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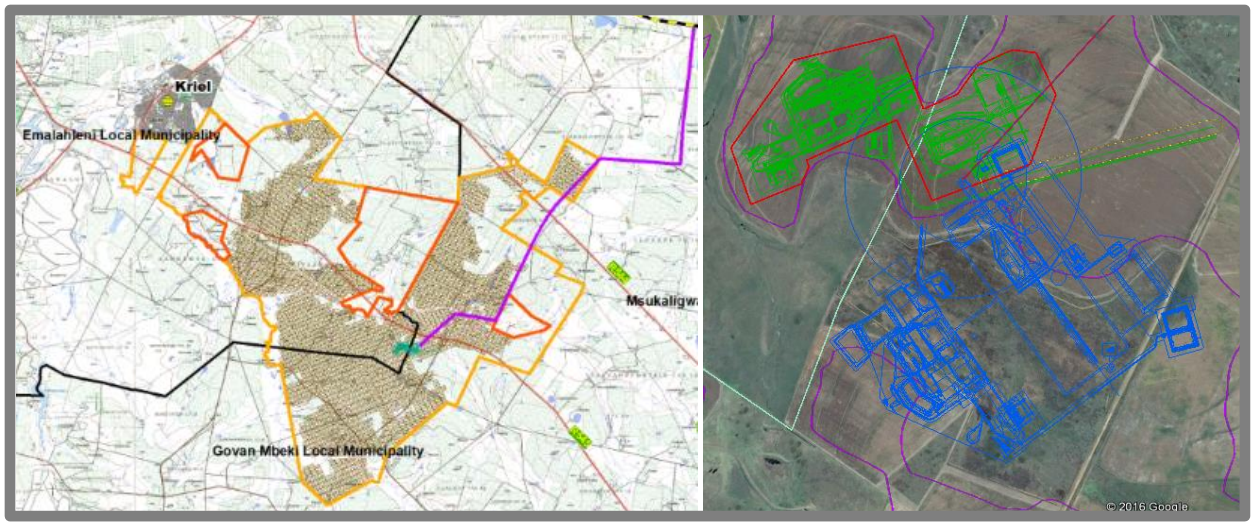
SOCIO-ECONOMIC IMPACT ASSESSMENT: ALEXANDER PROJECT

FINAL REPORT



Prepared by

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ACRONYMS

Acronyms

AAIC	Anglo American Inyosi Coal (Pty) Limited
CARA	Conservation of Agricultural Resources Act
CDW	Community Development Worker
CBD	Central Business District
CSI	Community Social Investment
DM	District Municipality
EIA and EMPr	Environmental Impact Assessment and Environmental Management Programme report
ELM	Emalahleni Local Municipality
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
GDP	Gross Domestic Product
GMLM	Govan Mbeki Local Municipality
GSDM	Gert Sibande District Municipality
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IFC PS	International Finance Corporation's Performance Standard
IFC PS5	IFC PS5: Land Acquisition and Involuntary Resettlement
LED	Local Economic Development
LM	Local Municipality
NDM	Nkangala District Municipality
NEMA	National Environmental Management Act
PPP	Public Participation Process
SALA	Subdivision of Agricultural Land Act
SDF	Spatial Development Framework
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SLP	Social and Labour Plan
SPLUMA	Spatial Planning and Land Use Management Act (2013)
StatsSA	Statistics South Africa

1 INTRODUCTION

1.1 Project Background

Anglo American Inyosi Coal (Pty) Ltd (AAIC) is proposing to establish a new underground coal mine through the Alexander Project ('the project'). The Alexander coal resource lies within the current AAIC Kriel East and Elders Underground Extension prospecting right areas (proposed Alexander mining right area) and covers an area of approximately ~ 7,300ha. The project will involve the development of surface and underground facilities. The proposed Alexander Project will comprise of:

- an underground mine;
- a waste rock dump;
- topsoil stockpiles;
- mine related facilities such as workshops, stores; and
- various support infrastructure and services.

Further to this, the proposed project will require construction of an overland conveyor to transport run-of mine coal from the proposed Alexander incline shaft to the stockpile area at the Elders Colliery for beneficiation purposes. The Alexander resource lies between the R547 provincial road to the west and the R35 provincial road to the east, with the R545 provincial road bisecting the resource in a north-west to south-east direction.

1.2 Project Location

The proposed project is located in Mpumalanga Province and within 2 District Municipalities (DM), namely Gert Sibande and Nkangala. Within these districts, the project will be situated in the Emalahleni and Govan Mbeki Local Municipalities (ELM and GMLM, respectively). These LMs are structured as follows:

- GMLM is sub-divided into 3 urban conglomerations, namely Leandra (Leslie, Lebohang, and Eendracht) on the western edge, the Greater Secunda (Trichardt, Evander, Kinross and Secunda/eMbalenhle) conurbation in the central part and Bethal/ eMzinoni on its eastern edge.

- ELM is comprised of the following towns/ settlements, namely eMalahleni complex, Ogies and Phola; Ga-Nala and Kriel, Thubelihle, Rietspruit, Van Dyksdrift, Wilge, and Douglas etc.

More specifically, the project will be located approximately 14km northwest of Bethal and directly to the south and south-east of Kriel. The 8 wards that will be directly and indirectly affected by the project are indicated in **Table 1-1** and the directly affected wards are illustrated in **Figure 1-1**.

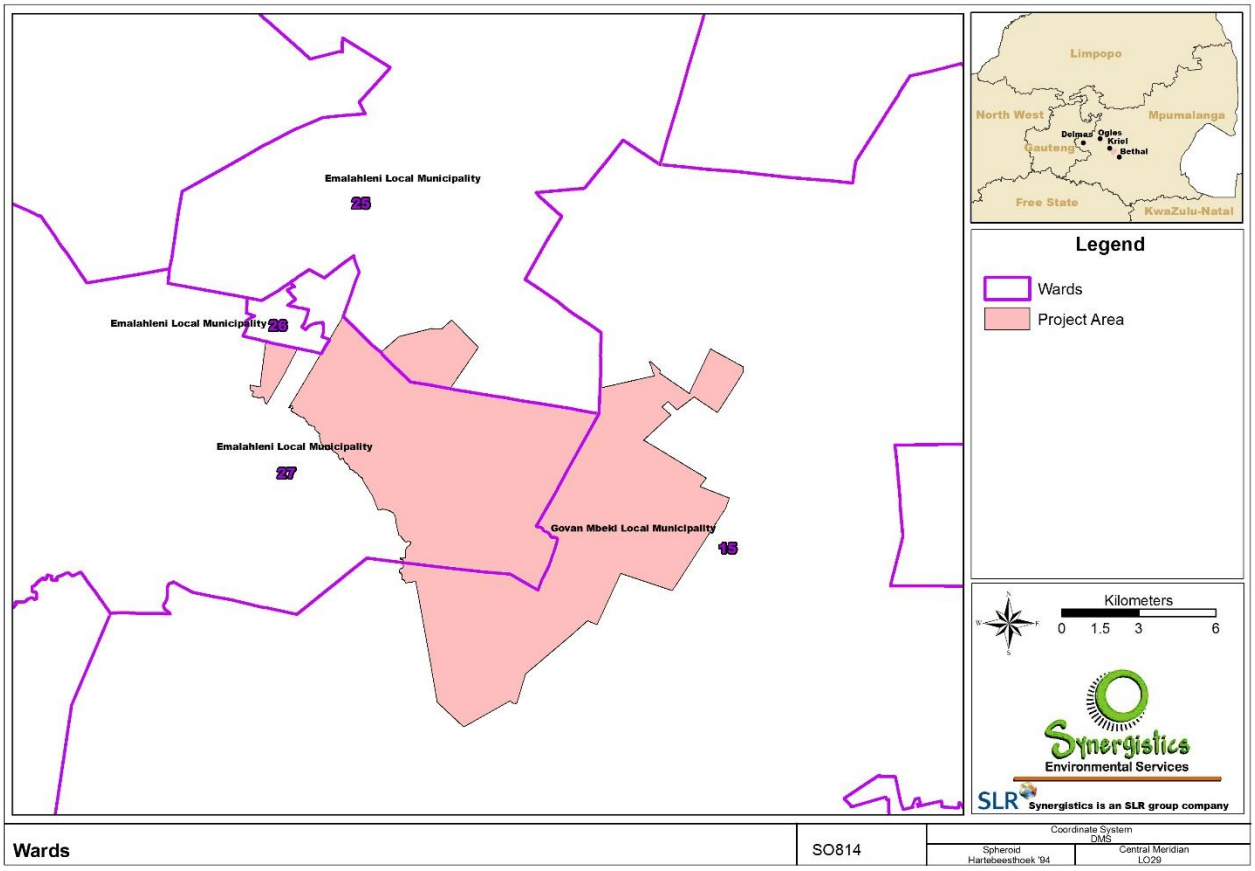
Table 1-1 Project affected wards

Municipality	Wards

Municipality	Wards
Emalahleni	25, 26, 27
Govan Mbeki	5, 15, 17, 18, 19

Source: AfriGIS, Census2011

Figure 1-1 Locality map of affected wards



Although the mining right application area covers 7,300ha, the project will only require an estimated 220ha for infrastructure development (**Figure 1-2**). Some of the land in the application area is already owned by Anglo; the state and private entities own the majority of the farms. A list of land parcels that will be affected by the project is provided in **Table 1-2** and **Figure 1-3**.

