodes as identified supported by an improved mobility networks (roads).
3. **Meeting basic social needs** that implies firstly an improvement in the available structure in the primary nodes, then focusing on the secondary nodes before needs in more remote areas can be addressed. Again road and transport are important requirements for success.
4. **Developing the agricultural sector** – This links to basic social needs and food security but can be an important catalyst for job creation.
5. **Unlocking the tourism** potential of the area. Developing tourism will not only be dependent on the benefit from improved regional road links but local service facilities will have to be improved to meet the requirements of the visiting tourist.

To support the development of these focus areas through the SDF the following projects were identified to supplement those identified already and to strengthen the basis for broader implementation. The aim was to find projects that are manageable, deliver short term results and are affordable and which have a maximum development impact

PRIORITY SCORES:

A priority score had been allocated to the SDF projects, the John Taolo G District Municipality projects and the LED projects and listed on the SDF map. The criteria used to allocate the priority scores are the following:

- Compliance to the overall objectives and strategies as contained in this SDF.
 - Objectives:
 - Efficiency
 - Sustainability
 - Equity
 - Integration
 - Liveability and image
 - Strategies

- Rehabilitation and maintenance based approach
- Infill and compaction to accommodate short and medium term growth
- Improved access and mobility
- High premium on environmental conservation
- Promote job creation and prevent job losses

10.1.1 Project 1: Asset management and infrastructure investment plan

| Project 1: (Priority 1) | Asset management and infrastructure investment plan |
|----------------------------|---|
| Project rationale: | The success with achieving the outcomes of the SDF will be measured in terms of improved service delivery. Sustainable service delivery will reflect on economic and institutional development. The ability to meet the needs of the community will largely depend on the Council's ability to improve its revenue base by optimising own revenue sources |
| Objectives: | To enhance the financial position of the Council through sustainable infrastructure and service delivery To compile and maintain GRAP17 compliant asset registers To draft the necessary asset management plans |
| Issues to be addressed: | Assets as per GRAP17 requirements Extent of demand for new assets and renewal of existing assets in terms of operating and condition backlogs The characteristics and extent of the Council's customer base |

| | |
|------------------|---|
| | <p>Changes in domestic customer units</p> <p>Non-residential customers</p> <p>Expected long term changes in the customer base of the Council</p> <p>Current service delivery profiles and coverage</p> <p>Bulk design and firm capacities</p> <p>Demand for reticulated and bulk infrastructure</p> <p>Capital requirements and funding sources</p> <p>New infrastructure</p> <p>Renewal of existing infrastructure</p> <p>Assessment of the operating account in terms of the impact of capital investment</p> <p>Impact on the Council's revenue base through changes in household bills and cost recovery strategies</p> |
| Project outcome: | <p>GRAP17 compliant asset registers</p> <p>Asset management plans</p> <p>Revenue enhancement strategy and implementation plan</p> <p>An integrated infrastructure investment plan to guide the Council to sustainable service delivery</p> |
| Skills required: | <p>Asset management</p> <p>Development planning</p> <p>Municipal infrastructure and service delivery</p> <p>Municipal finance</p> <p>GIS</p> |
| Timeframe: | Eight months for implementation and a subsequent 3 years maintenance project |

| | |
|--------|--|
| Budget | <p>Project implementation R4 200 000</p> <p>Maintenance contract: R30 000 per month for three years (R3 600 000)</p> |
|--------|--|

10.1.2 Project 2: Roads improvement project

| Project 2: (Priority 2) | Roads improvement project |
|----------------------------|---|
| Project rationale: | Roads and accessibility is a core theme in all development and planning documents. However, with the exception of internal roads, roads are largely the responsibility of the district municipality and the provincial and national road authorities. Nevertheless, roads and accessibility remains the most central issue in development in the municipal area. It is therefore critical that the Council creates the necessary mechanisms to ensure that the priority roads are kept in conditions that meet the local development needs. |
| Objectives: | To create mechanisms to ensure that the priority roads in the municipal area are prioritise by roads authorities and maintained to acceptable standards. This will also reduce the impact of large mining trucks on the roads and reduce dust. |
| Issues to be addressed: | <p>The project will specifically address:</p> <p>Inter actions with roads authorities.</p> <p>Inputs into DM and provincial roads prioritization programmes.</p> <p>Mechanisms to monitor budget progress at DM and provincial level.</p> <p>Mobilising community support.</p> |

| | |
|------------------|--|
| Project outcome: | A structured and recognised involvement in DM and provincial road planning, budgeting and implementation structures. |
| Skills required: | Roads planning. Negotiating |
| Timeframe: | On-going. |
| Budget | To be determined |