Figure 1-2 Locality map and project layout

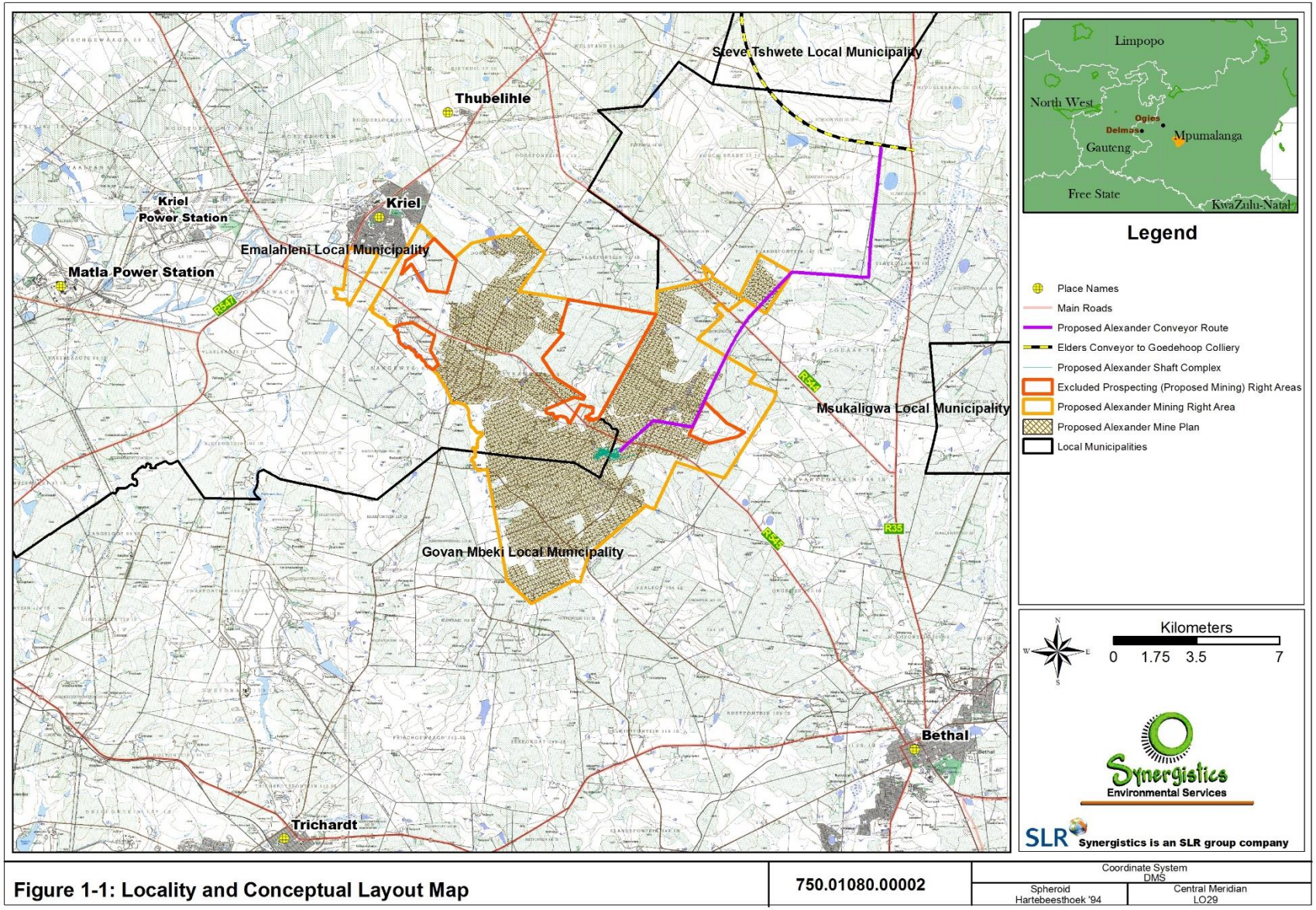
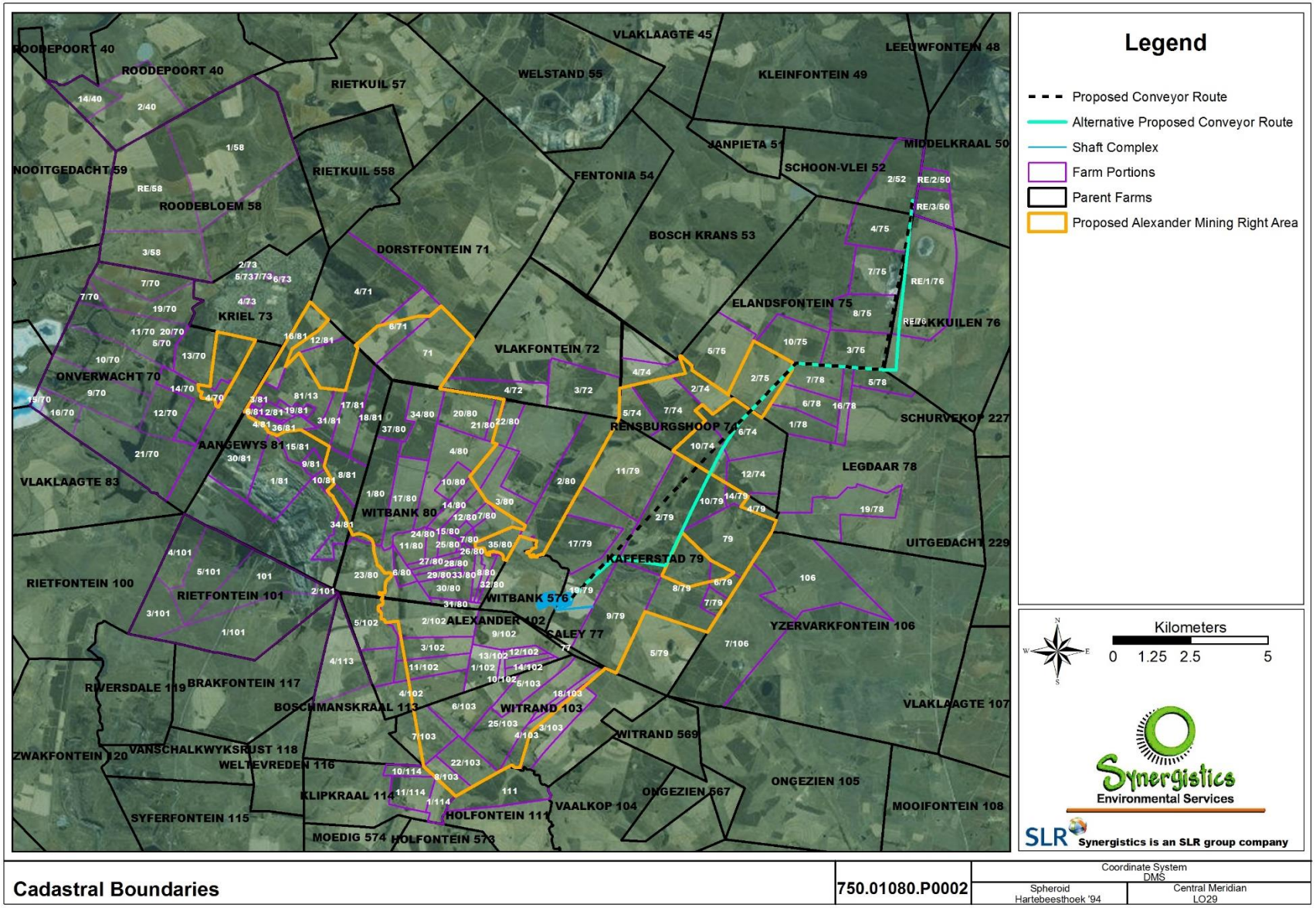


Table 1-2 Project affected farms

Affected Farm Names		
Proposed Mining Right Area	Onverwacht 70 IS portion 3	Witbank 80 IS portion 31
Aangewys 81 IS portion 3	Onverwacht 70 IS portion 4	Witbank 80 IS portion 32
Aangewys 81 IS portion 4	Rensburgshoop 74 IS portion 2	Witbank 80 IS portion 33
Aangewys 81 IS portion 6	Rensburgshoop 74 IS portion 5	Witbank 80 IS portion 34
Aangewys 81 IS portion 7	Rensburgshoop 74 IS portion 7	Witbank 80 IS portion 37
Aangewys 81 IS portion 8	Kafferstad 79 IS portion 9	Witbank 576 IS RE
Aangewys 81 IS portion 16	Kafferstad 79 IS portion 10	Witrand 103 IS portion 4
Aangewys 81 IS portion 17	Kafferstad 79 IS portion 11	Witrand 103 IS portion 5
Aangewys 81 IS portion 18	Kafferstad 79 IS portion 14	Witrand 103 IS portion 6
Aangewys 81 IS portion 19	Kafferstad 79 IS portion 17	Witrand 103 IS portion 7
Aangewys 81 IS portion 31	Witbank 80 IS portion 1	Witrand 103 IS portion 8
Aangewys 81 IS portion 34	Witbank 80 IS portion 3	Witrand 103 IS portion 18
Aangewys 81 IS portion 36	Witbank 80 IS portion 4	Witrand 103 IS portion 22
Aangewys 81 IS portion 37	Witbank 80 IS portion 6	Witrand 103 IS portion 25
Alexander 102 IS portion 1	Witbank 80 IS portion 7	
Alexander 102 IS portion 2	Witbank 80 IS portion 8	**Proposed Overland ROM**
Alexander 102 IS portion 3	Witbank 80 IS portion 10	**Conveyor**
Alexander 102 IS portion 4	Witbank 80 IS portion 11	Elandsfontein 75 IS portion 2
Alexander 102 IS portion 9	Witbank 80 IS portion 12	Elandsfontein 75 IS portion 3
Alexander 102 IS portion 10	Witbank 80 IS portion 13	Elandsfontein 75 IS portion 4
Alexander 102 IS portion 12	Witbank 80 IS portion 14	Elandsfontein 75 IS portion 7
Alexander 102 IS portion 13	Witbank 80 IS portion 15	Elandsfontein 75 IS portion 8
Alexander 102 IS portion 14	Witbank 80 IS portion 17	Elandsfontein 75 IS portion 10
Caley 77 IS RE	Witbank 80 IS portion 20	Legdaar 78 IS portion 1
Dorstfontein 71 IS RE	Witbank 80 IS portion 21	Legdaar 78 IS portion 5
Dorstfontein 71 IS portion 6	Witbank 80 IS portion 23	Legdaar 78 IS portion 6
Elandsfontein 75 IS portion 2	Witbank 80 IS portion 24	Legdaar 78 IS portion 7
Kafferstad 79 IS RE	Witbank 80 IS portion 25	Legdaar 78 IS portion 16
Kafferstad 79 IS portion 2	Witbank 80 IS portion 26	Middelkraal 50 IS portion 3
Kafferstad 79 IS portion 6	Witbank 80 IS portion 27	Rensburgshoop 74 IS portion 6
Kafferstad 79 IS portion 7	Witbank 80 IS portion 28	Rensburgshoop 74 IS portion 10
Kafferstad 79 IS portion 8	Witbank 80 IS portion 29	Schoon-Vlei 52 IS portion 2
Kafferstad 79 IS portion 19	Witbank 80 IS portion 30	Vlakkuilen 76 IS RE.

Figure 1-3 Project affected farms



1.3 Terms of Reference

Synergistics Environmental Services (Pty) Ltd (Synergistics), a part of SLR Group of companies, was appointed by AAIC to undertake an Environmental Impact Assessment (EIA). Synergistics appointed Kerryn Mckune Desai to undertake the Social Impact Assessment (SIA); the main objective of the SIA is to advise the EIA of the potential social impacts associated with the proposed Project.

The terms of reference for the SIA are outlined below:

- describe the baseline social conditions of the project area;
- identify, describe and assess the potential social impacts;
- define measures to mitigate and manage the potential social impacts; and
- comply with the National Environmental Management Act, 107 of 1998.

This SIA report will form an addendum to the EIA and Environmental Management Programme report (EMPr) for the proposed Project.

Details of the Social Specialist and her declaration of independence are provided in *Annex A*.

1.4 Policy, Legal and Administrative Framework

This SIA has been compiled in accordance with requirements of the National Environmental Management Act, 107 of 1998 (NEMA) and Annex 6 of the Environmental Impact Assessment Regulations (EIAR) (733 of 2014), which outline the specific requirements for specialist reports. **Table 1-3** below indicates the location of each requirement in this report.

Table 1-3 Requirements of social impact assessment report

	NEMA Regs (2014) - Appendix 6	**Reference to relevant section in report**
1	A specialist report or a report on a specialised process prepared in terms of these Regulations must contain -	
(a) i	the person who prepared the report; and	Section 1.3, Annex A
(a) ii	the expertise of that person to carry out the specialist study or specialised process;	Annex A
(b)	a declaration that the person is independent in a form as may be specified by the competent authority;	Annex A
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.3
(d)	the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 1.5 Seasonality is not relevant for SIA
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 1.5

(f)	the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	Section 3 No specific sensitivity identified
(g)	an identification of any areas to be avoided, including buffers;	None identified
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 1.2
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.6
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment;	Section 4
(k)	any mitigation measures for inclusion in the EMPr	Section 4
(l)	any conditions for inclusion in the environmental authorisation	Section 4 Stated mitigation measures
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorisation	As per EMPr
(n)	a reasoned opinion -	
.i	as to whether the proposed activity or portions thereof should be authorised and	Section 5
.ii	if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Section 4
(o)	a description of any consultation process that was undetaken during the course of carrying out the study;	Section 1.5
(p)	a summary and copies of any comments that were received during any consultation process, and -	PPP feedback included in the EIA
(q)	any other information requested by the competent authority.	None requested

The key planning instruments used by municipalities for new developments (whether residential or commercial) are Integrated Development Plans (IDP) and Spatial Development Frameworks (SDF). These two instruments are described briefly below.

Across the country all municipal operations are governed by Municipal Systems Act (Act No. 32 of 2000). This Act stipulates that all municipalities must prepare and implement an Integrated Development Plan (IDP) for their area of jurisdiction, which should include a SDF. The IDP is a tool for municipal planning and budgeting to enable them to deliberate on developmental issues identified by communities. It has a 5-year lifespan that is linked directly to the term of office for local councillors. The IDP and SDF are reviewed annually to accommodate new priorities or to maintain existing ones.

The purpose of the SDF as a land use management tool is to plan, direct and control development but it does not provide land use rights. It provides the necessary guidance of land uses at local level in order to

ensure the application of the development principles of sustainability, integration, equality, efficiency and fair and good governance in order to create quality of living, investors' confidence and security of tenure.

Recently (2013) land use planning has been influenced by the promulgations of the Spatial Planning and Land Use Management Act (2013) (SPLUMA) which outlines a set of principles to influence spatial planning, land use management and land development. The general principles of SPLUMA are spatial planning, land use management and land development must promote and enhance spatial justice, spatial sustainability; efficiency; spatial resilience, and good administration.

Plans and programmes that are considered important for the development of the province include:

- National Development Plan 2030;
- National Outcomes Approach and Comprehensive Rural Development Programme;
- Mpumalanga Province Vision 2030;
- Infrastructure Master Plan;
- Human Settlement Master Plan;
- Industrial Development Strategy; and
- Mpumalanga Province SDF.

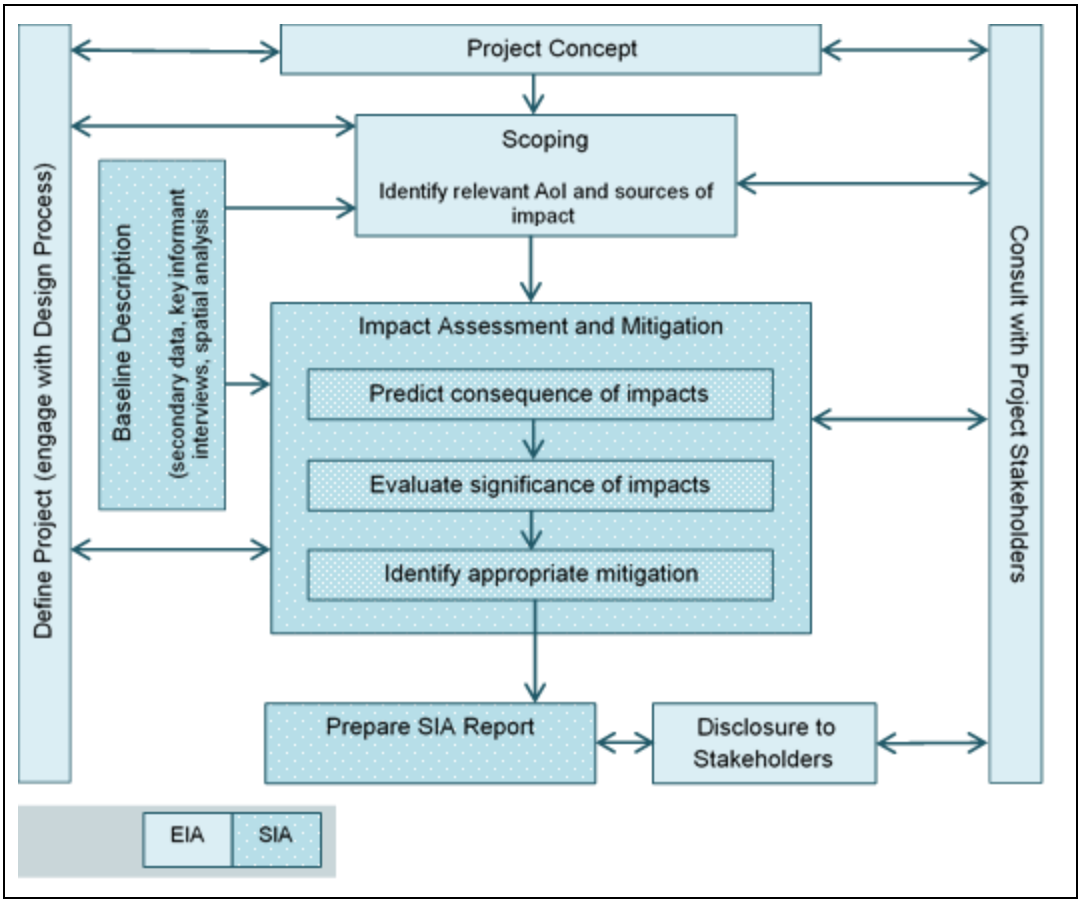
The proposed Project is deemed to align with the principles and planning objectives outlined in Provincial, District and Local level planning documents. This opinion was confirmed by the Assistant Manager: Spatial Planning for Govan Mbeki Municipality.

1.5 Project Method

1.5.1 Overview

An overview of the SIA process, as it fits broadly into the EIA process, is presented in **Figure 1-4**. The parallel EIA activities are crucial to the SIA process as they inform the scope of the study and communicate the findings to the relevant stakeholders via the Public Participation Process (PPP). Feedback from stakeholders was continuously used to inform the SIA. The limitations of the process are provided in Section 1.6.

Figure 1-4 SIA process



1.5.2 Data Gathering and Analysis

The study approach and method was influenced by the project implementation timeframe, where construction is anticipated to commence in the medium term. To date, AAIC have not formally engaged the directly or indirectly impacted land owners. As such, the land owners have limited information about the planned activities and potential impacts; no negotiations have taken place regarding land acquisition/ access. Based on these factors, the SIA drew heavily on publicly available secondary information and focused primary data gathering was undertaken.

The main sources of secondary information presented in this report include:

- Integrated Development Plans for both affected LMs;
- Spatial Development Plans for both affected LMs;
- AfriGIS Census 2011 - ward council level statistics; and
- The population census of 2011.

Primary data gathering was undertaken from 4 to 6 May 2016; Ward Councillors, Community Development Workers, relevant specialists, and some of the affected property owners were contacted for

one-to-one interviews. Of the 10 property owners randomly selected from the stakeholder database, only 2 were available and willing to partake in the process, whilst others were unavailable. At a ward level, 5 representatives of local communities were interviewed (either CDW or Ward Councillors); in wards 19, 5, and 27 no officials were available for interviews despite numerous attempts to contact them. The respondents are indicated in **Table 1-4** below.

Table 1-4 Primary data gathering respondents

First name	Surname	Designation
Jan	Venter	Department of Agriculture (Province)
Ignatius	Mathebula	Govan Mbeki Municipality: Assistant Manager of Spatial Planning
Cllr Joseph	Mtsweni	Govan Mbeki Local Municipality – Ward Councillor (Ward 15)
Jackpot	Ndinisa	Govan Mbeki Municipality Ward 17 Community Development Worker
Nicolas Cornelius (Encee)	Van Huyssteen	Govan Mbeki Local Municipality – Ward Councillor (Ward 18 – Driefontein 137)
Cllr	Mdluli	eMalahleni Local Municipality – Ward Councillor (Ward 25)
Cllr	Mahlangu	eMalahleni Local Municipality – Ward Councillor (Ward 26)
Erwin	Rode	Rode Property Consultants
Farm	**Portion**	**Name**
Witbank 576 IS	The Farm	Hj Pieterse Vlakfontein Tweehonderd Pty Ltd
Kafferstad 79 IS	19	Van De Merwe Pieter Hendrik Schalk

Feedback from the public participation process (PPP) was reviewed and incorporated into the SIA to inform the baseline, impact identification, impact description and assessment.

1.5.3 Impact Identification and Assessment

The identification, description and assessment of impacts and formulation of mitigation measures, drew on relevant secondary documentation, key informant interviews, scoping level PPP, project description, and professional judgement of the social specialist.

Each of the identified impacts has been assessed based on the impact rating methodology provided by Synergistics in order to determine their likely significance, where Significance = Consequence (Intensity, Spatial Extent and Duration) x Probability. The methodology used to assess impacts and the proposed mitigation measures is presented in *Annex B*. Impacts have been assessed for the construction, operation and decommissioning/closure phases.

Mitigation measures are proposed that will be implemented to avoid, minimise or reduce any adverse impacts. Assuming effective implementation of the measures, each impact was re-evaluated using the same assessment criteria to determine the significance of the residual impacts following mitigation.

1.6 Assumptions and Limitations

- It is anticipated that social impacts will be incurred during the construction, operational and decommissioning/ closure phases of the project.

- It was assumed that information provided by AAIC and Synergistics was accurate and that the technical specifications of the Project and site selection are in accordance with the relevant requirements.

- This report and assessment are dependent on the accuracy of the publicly available secondary information; such as Statistics South Africa (StatsSA, 2011). Where possible, the information was verified through primary data gathering. The data was considered sufficient for the purpose of this study.

- The opinions expressed during PPP were sourced from the members of the public who attended the meetings or through written comment. These opinions can therefore not be taken to represent the views of all the community members who are based around the project area.

- The social environment constantly changes and adapts to change. It is therefore difficult to predict impacts to a high level of accuracy.

- The proposed project is expected to commence in the medium term, no specific start date has been provided by AAIC The findings of this SIA are based on currently available information. The proposed mitigation measures have been formulated in a manner that promotes forward planning and refinement prior to project commencement.

- At the time of the study, not all related specialist studies were available for review and integration.

- The SIA assumes that all mitigation measures defined in the economic, noise, air quality, visual and traffic impact assessments will be implemented by AAIC; these studies will influence a number of the social impacts.

- AAIC has stated that “No subsidence should occur - provided appropriate mine design principles are adhered to (which is the plan). Should unforeseen subsidence occur, then it will have to be remediated or compensated”. As such, the SIA has not assessed the potential impacts of subsidence on surface activities, infrastructure or people.

1.7 Report Layout

The remainder of this report is presented as follows:

- Section 2: Project description;
- Section 3: Social and economic baseline description;
- Section 4: Impact assessment and proposed mitigation;
- Section 5: Conclusion;
- Section 6: References;
- Annex A: Specialist details and declaration of independence; and
- Annex B: Synergistics Impact Assessment Methodology;

2 PROJECT DESCRIPTION

The proposed Alexander Project will involve the underground mining of coal on various farm properties that are currently used for agriculture. The estimated prospecting right area/proposed mining right area is 10,700ha, with an estimated underground mine area of ~7,300ha, and a surface disturbance area of 220ha (shaft complex ~120ha, and overland conveyor ~100ha). A preliminary/conceptual layout plan has been developed for the Alexander mining area (see **Figure 1-2**). Construction is expected to take 3 years. The life of mine (LOM) is approximately between 30 and 35 years.

2.1 Construction Phase

The following activities are expected to take place during construction:

- site establishment of temporary infrastructure/ facilities required to support construction phase;
- clearing of vegetation in accordance with the relevant vegetation management procedures;
- stripping and stockpiling of soil resources and earthworks in accordance with the relevant soil conservation procedures;
- sourcing of material for construction;
- establishment of storm water management facilities such as recycle water ponds/ pollution control dams and clean water realignment berms;
- excavation of shaft;
- establishment of water treatment plant;
- establishment of sewage treatment plant;
- construction of administrative block;
- construction of overland conveyor and associated service road (underpass below R545 and R544);
- installation of main tower tank, potable and process water tanks and the fire water tank;
- construction of new intersection to the R545 provincial road (planned to be in same servitude as the section of the overland conveyor), and establishment of internal roads and parking area; and
- establishment of access control facilities.

In addition, the following will be required and installed.

- Potable water will be made available from the neighbouring Anglo mining operations and/or municipal structures, while construction water will be made available from either the neighbouring mining operations or from on-site boreholes.

- Generators will be used as the primary power supply for drilling, welding and construction lighting.

- Overburden removed during the incline and vertical shaft excavations will be stored on a waste rock dump until reuse.

- Facilities for the temporary storage of non-mineralised waste associated with the project will be provided.

- Construction workers will make use of portable toilets serviced on a regular basis. The sewage will be removed off-site by a reputable waste contractor for disposal at a licensed waste facility.

- An estimated 500 employment opportunities will be available during the construction phase. No housing will be provided on site as construction workers will be accommodated in the nearby towns.

- Access to the proposed site will be via a gravel road joining the existing R545. During the construction of the proposed project there will be workers travelling to and from site, vehicles supplying input materials and machinery, and vehicles removing waste materials as indicated in **Table 2-1**.

- It is anticipated that the construction phase will consist of 1 shift per day from 06h00 to 18h00 from Monday to Friday. Saturdays will consist of a half shift from 06h00 to 12h00.

Table 2-1 Construction: transportation trips and routes

Item	Trips to and from site / day	Transportation routes
Construction materials and waste removal transported by trucks	15 trucks per day (30 trips per day)	Traffic will make use of the existing R545 towards Kriel or Bethal towns
Construction consumables transported by trucks	10 trucks per day (20 trips per day)	
Construction employees transported by private vehicles	Approximately 11 vehicles per day (22 trips per day)	
Construction employees transported by taxis/busses	Approximately 14 vehicles per day (28 trips per day)	

2.2 Operational Phase

Underground mining activities will be undertaken as part of the proposed Alexander Project which will be designed to process ~6 million tonnes per annum during steady state production. Operational surface infrastructure will comprise of:

- fencing;
- boxcut/ portal;
- incline shaft;
- vertical shaft and ventilation fans;
- overland conveyor and surge/surface ROM and stonedust silo;
- topsoil stockpiles and berms;
- overburden rock dump/ stockpile and berm;
- main access road (sealed);
- internal and maintenance access gravel roads;
- water treatment plant;

- sewage treatment plant;
- sub-station (Eskom yard);
- power lines;
- change house;
- water holding facilities (raw water tank, fire water tank, ground level potable water storage tank and elevated bulk process water storage tank);
- stormwater management facilities (drains, berms and recycled water ponds/ pollution control dam);
- potable water, process water and sewage effluent pipelines;
- lighting masts;
- fuel and oil storage facilities and refuelling bays;
- waste/salvage yard;
- administrative block (including mine offices, kitchen, canteen, training centre, mustering/gathering centre and clinic/emergency room);
- control room;
- car park/ bus stop and shelter;
- security gate and office;
- workshop and wash-bay/ cable yard repair workshop and stores;
- lamp rooms; and
- flammable store.

Other operational requirements include:

- A processing plant will not be required for the proposed Alexander Project, since all run-of-mine (ROM) production will be transported via overland conveyor from the proposed Alexander incline shaft to the stockpile area at the Elders Colliery and on to the Elders overland conveyor to Goedehoop Colliery for beneficiation purposes.

- Process water will be required during the operational phase and will be stored in the bulk process water storage tank. Any shortfall of water from the recycle water ponds/pollution control dam will be topped up with raw water from on-site boreholes or piped along the overland conveyor route from Elders Colliery or supplied from the water treatment plant.

- Fire water will be made available from the bulk process water storage tank.

- A reverse osmosis water treatment plant will be established as a single integrated unit. The purpose of the plant is to treat water for appropriate uses.

- One consumer substation will be established within the shaft complex of the proposed Alexander Project in order to supply the mine with power from an Eskom power line.

- An estimated 600 employment opportunities will be available at full production. It is expected that employees will be transferred from Elders Colliery which means that these are not new opportunities. None of the workers will be housed on site, rather in the nearby towns.

- Access to the proposed project site will be via a new intersection that services the Alexander Mine, from the R545. During the operation of the proposed project there will be workers travelling to and from site, trucks supplying input materials and machinery, consumables, as indicated in **Table 2-2**.

- It is anticipated that the operations phase will be 24 hours a day for five and a half days a week.