10.1.3 Project 3: Formalisation and tenure upgrading in Bothithong

| Project 3: (Priority 3) | Land Tenure upgrading in Bothithong |
|--------------------------------|--|
| Project rationale: | To upgrade full ownership status a variety of lower land tenure rights and to incorporate the registration of these upgraded rights in accordance with the formal deeds registry system. |
| Objectives: | To formalise the village and to ensure access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints associated with tenure upgrading for the people of Bothithong |
| Skills required | Infrastructure services Community facilitation Land rights enquiry, verification and dispute resolution Town planning Surveying |

| | |
|------------|--|
| | Flood line determination Conveyancing and legal Geotechnical and environmental Impact Assessment |
| Timeframe: | 2 - 5 years |
| Budget | R2000 per erven |

10.1.4 Project 4: Budget alignments

The IDP budget, annual budget average spending and actual capital expenditure do not correlate. This indicates a serious miss-alignment between needs, the capacity of the Council and the development reality. The SDF can play a pivotal role in this regard but in essence the Council needs to address its planning and prioritisation of projects within a framework of an improve institutional capacity. This is not a planning focused intervention but a general capacity improvement requirement across all activities and operations of the Council.

| Project 4: (Priority 4) | SDF Implementation and budget alignment |
|--------------------------------|---|
| Project rationale: | The current discrepancies between various budgets are not acceptable and increase risks of non-delivery and non-performance for the Council |
| Objectives: | To establish the necessary support capacity over the next five years to ensure the implementation of the SDF |

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|-------------------------|--|
| Issues to be addressed: | IDP and budget integration Implementation planning Timely procurement to ensure that targets are achieved Capacity building and skills transfer Monitoring and evaluation of implementation Performance management Annual SDF adjustments and updating |
| Project outcome: | SDF projects that are implemented according to budget and plan |
| Skills required: | Urban planner Municipal financial specialist Project management and procurement |
| Timeframe: | Five year maintenance contract on a retainer basis |
| Budget | Maintenance contract at R15 000 per month for five years. (R900 000) |

10.1.5 Project 5: Rural development strategy

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|------------------------------------|---|
| Project 5: (Priority 5) | A rural development strategy for Joe Morolong |
| Project rationale: | The municipality cannot only focus on the development of the urban component of the towns. The municipality functions in a largely rural environment with a range of diverse activities taking place throughout the municipal area. |
| Objectives: | To capitalise on the rural development potential of the municipal area in order to facilitate a sustainable growth and development of the total municipality. |
| Issues to be | Agricultural development |

| | |
|------------------|--|
| addressed: | Eco-tourism Nature conservation Environmental management Non-agricultural uses Mining Urban – rural linkages Access to social facilities and amenities |
| Project outcome: | A sustainable rural development strategy supporting development in both the rural and urban areas of the municipality. |
| Skills required: | Urban and regional planner Environmental specialist Agricultural economist GIS and data specialist |
| Timeframe: | 4 months and 3 months for Council approval. |
| Budget | R450 000 |

10.1.6 Project 6: Institutional memory Project

| | |
|------------------------------------|--|
| Project 6: (Priority 6) | Joe Morolong Institutional Memory Project |
| Project rationale: | A lack of institutional memory is affecting the Councils ability to plan and improve its own financial position. It is therefore necessary to implement the necessary steps to build a development database that allows for the inclusion and maintenance of key development and management information. |

| | |
|-------------------------|---|
| Objectives: | To establish and maintain management and development information systems to improve the Councils institutional memory and ability to plan and implement projects and actions in a sustainable way. The project should be indicated in a GIS format. |
| Issues to be addressed: | The project will specifically address: Cadastre and related issues Land uses and land use rights Land ownership Development applications and changes of land use rights Integration with the Councils debtors system Public access to information. Infrastructure and other resource requirements to manage the development database. Long term maintenance and support to the Council. |
| Project outcome: | An up to date development and management information system to support day to day management and long term planning and budgeting processes in the Council. |
| Skills required: | Town planning skills. GIS and database management. Municipal finance Infrastructure investment planning |
| Timeframe: | Six months for implementation and a subsequent 3 years maintenance project. |
| Budget | Project implementation R300 000 Maintenance contract: R20 000 per month for three years |

10.1.7 Project 7: Construction of multi-purpose community centres

The construction of multi-purpose community centres in Churchill, Bothithong has been identified as the primary approach for the

implementation of development communication and information programmes. These centres will also serve as a base from which a wide range of services and products can reach the community. These centres can be a short term project with a long term impact. These centres should be used as the focal point to develop new human development hubs and activity precincts in the rural areas.

| Project5: | SDF Implementation and budget alignment |
|-------------------------|--|
| Project rationale: | The current discrepancies between various budgets are not acceptable and increase risks of non-delivery and non-performance for the Council |
| Objectives: | To construct multi-purpose community centres in Churchill and Bothithong |
| Issues to be addressed: | The community centre can accommodate: Pre-school and Aftercare centre Skills development training facility Adult Education Women's Empowerment Craft Project Spaza Shop An office hub Community Based Tourism Operation |
| Timeframe: | 7 Months |
| Budget | To allow for all the different activities a centre will cost about R1 900 000 each |