Table 2-2 Operation: transportation trips and routes

Item	Trips to and from site / day	Transportation routes
Operational materials, machinery and consumables transported by trucks	4 trucks per day (Approximately 8 trips per day)	Traffic will make use of the existing R545 towards Kriel or Bethal
Operational employees transported by private vehicles	Approximately 30 vehicles per day (Approximately 60 trips per day)	
Operational employees transported by taxis/busses	Approximately 32 vehicles per day (Approximately 64 trips per day)	

3 SOCIAL AND ECONOMIC BASELINE DESCRIPTION

This Chapter describes the socio-economic characteristics of the potentially affected area in order to develop an understanding of the broad social and economic conditions of the environment. The proposed Project has the potential to result in both positive and negative social impacts. As such, it is important that the socio-economic baseline conditions are understood to ensure accurate identification and assessment of potential impacts associated with the proposed project.

3.1 Area of Influence

The socio-economic area of influence is determined by the proposed project activities and potential direct and indirect impacts on the receiving environment. The direct and indirect areas of influence as related to the proposed project activities are outlined below.

The **direct areas of influence** will encompass the immediate project footprint (mining right area, ancillary infrastructure such as stock piles, land conveyers, and other infrastructure), namely:

- affected properties/ farms;
- directly affected ward council areas (Emalahleni Wards 25, 26, 27 and Govan Mbeki Ward 15); and
- existing local roads that will be used to transport goods and services to the project site daily.

Indirect areas of influence: will comprise the areas likely to experience the indirect and cumulative impacts associated with the project as well as other existing mining operations, namely the indirectly affected wards (Govan Mbeki Wards 5, 17, 18 and 19), and the affected LMs (Emalahleni and Govan Mbeki Local Municipalities).

3.2 District Level Socio-economic Indicators at Glance

The socio-economic indicators for the affected DMs are presented in a tabular format and detailed descriptions of the socio-economic characteristics of the affected LMs are presented in Sections 3.3 to 3.9.

Table 3-1 Summary of the socio-economic characteristics of the affected DMs

Description	Gert Sibande DM	Nkangala DM
Population Size	1,043,194	1,308,129
Percentage of the population 0 – 14 years	31.5%	28.5%
Percentage of the population 15 – 65 years	64%	70%
Percentage African/Black	89%	90%
Population density	28 people/km2	155 people/km2
Sex ratio	97.28	101
The major grant received	Child support grant	Child support grant
Percentage of persons over 20 years with no schooling	13%	11%
Unemployment rate	30%	30%
Percentage of economically active people	63.2%	66.5%
Major Industry	Trade (22%)	Trade (21%)
Major source of energy for lighting (electricity)	83%	86%
Percentage with flush toilet	68%	52%
Percentage with access to piped water	91%	93%
Percentage with refuse removal: by municipality	65%	50%
Most prevalent type of dwelling: Formal dwelling	72%	83%
Average household size	3.8 m²	3.6 m²

Source: GMLM: SDF, 2014 - 2034; ELM: SDF, 2015

3.3 Demographic Profile

This section describes the demographic profile of the affected LMs and wards. The demographics presented include population size, annual growth rate, average household size, population density, sex ratio and others (see **Table 3-2**).

Of the two affected LMs, ELM had the highest population compared to that of GMLM (395,466 and 294,538, respectively). The average population growth in the affected LMs was estimated at 3.58% in ELM and 2.84 in GMLM; which was attributed to the perceived employment and business opportunities offered by the mining and manufacturing sectors. The population density in ELM was significantly higher at 148 persons/ km^2 compared to ~100 persons/ km^2 in GMLM. This was attributed to the higher demand for housing (significant number of backyard dwellers and informal settlements) in existing settlements due to in-migration because of the mining sector activities.

Table 3-2 Summary of the demographic profile of the affected LMs

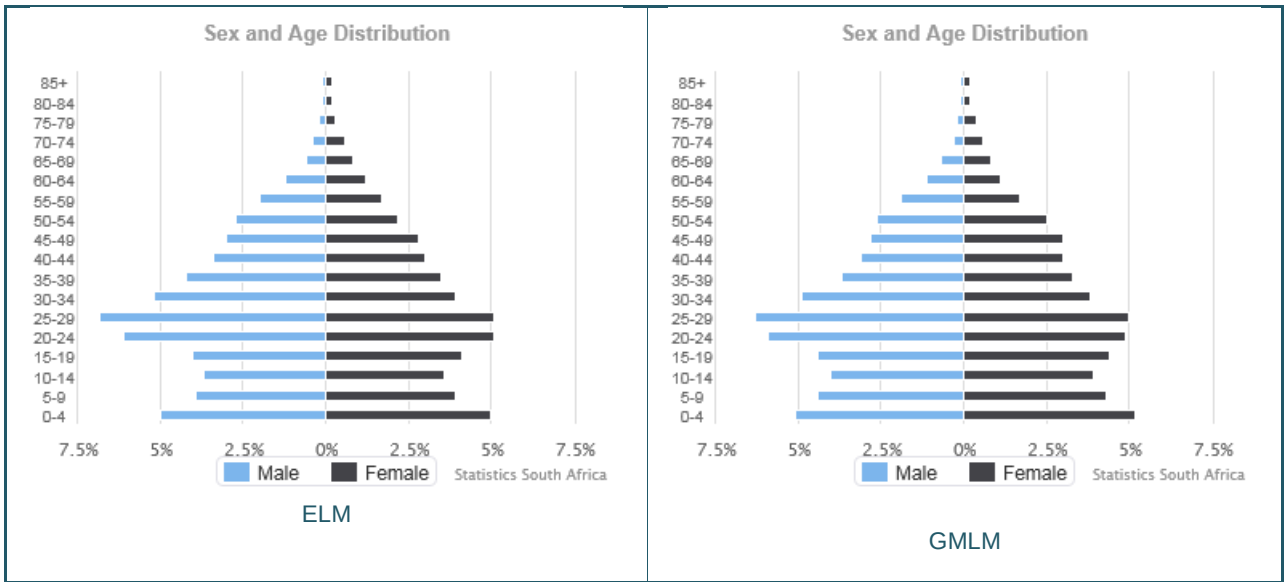
Description	Govan Mbeki	Emalahleni

Description	Govan Mbeki	Emalahleni
Geographic size	2,958km^2	2,678km^2
Total population	294,538	395,466
Annual growth rate	3%	4%
Average household size	3.4%	3.2%
Population density	99 persons per km^2	148 persons per km^2
Sex ratio	106%	112%
Children (0-14 years)	27%	25%
Youth & middle age (15-64 years)	69%	71%
Elderly (65+ years)	4%	4%
Dependency ratio	44%	40.4%
Female headed households	31%	28%

Source: StatsSA, Population Census, 2011

Across both affected LMs, there were higher numbers of people who are of economically active age (15 to 64 years); while there were low numbers of elderly people, and relatively low numbers of children; **Figure 3-1**. The low numbers of children and elderly could be due to the significant numbers of people being male in-migrants who came into the area without their families in search of employment and business opportunities. The same reasons are likely to apply regarding the relatively low numbers of female–headed households in the LMs.

Figure 3-1 Sex and age distribution in the affected LMs



Source: Population Census, 2011

The total number of people residing in the project affected wards was an estimated 89,556. Of the total affected population the majority of the population reside in Wards 19 (20%) and 15 (15%) of GMLM and Ward 25 (17%) of ELM. In general, there were more males than females across all affected wards –

which is likely to be influenced by the dominant economic sectors in the LMs (mining, manufacturing and agricultural activities), see **Table 3-3**.

Table 3-3 Population size and gender per LM and ward

Municipality	Ward	Population	% of Affected Wards	Male	Female
Emalahleni	25	14,940	17	7,830	7,107
	26	9,186	10	4,881	4,305
	27	8,922	10	4,965	3,960
Govan Mbeki	5	9,219	10	5,130	4,086
	15	12,957	15	6,876	6,084
	17	5,367	6	2,853	2,520
	18	10,821	12	5,130	4,096
	19	18,144	20	9,714	8,433

Source: AfriGIS, Census2011

The Black African ethnic group comprised the majority of the population across most of the project affected Wards, with the exception of Wards 5 and 18 of GMLM – where the majority of the population was comprised of White people (73 and 55%, respectively). These wards predominantly include residential (formal and informal) and industrial areas, see **Table 3-4**.

Table 3-4 Ethnicity by LM and ward (%)

Municipality	Ward	Black/ African	White	Coloured	Indian/ Asian	Other
Emalahleni	25	98	1	0	0	1
	26	61	36	2	1	0
	27	58	40	1	1	0
Govan Mbeki	5	22	73	2	3	0
	15	73	25	1	1	0
	17	65	23	8	3	1
	18	36	55	4	4	1
	19	97	2	1	0	0

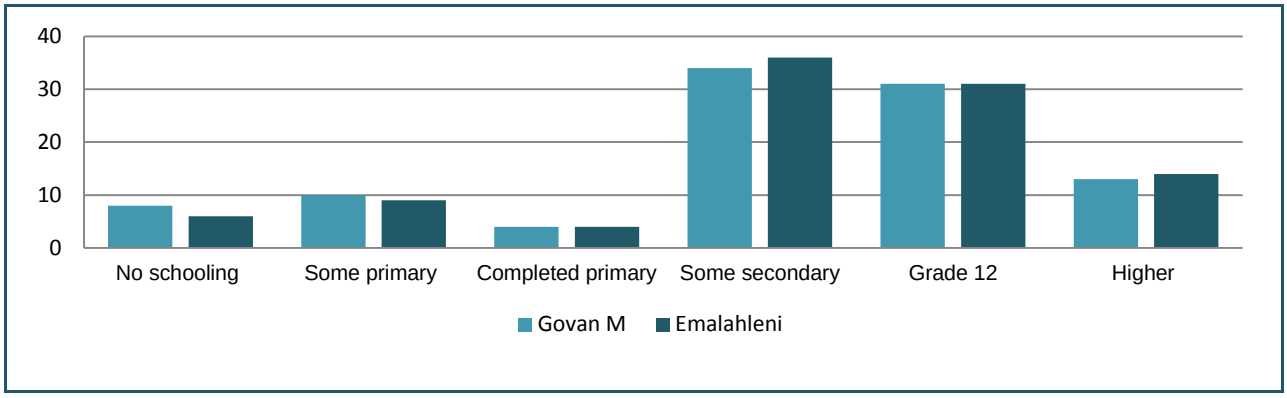
Source: AfriGIS, Census2011

3.4 Education

Illiteracy levels in the affected LMs were low at 8% in GMLM and 6% in ELM; illiteracy was slightly higher amongst females compared to males. Overall, the difference between the education levels attained by women differs by 1 to 3 % compared to their male counterparts. This trend was reflected amongst the youth, middle-aged and elderly population of the affected LMs.

The majority of the population had some secondary education (35%) or have completed Grade 12 (31%). The average for obtaining higher education was ~14%. **Figure 3-2** below shows the levels of education attained by the population in the affected LMs.

Figure 3-2 Literacy levels of the affected LMs



Source: Population Census, 2011: Municipal Report Mpumalanga Province

3.5 Health Care

Between the two affected LMs, health care services were provided by 31 clinics, 7 community health centres and 5 hospitals; the breakdown of these facilities per LM is indicated in **Table 3-5**. The HIV prevalence rate was significantly higher in GMLM in 2011, at an estimated 33% (excluding pregnant women) compared to that of ELM; while the prevalence of HIV amongst pregnant women was an estimated 46% in GMLM and 36% in ELM. This has resulted in high numbers of orphaned children being cared for by their elderly grandparents. Poverty rates in both LMs were also high at ~26%, which contributes to substandard living conditions resulting in increased health related concerns.

Table 3-5 Prevalence of HIV, poverty levels and access to medical facilities

Aspect	Emalahleni	Govan Mbeki
HIV prevalence rate (pregnant women attending antenatal clinic 15-49 years old)	36%	46%
HIV prevalence rate (excl. pregnant women)	23%	33%
Poverty rate	26%	27%
Public health facilities in 2012		
Clinics	20	11
Community health centers (CHC)	4	3
Number of hospitals	3	2

Source: GMLM IDP, 2016 -2017 and ELM IDP, 2015 -2016

The common causes of death in ELM were reported as influenza and pneumonia, TB, and different forms of heart diseases. The high prevalence of HIV in the affected LMs may have exacerbated the number of people dying as a result of pneumonia and TB.

3.6 Economy and Livelihoods

This section describes the economic activities of the affected LMs and focuses on the key sectoral contributions, employment rate and household income. This information is provided to understand the social context, note that there is a detailed Economic Specialist Assessment that addresses economic impacts.

3.6.1 Sectorial Contribution to the Economy

Given the abundance of coal reserves in Mpumalanga, the mining sector was the highest contributor to economic growth (46% ELM and 39% for GMLM) and employment in both affected LMs[1]. However, coal mining and electricity generation within the affected LMs poses serious challenges around environmental degradation and pollution from greenhouse gas emissions and operates at the expense of the agricultural sector[2]. Coal produced in the area is for both the local (specifically Eskom) and export (China) markets. Other important sectors of the economy for ELM were the electricity and water sector, and the government and community services which contributed 13 and 9%, respectively. In GMLM, manufacturing and wholesale/ trade were the other highest contributors to its economy (24 and 15%, respectively); as indicated in **Table 3-6**.

Table 3-6 Sectoral contribution to the economy in 2011 by affected LMs

Economic Sector	Emalahleni	Govan Mbeki
Mining	46%	39%
Manufacturing	4%	24%
Wholesale and trade	-	15%
Government and community service	9%	9%
Finance/ Business services	8%	5%
Transport	4%	4%
Agriculture	1%	1%
Construction	2%	1%
Electricity and water	13%	1%

Source: GMLM: SDF, 2014 - 2034; ELM: SDF, 2015

[1] GMLM: SDF, 2014 - 2034; ELM: SDF, 2015
[2] GMLM: SDF, 2014 - 2034; ELM: SDF, 2015

3.6.1.1 Mining

In Nkangala DM, the entire area between Delmas, GaNala/ Kriel, Hendrina, Middelburg and Witbank is covered by mining license applications; while a second cluster exists in the area between Middelburg and eMakhazeni; north of eMakhazeni towards Dullstroom and Emgwenya.

In ELM, mining is mainly concentrated in the southern parts of the greater Emalahleni area, with large sections of land affected by undermining and/or mineral rights. Currently, there are 27 coal mines (refer to **Table 3-7**) in the area and they are all operating at different phases of the mining lifecycle (exploration to decommissioning).

Table 3-7 Mining companies operating in the affected LMs

Mined Resource	Emalahleni	Govan Mbeki
Coal	Anglo Coal Anglo-Coal/ Exxaro Armcoal ArmCoal/ Glencore BHP Billiton (South 32) Exxaro Optimum Coal Shanduka Coal (Glencore) Wescoal	Sasol Mining (Pty) Ltd
Aggregate sand		J du Preez t/a Teks Trichardt Crushers (Pty) Ltd
Gold and silver		Pan African Resources PLC

Source: GMLM: SDF, 2014 - 2034; ELM: SDF, 2015

Mining activities in the Gert Sibande DM are mostly concentrated in the GMLM and comprise of coal and gold mining operations. The majority of mining operations are concentrated along the N17 highway, around and between Secunda and Ermelo. Notable collieries include Sasol's Syferfontein and Twistdraai and Anglo Coal's New Denmark[3].

GMLM has a combination of coal, gold, silver and aggregate sand mining operations; with coal mines forming the majority of these – specifically Sasol mining operations. There are currently 17 operating coal mines in the LM; 10 of which are located in ward 15[4]. Pan African Resources and Taung Gold are the only gold mining title holders in GMLM and operate a number of shafts in the area west of Secunda, in the vicinity of Evander.

[3] GMLM SDF, 2014 – 2034.
[4] Key informant interview: Cllr Mtsweni.

3.6.1.2 Agriculture

At a district level, agriculture is one of the primary contributors to the gross domestic product (GDP) at 41.4% in Gert Sibande DM and 23% in Nkangala DM. However, the economic contribution of the agricultural sector in both LMs is low at 1% each. This has been attributed to the increasing demand for arable land for mining purposes. According to an interview with a provincial Department of Agriculture representative, the extent of agricultural land in greater Mpumalanga is rapidly reducing. Looking at the provincial map, it shows that mining rights and prospecting areas take up most of the land and only a small portion has been reserved for agriculture (roughly estimated at 10%) - however, not all prospecting areas will result in mining[5]. The main challenges facing the agricultural sector as related to mining are:

- the difficulty in finding the balance between mining to meet the ever growing power demands and agriculture to supply food, ensure food security and maintain lower food costs; and

- the negative impact of dust and coal spillage on crops and water.

Commercial agriculture in both LMs is concentrated in the non-urban areas consisting mainly of farms and agricultural holdings.

In ELM, agricultural holdings are mostly found on the periphery of the urban settlements. Livestock farming (sheep and cattle) and crop farming (maize and soya beans) occur through the entire municipal area and especially along the river drainage basins - crop farming is mainly concentrated in the areas to the south of the N4 freeway while cattle and limited game farming are mostly located to the north of the N4.

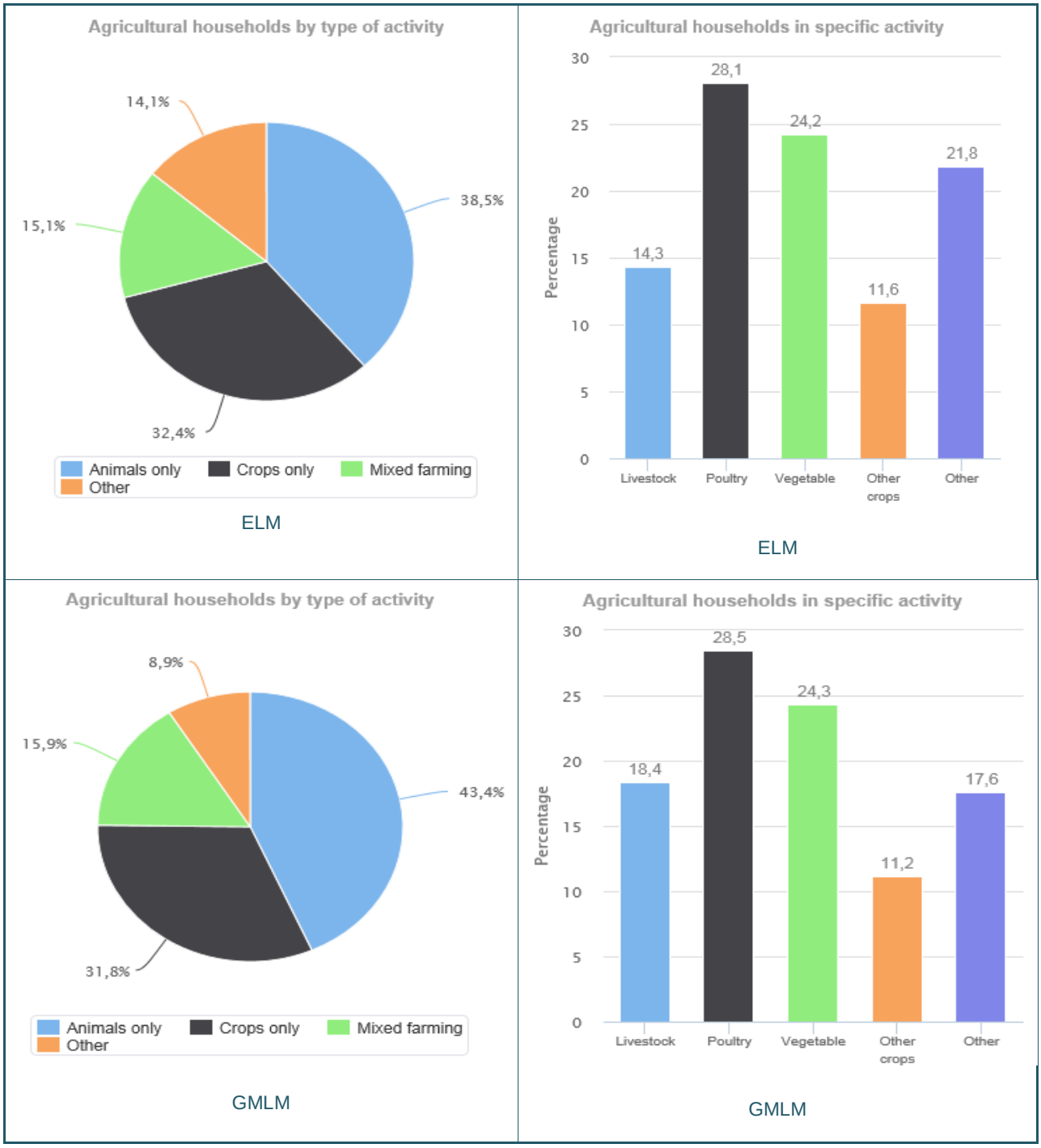
GMLM has vast areas under dry land crop cultivation (crops such as maize, sunflowers and beans). Unimproved grasslands areas are mainly used for cattle and sheep grazing. There are also some large chicken farming operations. Infrastructure on the commercial farms mostly include the farmsteads (farmer's house, yard, farm stores, etc.) and labourer's housing.

According to Census 2011, GMLM had a higher percentage of households engaged in subsistence livestock farming (43%) compared to ELM (39%). This was followed by crops only 32% in ELM and 32% in GMLM; and mixed farming at 15% and 16%, respectively. The most commonly reared type of livestock in both LMs was poultry (28%). **Figure 3-3** presents the subsistence-based agricultural activities undertaken by agricultural households.

At a Ward level, agriculture is mostly prominent in Wards 25, 27 (ELM) and 5, 15, 19 (GMLM).

[5] Key Informant Interview: Mr Jan Venter, Provincial Department of Agriculture.

Figure 3-3 Household-level agricultural activities at LM level



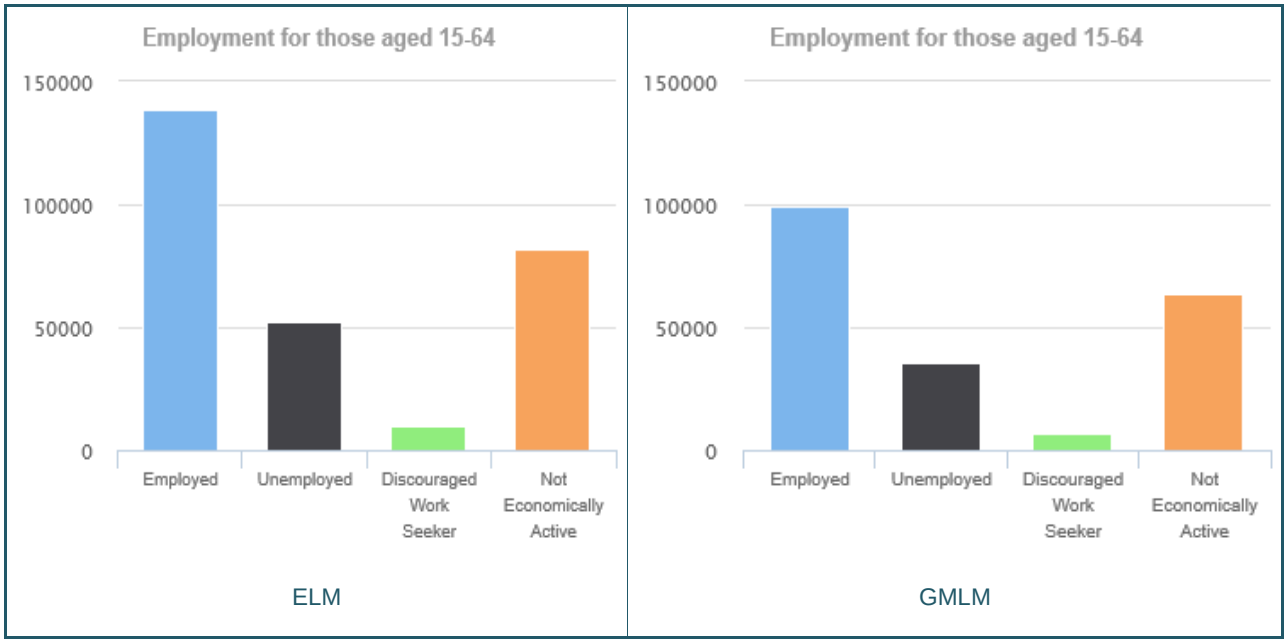
Source: Population Census, 2011

3.6.2 Employment Levels

In 2011, the economically active population in ELM comprised of 190,662 people (52%), slightly higher than that of the GMLM at 134,386 (43%); which was expected due to the varying population sizes and

age distribution of the population between the affected LMs. Both affected LMs have an employment rate of 73% and an unemployment rate of 27%, refer to **Figure 3-4**.

Figure 3-4 Employment levels in the affected LMs



Source: Population Census, 2011

In 2012, the leading economic sector in terms of employment generation in the affected LMs was trade at ~21% in ELM and 22% in GMLM. This was closely followed by mining at ~21% in both LMs and manufacturing at ~14% in ELM and ~20% in GMLM[6].

At a ward level; the average employment and unemployment rates are 17%; with Wards 25 (ELM) and 19 (GMLM) experiencing the highest percentage of unemployed people at 26% and 31%, respectively. The employment status of the population in the LMs and affected wards is presented in **Table 3-8**. It is unclear why these two Wards have such high levels of unemployed people; it may be linked to an influx of job-seekers.

[6] GMLM: SDF, 2014 - 2034; ELM: SDF, 2015.