10.1.8 Projects to support the implementation of the SDF as stated in the LED

There are a range of projects that can be identified for inclusion in an implementation strategy. However, it is deemed more appropriate to limit proposed projects to a few in order to assure a focused approach and a

chance for the municipality to show progress and achievement within its resource base. In order to give effect to the implementation strategy the following core projects need to be recognised in the Municipality's LED.

| Project Number | Project Description | Project Outcome | Funding | | |
|----------------|---|--------------------------------------|---|---------|---------|
| | | | 2010/11 | 2011/12 | 2012/13 |
| PLED2010/11:2 | John Taolo Gaetsewe Dipudi Enterprises (Moshaweng: Bendel(4), Goodhope(3), Kganung(9), Windgate(Ga-Segonyana), & Metswetsaneng(9)) | Economic growth and job creation | R 5,000,000 Funded Also funded by Kumba – R4,3 mil | | |
| PLED2010/11:3 | Livestock Improvement and Land Care Project (Moshaweng: Maketlele(9), Mathanthanyaneng(11), Kganung(9), Ba-Gaphetlo, Laxey(1) and Sloujah(1)) | Livestock industry – economic growth | R 1,080,000 (funded by Moshaweng LM) | | |
| PLED2010/11:4 | Moshaweng Integrated Energy Centre (Moshaweng: Laxey) | Job creation | R 393,700 (funded by Moshaweng LM) | | |

| | | | | | |
|----------------|---|---|--|--|--|
| PLED2010/11:6 | Devils Claw in John Taolo Gaetsewe | R 5,000,000 | R 5,000,000 Funded (Department of Environmental Affairs) | | |
| PLED2010/11:8 | Rekopane Ostrich Project (Ellendale): Moshaweng | Economic growth and job creation | R 500,000 (Partially funded) | | |
| PLED2010/11:11 | JG Gaetsewe Arts and Cultural Festival | Promote the tourism potential of the district | R 100,000 (funded: JT Gaetsewe, own funds) | | |
| PLED2010/11:12 | Kiangkop Tourism Development and Bothithong Cultural Village (Moshaweng: Kiangkop and Bothithong) | Tourism development in the Moshaweng LM | R 5,000,000 (funded by the Moshaweng LM) | | |

Access to services and roads (accessibility) are core needs while the rest represents a wide range of social albeit still very basic needs. These issues were recognised in the analysis part of the SDF and are all addressed in the SDF proposals. The contribution of the SDF lies in spatially prioritising areas where these needs can be addressed.

LED PROJECTS - JOE MOROLONG

BOTSWANA

NORTH WEST

NW397 (Kagisano/Molopo)

Joe Morolong

Heuningvei

Laxey

Sloujah

Kiangkop

Bendel

Dithakong

Hertzog

Goodhope

Churchill

Ellendale

Kganung

Metswetswaneng

Maketlele

Manyeding

Hotazel

Gamagara

Tsantsabane

NORTHERN CAPE

LED PROJECTS

PLED2010/1 1:4

PLED2010/1 1:3

PLED2010/1 1:2

PLED2010/1 1:3

PLED2010/1 1:2

PLED2010/1 1:12

PLED2010/1 1:12

PLED2010/1 1:3

PLED2010/1 1:2

PLED2010/1 1:2

PLED2010/1 1:8

PLED2010/1 1:3

PLED2010/1 1:5

LEGEND

National Roads

SANRAL

Trunk Roads

Paved

Unpaved

Divisional Roads

Paved

Unpaved

Main Roads

Paved

Unpaved

Joe Morolong Roads

Paved

Unpaved

Rivers

Perennial River

Non-Perennial River

Dams

Railways

Locality Map

Joe Morolong

0 150 300 600 Kilometers

0 5 10 20 Kilometers

aurecon

SOURCE : Demarcation Board (2010)

11. Monitoring and evaluation

The SDF is the Council's response to the expected spatial changes in the local development environment. Through the IDP the Council has set itself objectives and targets for development. The SDF provides a framework for the Council to respond to development. The key consideration is that the Council is one of a multitude of players in the environment and does not control development. It is therefore appropriate for the Council to monitor development on the broadest from but then specifically in terms of:

1. The incorporation of the recommended projects into the IDP and subsequently into the budget and the implementation thereof.
2. The impact of development on the biophysical environment. To this effect, the Council must ensure that the necessary EIAs are done when and where appropriate.
3. Settlement changes and changes in settlement patterns must be monitored. This also applies to assessing the impact of Council decisions of urbanisation, migration and settlement.
4. The impact of Council policies and decisions on the spatial integrity of the environment as outlined and described in the SDF

These four critical aspects need to be assessed annually as part of the IDP review of the Council. There is no need to create any extraordinary measures outside the day-to-day operation and management activities of the Council to meet the strategic objectives as spelled out in this report.