Table 3-8 Economically active people at a ward level by employment and unemployment

Municipality	Ward	Employed	Unemployed	Discouraged Work-seekers	Other not economically inactive	Employment not applicable
Emalahleni	25	16%	26%	23%	15%	20%
	26	23%	15%	15%	28%	19%
	27	25%	13%	19%	23%	20%
Govan Mbeki	**5**	34%	8%	5%	30%	23%
	15	19%	13%	24%	21%	23%
	17	27%	15%	12%	24%	22%
	18	29%	15%	16%	21%	19%
	19	11%	31%	26%	15%	17%

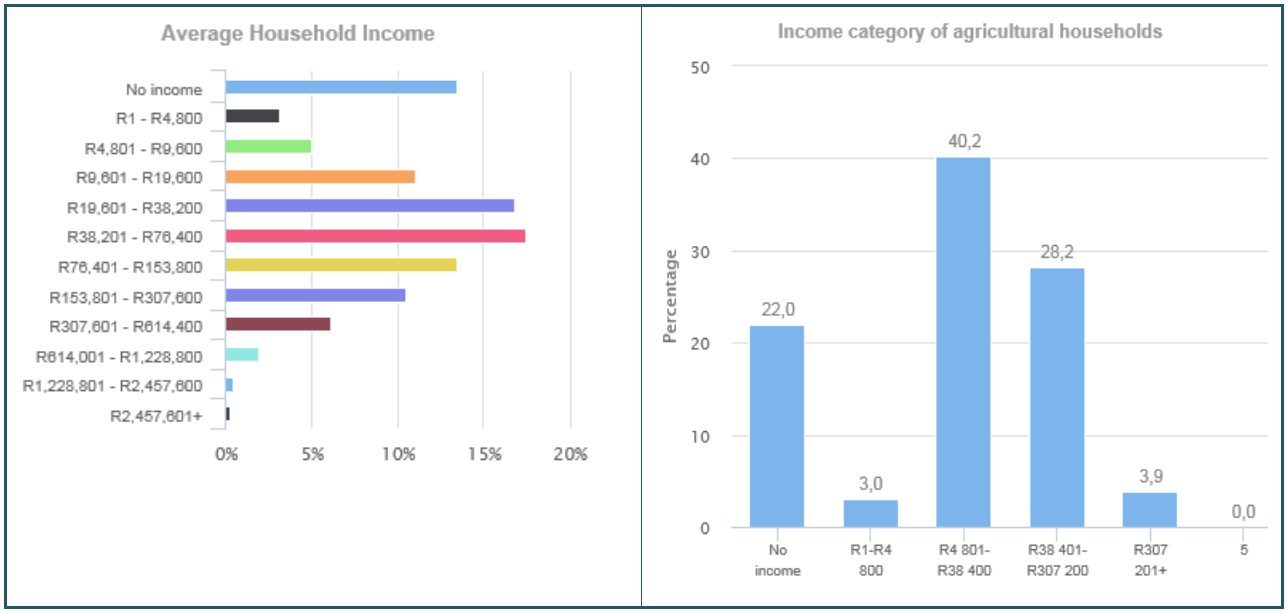
Source: AfriGIS, Census 2011

3.6.3 Household Income

ELM experienced a decline in the total number of households with no income from 2001 (~21%) to 2011 (~14%). Concurrently, the number of households that earn an annual income of R4,801 to R9,600 decreased significantly from ~12% in 2001 to 5% in 2011; refer to **Figure 3-5**. At the other end of the spectrum, households earning an income above R37,401 as well as an income between R153,601 and R307,200 respectively increased significantly.

The majority of the agricultural households received an annual income of R4,802 - R38,400 (~40%) followed by ~28% that received an income between R38,401 – R307,200. In turn, agricultural households with no income comprised 22% and 3% earned between R1 –R4,800. The agricultural households with no or low income are likely to be low-level farm labourers or engaged in subsistence farming and may sell some of their produce to generate some income.

Figure 3-5 Average household income ELM

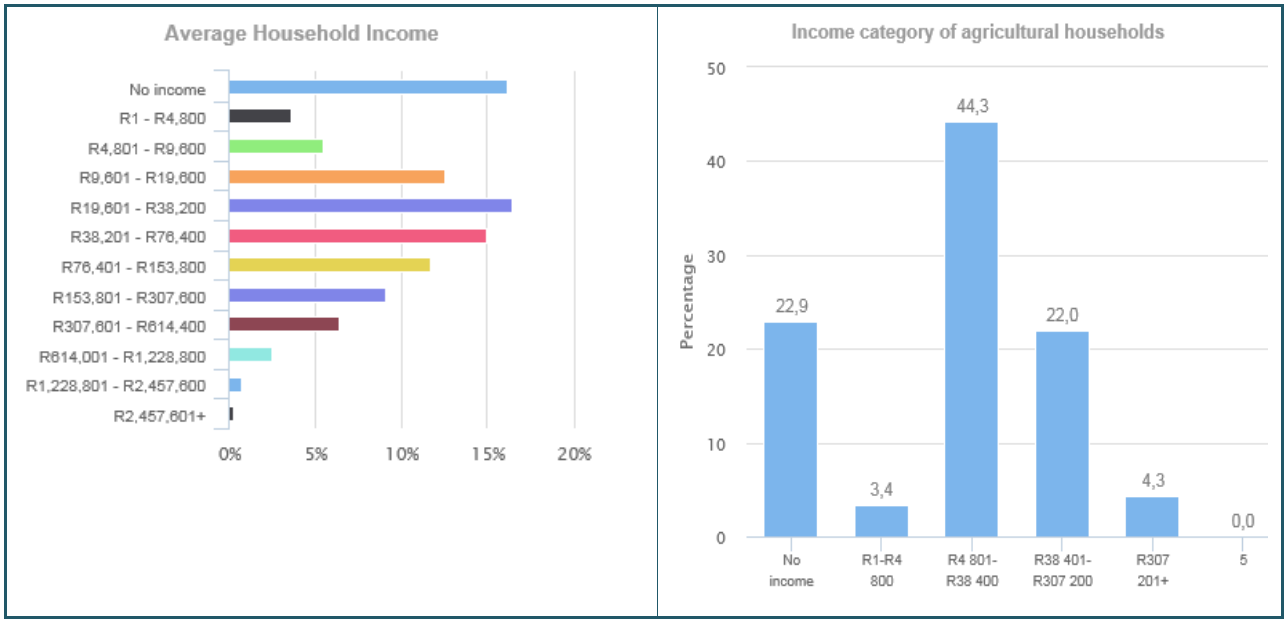


Source: Population Census, 2011

In GMLM, the distribution of household income in the period 2001 to 2011 reveals that households with no income declined from ~31% (in 2001) to ~14% (2011) and households with an income of less than R19,200 per annum decreased from 52% to ~46%. Households earning between R19,200 and R76,800 per annum increased from ~13% to ~30% and those earning more than R76,800 per annum increased from ~4% to ~10% in the same period (2001 to 2011); refer to **Figure 3-6**.

Income trends of agricultural households in GMLM are similar to those described for ELM.

Figure 3-6 Average household income GMLM



Source: Population Census, 2011

3.7 Vulnerable People

Farm workers commonly live on the farms in accommodation provided by the farmer. Their access to basic services varies considerably across the project-affected area, where some have access to water, sanitation and electricity and others do not. Some farmers provide these services as an additional benefit and others charge the farm workers for the services[7]. As described in Section 3.6.3, incomes of agricultural families are generally low. The levels of education are low in the area and it is expected that most farm workers will have low levels of education and are typically skilled to undertake farm work.

The workers and their families often live on the farms for an extended period of time, sometimes over generations; these families therefore can hold life or residential rights. There will be some workers that reside on the farms with no clear contracts or terms. It is common that these are the primary residences of many workers[8].

Given the generally extended relationships and commitment to the farm owners and their work, their focussed skill set, and their long ties to their residences, farm workers are highly dependent on their jobs for both income and residential security. They are therefore considered to be extremely vulnerable and unable to cope without significant support.

[7] Key informant feedback: Cllr Mtsweni, 05/05/2016.
[8] Key informant feedback: Cllr Mtsweni, 05/05/2016 and professional experience based on previous research. Given the extended commencement date and that AAIC has not yet initiated conversations/ negotiations with the project affected land owners, it was considered premature for the social specialist to undertake extensive and detailed interviews with land owners and their workers.

3.8 Land Claims

During the scoping phase public consultations, stakeholders highlighted that there were farms in the project area that were being investigated as part of the land claims process. According to AAIC in conjunction with the Department of Land Affairs and Rural Development, land claims were lodged on portions 3, 4, 6, 7, 8, 16, 17, 18, 19, 31, 34, 36, 37 and RE of the farm Aangewys 81 IS and portions 3 and 4 of the farm Onverwacht 70 IS.

A total of 86 land claims have been submitted to the Provincial Department of Rural Development and Land Reform as they relate to ELM surface area and are related to 43 different properties; refer to **Table 3-9**. The specific information provided in the GMLM SDF is unclear regarding the number of claims that have been filed to date.

Table 3-9 Distribution of land claims in the affected LMs

Municipality	Locality	Quantity
Emalahleni	Witbank/ Emalahleni	48
	Ogies and Ga-Nala	19
	Kriel	19

Source: ELM: SDF, 2015

According to the GMLM SDF (2014), no land claims have been gazetted or approved on any of the farms located within the proposed project area. However, the ELM SDF (2015) indicates that land claims have been lodged and registered on the portions 3 and 4 of the farm Onverwacht 70 IS and the RE and portion 6 of the farm Dorstfontein 71 IS.

3.9 Public Services and Infrastructure

This section briefly describes access to public services and infrastructure by the population of the affected LMs, with **Table 3-10** showing the percentage access to the various key social services and infrastructure.

Table 3-10 Access to public services and infrastructure per affected LM

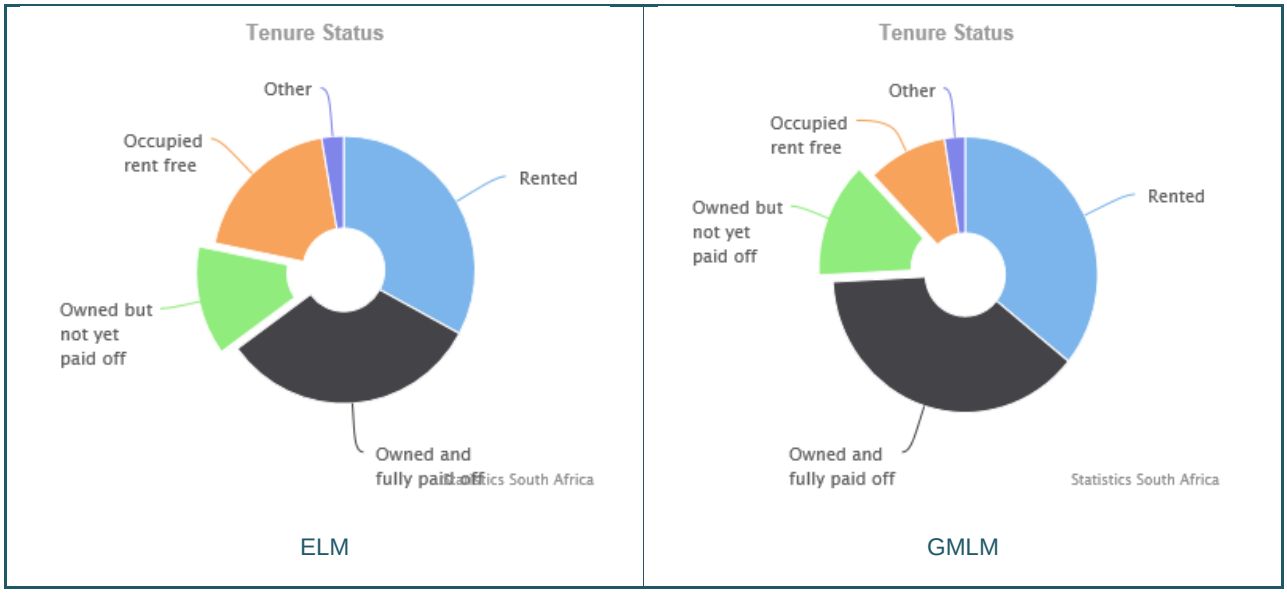
Description	Emalahleni	Govan Mbeki
Formal dwellings	81%	71%
Housing owned/paying off	47%	52%
Flush toilets connected to sewer	76%	89%
Weekly refuse removal	74%	92%
Piped water inside dwelling	65%	56%
Electricity for lighting	73%	90%

3.9.1 Housing

Over three quarters of the households in the affected LMs reside in formal housing at 81% in ELM and 71% in GMLM, with limited informal (peripheral suburban/ town areas) and traditional (mostly in rural parts of the LMs) houses.

There were low numbers of households that fully own or have paid off their houses in both LMs as compared to the combination of those who rent, own but not yet paid off, occupy rent free, and other, see **Figure 3-7**.

Figure 3-7 Housing ownership in the affected LMs



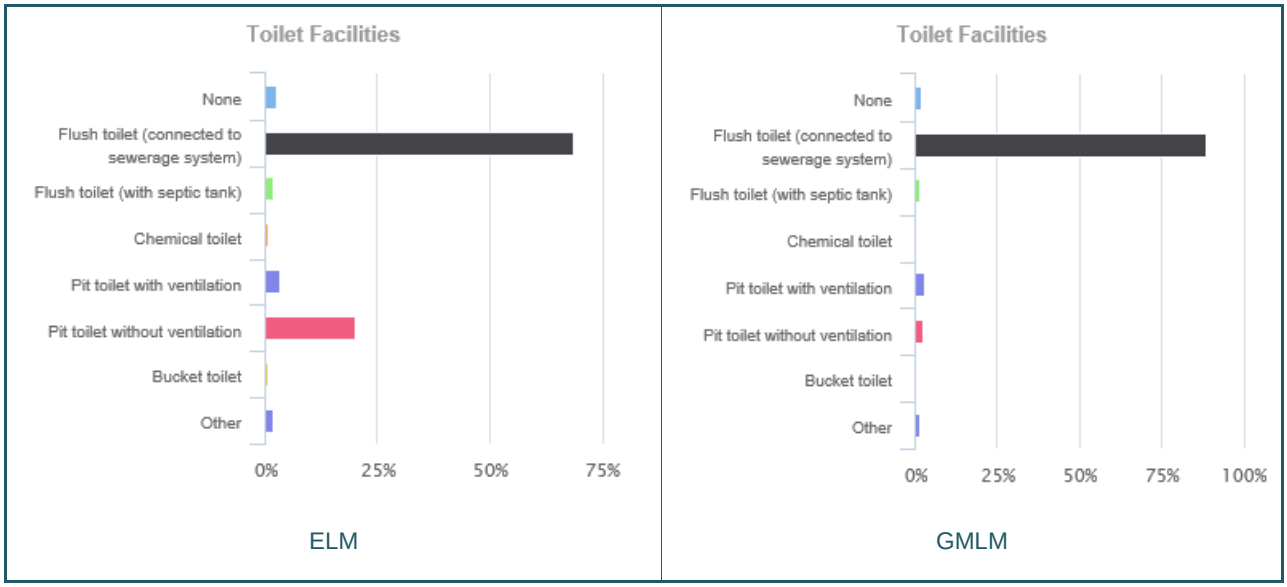
Source: Population Census, 2011

3.9.2 Sanitation

According to the 2011 Census, approximately 89% of households in GMLM had flush toilets connected to the sewerage system; the remaining 11% used pit latrines, bucket latrines; VIP's or had no sanitation. The bucket eradication programme is currently being implemented, which will change the above statistics. In ELM, 76% of households had flush toilets connected to a sewer in urban areas. The rural parts of the LM used rudimentary services, such as pit latrines or french drains, see **Figure 3-8**.

ELM's IDP attributed the inadequate sanitation services to aging infrastructure, poor quality effluent discharged into water courses (leading to pollution),and inefficient and overflowing sewer treatment plant.

Figure 3-8 Sanitation levels in the affected LMs

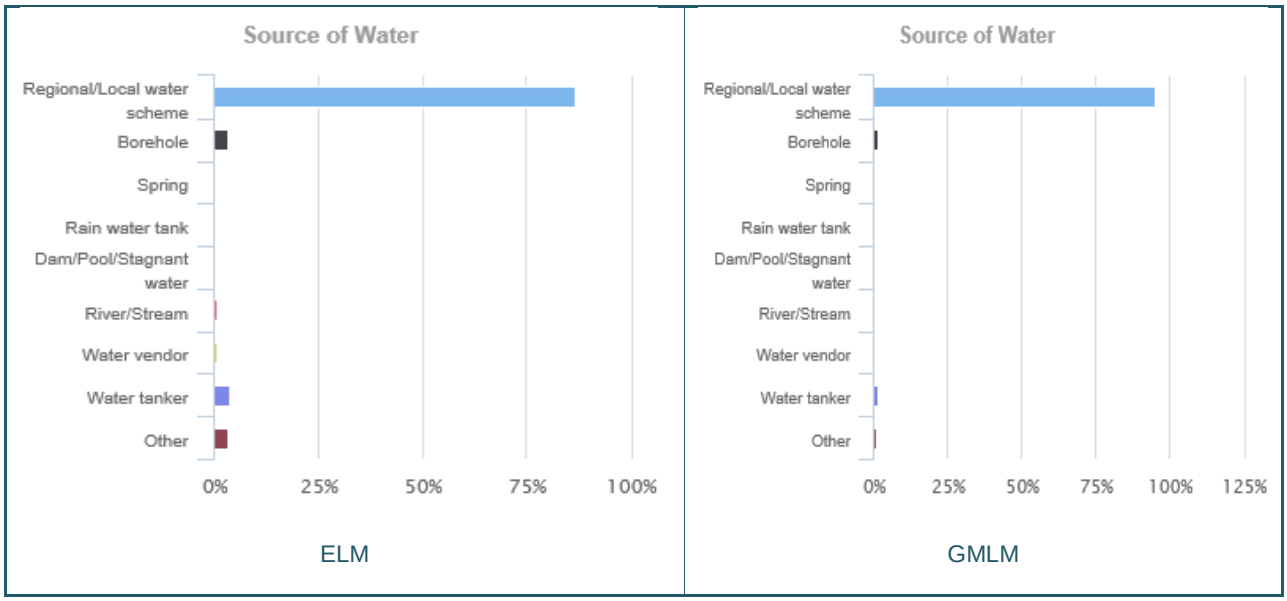


Source: Population Census, 2011

3.9.3 Access to Piped Water

The main sources of water in the LMs are the regional/ local water schemes (approximately 85% in ELM and 95% in GMLM), see **Figure 3-9**. Other sources of water, albeit a small percentage, include boreholes and water tankers – these sources are most common in rural areas.

Figure 3-9 Sources of water



Source: Population Census, 2011

Almost two thirds (~65%) of households within the ELM had access to piped (tap) water inside their dwelling/ institution in 2011, and ~23% had access to piped water inside their yard. This indicated a significant improvement in the level of access to piped water within the LM from 45% in 2001 to 65% in 2011.

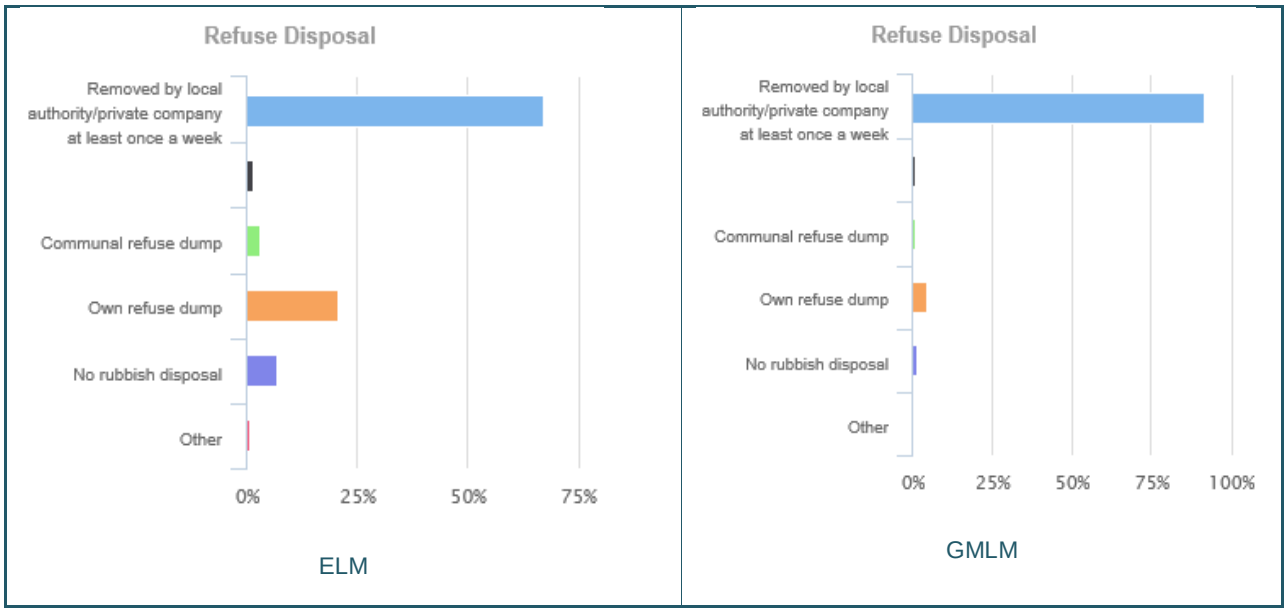
According to the 2011 Census, on average ~57% of households in GMLM have access to potable tap water inside the house or institution and 38% have access to tap water inside their yards. All the urban areas, with the exception of informal settlements in the townships, are fully reticulated in terms of potable water supply. Sasol supplies piped potable water to some farms and intends to transfer this infrastructure to the local authority.

3.9.4 Refuse Removal

Approximately 74% of households within the ELM had their household waste removed by the local authority at least once a week, followed by 17% of households who utilise their own refuse dump (**Figure 3-10**). The waste collection services are predominantly provided in the urban areas; while in the rural parts of the LM only 35% of households were being served by the municipality. While these figures may seem low, there was a 10% increase in weekly municipal waste removal since 2001.

In GMLM, approximately 92% of the household waste was being removed by local municipality/ private companies at least once a week. The remainder of the households' waste was being dumped in illegal dump sites. According to the GM-SDF, there are 6 land fill sites used by the municipality; however, none of these are registered or licensed and they do not comply with minimum legislated standards.

Figure 3-10 Refuse removal in the affected LMs

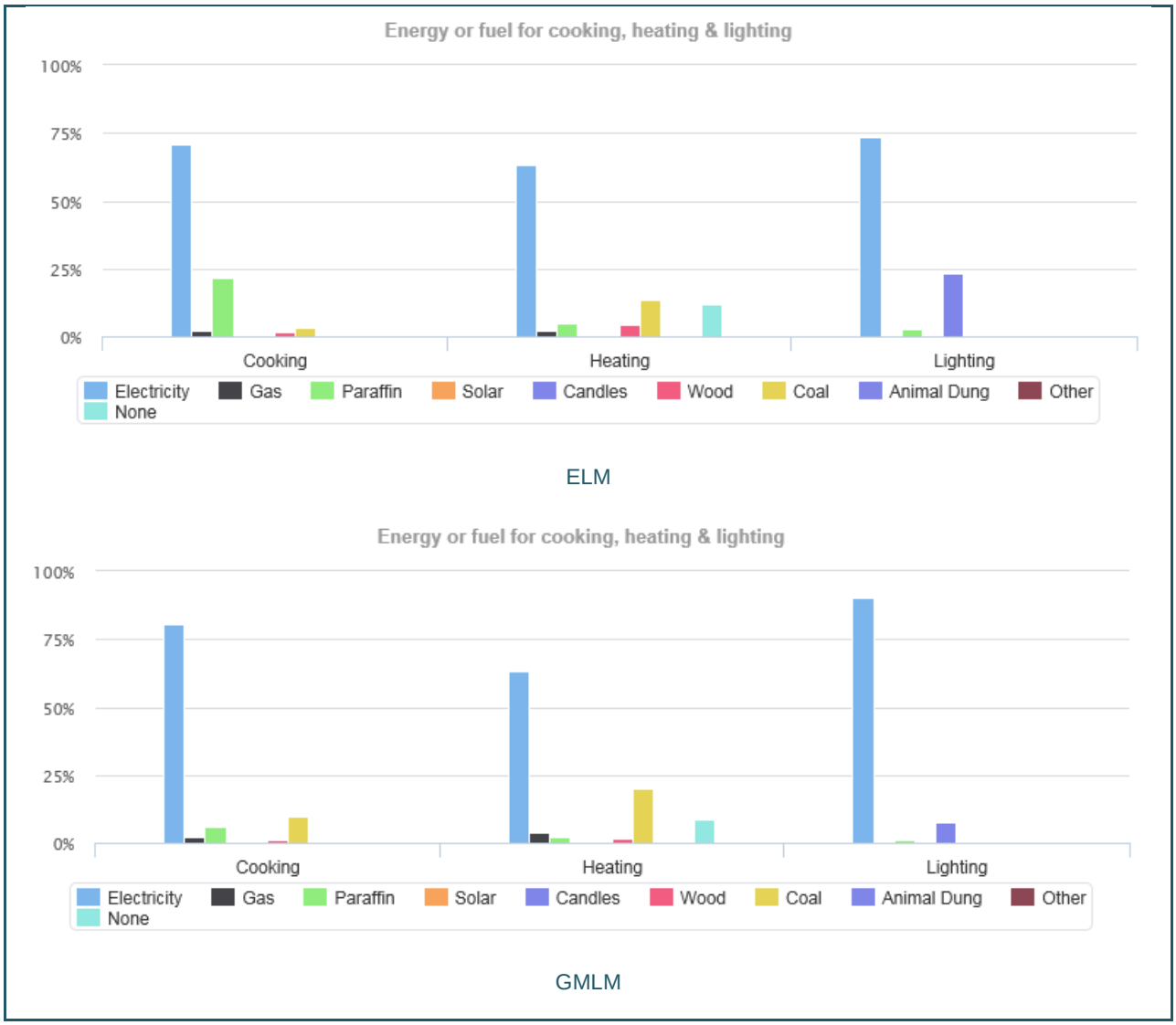


Source: Population Census, 2011

3.9.5 Access to Electricity

The majority (79%) of households in the ELM had access to electricity as their primary form of energy for lighting; candles and paraffin was used by nearly 25% of households. In the rural areas the highest number of households used candles (18%) for lighting. Approximately 90% of households in GMLM used electricity for lighting purposes, while the remaining ~10% used candles and paraffin (see **Figure 3-11**).

Figure 3-11 Sources of energy and uses in the affected LMs



Source: Population Census, 2011

3.9.6 Transportation Infrastructure

The road network within the LMs consists of national, provincial and municipal roads. The responsibility for the road networks rests with all three tiers of government.

The provincial road network includes the R50, R547, R23, R546, R545, R38, R580, R544, and R35; these roads are in a fair condition. The most dominant road freight transported on these roads includes coal.

The N17 is the only national road which traverses GMLM, leading from Gauteng in the west to Swaziland or via the N2 to Richards Bay in the east. This road serves as an important road freight corridor linking Gauteng to Richards Bay, where there is an emerging coastal export port that is increasingly competing with Durban for trade.

The east-west Johannesburg–Richards Bay freight railway line passes through Leandra, Kinross, Trichardt and Bethal, having stations in all these towns. From Trichardt a rail spur branches southwards past Secunda to serve Sasol in the south. Bulk freight such as coal, timber, fuel, maize, etc. is transported on this railway line between the coast and Gauteng. The rail infrastructure is owned and operated by Transnet Freight Rail.

There is one airfield in the area, namely the Secunda Airfield which has a tarred runway, control tower and landing lights.

The main spatial structures in the ELM are the transport network, specifically the N4 and N12 freeways and the national railway line which traverse the area from east to west and which constitute the sub-continental Maputo-Walvis Bay Corridor. The point of convergence of the N4 and N12 freeways (and the railway lines that run parallel to these) is a focal point in the spatial structure. eMalahleni City and its extensions have developed in a linear pattern along these freeways and railway lines, with the CBD located north of the convergence point. There are various secondary roads in the area which provide strong north-south linkages.

The Emalahleni area is well-connected at a regional level by means of the freeways and regional road network. The N12 and N4 freeways provide access to Gauteng to the west. To the east the N4 connects Emalahleni with Middelburg and Mbombela (the provincial capital), as well as Maputo in Mozambique. Route R555 runs parallel to the N4 freeway from eMalahleni City up to Middelburg and attracts extensive residential and commercial activity close to eMalahleni. It has been branded as the Midleni Corridor. The Nkangala DM commissioned an assessment of the corridor in 2012 which concluded that “the Midleni Transport Corridor can be defined as a “secondary” or “feeder” transport corridor to the Maputo Corridor” and that it could host the establishment of an Agri Hub, a Logistics Park, or a Freight Village and a Truck Stop.

The proposed project is bisected by the R545 that connects Kriel and Bethal.

3.10 General Community Challenges and Concerns

The Ward Councillors and CDWs indicated that there are numerous community challenges within the wards they represent and more broadly in the LMs – the main challenge is the high level of

unemployment. Other challenges facing the communities in the various affected wards are highlighted in **Table 3-11**.

Table 3-11 Community challenges as reported by ward representatives

Municipality	Ward	Concerns/ or comments
Emalahleni	25	• There are high levels of unemployment, specifically in Thubelihle. • There is a lack of land to develop housing – the land is physically available but the local municipality lacks the funds to purchase privately owned land for development. • Influx of job and business seekers is a problem in the area; this has resulted in a shortage of housing and increased pressure for more land. • High levels of crime in the area are exacerbated by high levels of unemployment, low levels of education/skills and high levels of drug and alcohol abuse. These factors lead to lots of theft (particularly coal and cables) – sales of stolen goods generate cash to support addictions.
	26	• High levels of unemployment. • The road infrastructure is poor – roads are full of potholes and street lights keep falling down due to corrosion. • Some schools and houses in area are roofed with asbestos and this need to be addressed as asbestos leads to many health problems.
	27	• Numerous attempts made to contact the relevant people.
Govan Mbeki	5	• Numerous attempts made to contact the relevant people.
	15	• Lack of job opportunities. People prefer work in mines and in town, agricultural work is ad hoc and low paid. • Standard of living on farms is very low – no water, no electricity, no sanitation, limited access to schools, mobile clinic is unreliable, hospital is far, no transport. • Houses on farms are largely constructed of mud and zinc/ wood. Farmers claim from government to build houses for workers but do not do so. • Workers mostly live on the farms, some (few) travel from town to farm jobs (usually in overloaded bakkies). • Children have no transport to school. Primary schools are in and around the farms, secondary school is in the township (children have to travel 20-40km). • Crime is prevalent – specifically burglaries, shop lifting, stock theft, car hijacking.
	17	• Lack of employment and high number of unemployed people. • Lack of service delivery in the informal settlements. Specifically, sanitation and water. • Lots of influx due to big industry. Men and women arrive –their families join them once they are settled. Households are comprised of large, extended families. • Influx causes tension, specifically around jobs. Locals should get the jobs. Also some tribalism, especially if the employer seems to favour people from own ethnic group.

Municipality	Ward	Concerns/ or comments
	18	• Area has high levels of unemployment. • There are high levels of HIV/AIDS and TB in the area. • Increased strain on services and infrastructure – water and electricity in particular. Govan Mbeki Sewerage system is currently strained but it is unlikely that the mine (due to location) will place further strain on it.
	19	• Numerous attempts made to contact the relevant people.

Source: Telephonic Interviews with the Ward Councillors and CDWs, 4, 5, 6 May 2016.

The ward councillors and CDWs raised numerous concerns one of which is their distrust of Anglo as a mining company related to unmet expectations related to employment and benefits, as well as unfulfilled promises to better manage environmental impacts. Other issues raised are highlighted below in **Table 3-12**.

Table 3-12 Concerns raised regarding the proposed mine by ward representatives

Municipality	Ward	Concerns/ or comments
Emalahleni	25	• Continued influx of workers and job-seekers will lead to further pressures in the area. • Blasting causing houses to crack. • Boreholes being affected by activities (quantity and quality). • Dust is a nuisance as it settles on everything – the area is covered in dust. • Employment opportunities are limited and require high levels of skills. • Population lack the relevant skills and experience – mine must focus on developing skills so people can qualify for jobs (even if not at this mine). • Most skilled people are from outside the area.
	26	• The continued lack of trust in Anglo, due to the exclusion of key stakeholders (esp. ward councillors) in stakeholder engagement processes. • Stakeholder perceived corruption in company linked to employment and procurement procedures and spend on community projects. • Biased procurement processes – apply nepotism, friends and family get contracts. • Skills programmes/ initiatives that are superficial, for instance short 2-month computer course does not enable people to get employment. • Unfair employment practices– they tend to employ outsiders, friends and family. • Community trust funds that are set up to support community needs – however, there are no community members included as trustees.
	27	• Numerous attempts made to contact the relevant people.
Govan Mbeki	5	• Numerous attempts made to contact the relevant people.
	15	• SLP projects and employment opportunities benefit people in town and locations, the people living on the farms are most in need and never benefit.

Municipality	Ward	Concerns/ or comments
		• Many evictions occur on farms (typically when a farm is sold and the new owner does not want the previous workers). With the mines increasing in number, this problem is being exacerbated. Even those whose families have lived on the farms for generations get evicted (apparently unlawfully). • Influx is continuous and will continue. People come from outside in search of work and benefits. They rent backyard rooms. Bethal is growing rapidly as a result. Many people arrive from Middleburg and Witbank as they have the relevant skills. • Empty promises are made continuously by Anglo. • No assistance is provided for youth to study after Grade 12.
	17	• Believes that underground mines have fewer environmental impacts than open cast mines. • Worried about water for farming. • Need investors in area to generate jobs.
	18	• High environmental impact. Most concerned about water. Other mines have caused water to be cut-off. The area is located at the highest point; it is a watershed line thus making it very important that the water not be polluted or compromised in any way. • This should be farming land, not mining land. • People need to be medically fit to work at the mines. Many are not. There are high levels of HIV/AIDS and TB in area. • Mines are becoming increasingly more mechanised as such a limited number of people are recruited from the local area. • Anglo is scaling down at the moment. This is leading to high numbers of unemployed people who are staying in the area. Seems contradictory to be talking about employment, maybe the situation will be different when the project commences. • Increased strain on services and infrastructure – water and electricity in particular. Govan Mbeki Sewerage system is currently strained but it is unlikely that the mine (due to location) will place further strain on it. It is important that the mine support itself re services. • Mines create huge expectations and tension arises due to lack of follow through. • Subsidence could occur leading to damaged property/ crops. • Trucks are causing damage to road. Coal must not be transported via road.
	19	• Numerous attempts made to contact the relevant people.

Source: Telephonic Interviews with the Ward Councillors and CDWs, 4, 5, 6 May 2016

4 IMPACT ASSESSMENT AND PROPOSED MITIGATION

The focus of the impact assessment is on the impacts that the proposed project will have on the social environment as described in the baseline chapter (Chapter 3) and on ways in which the impacts can be mitigated. Each impact has been assessed using Synergistics' impact assessment methodology for the construction, operation and decommissioning/ closure phases of the Project. The Significance of an impact is defined as a combination of the Consequence (Intensity, Spatial Extent and Duration) of the impact occurring and the Probability that the impact will occur (see *Annex B*).

AAIC is proposing to develop Alexander Colliery in the medium term, no date of commencement is yet available. The proposed Alexander mine will act as an extension to Elders Colliery.

A number of issues that are related to the social impacts are described and assessed in other specialist studies (eg. economics, noise, surface and ground water, air quality, visual and traffic). Most of these studies were not complete at the time the SIA was drafted, as such the SIA assumes implementation of all proposed mitigation measures and attainment of acceptable post-mitigation significance ratings. The related studies are listed below.

- The Economic Impact Assessment describes and assesses the impacts related to employment (direct, indirect and induced), skills development, benefits to the local economy, and the impact on surrounding land uses and values.

- The Noise Impact Assessment describes and assesses the potential noise impacts on the surrounding receptors.

- The Surface and Underground Water Impact Assessment describes and assesses the potential impact on surface and underground water resources.

- The Air Quality Impact Assessment considers the impacts of the proposed project on air quality in the area.

- The Visual Impact Assessment describes, illustrates and assesses the potential impact of the proposed Project.

- The Traffic Impact Assessment measures existing and potential traffic flows and determines the significance of the proposed Project.

4.1 Social Impacts, Assessment and Mitigation

As a result of the proposed Project activities and the nature of the surrounding socio-economic environment, the following potential impacts have been identified and will be described and assessed in Sections 4.1.1 to 4.1.7.

Box 4-1 Social impacts

- Loss of and/or damage to agricultural land and infrastructure
- Displacement of farm workers
- Increased pressure on infrastructure and services
- Increased social ills linked to influx of workers and job-seekers
- Increased nuisance factors and changed sense of place
- Anger and resentment towards AAIC
- Cumulative impacts

4.1.1 Loss of and/or Damage to Agricultural Land and Infrastructure

4.1.1.1 Impact Description

The project will involve the development of surface and underground facilities; comprising of an underground mine, a waste rock dump, topsoil stockpiles, mine related facilities such as workshops, stores, an overland conveyor to transport run-of mine coal from the proposed Alexander incline shaft to the stockpile area at Elders Colliery from where it will be transported via the Elders overland conveyor to Goedehoop Colliery for beneficiation purposes. The estimated prospecting/ mining right covers an area of 10,700ha, where ~7,300ha constitutes the underground mine area and 220ha will be required for the surface infrastructure (shaft complex ~120ha, and overland conveyor ~100ha).

The project is expected to affect ~95 farm portions, 22 of which are owned by AAIC/ Anglo Operations (Pty) Ltd; 23 are owned by government/ parastatals, and 50 are privately owned by various commercial farmers/ companies. AAIC has indicated the following in terms of land acquisition.

- Land acquisition is only required where surface infrastructure will be located. AAICs preferred alternative is to acquire (purchase or lease) only the project affected servitudes, not the entire farm; however, these negotiations are still to commence and will be handled on a confidential and individual basis.

- AAIC have indicated that underground mining will not affect the existing surface activities (e.g. agriculture, residential, roads); as such, land acquisition will not be required for these farms.

- The process of land acquisition will occur approximately one year prior to the planned commencement of construction activities. To date there has been no engagement with any of the affected land owners by AAIC.

- Individual negotiations will be undertaken with each affected farmer to determine the best option for the acquisition of land.

Land owners interviewed for the SIA indicated that they would prefer to sell their entire farm to AAIC rather than selling a servitude, they are concerned that agricultural activities on the remaining farm

portion will be negatively affected due to the proximity of the surface activities; notably dust, noise and vibrations. In addition, where there are farm houses and infrastructure located close to the project's surface infrastructure, they are concerned about the impacts of living in such close proximity to the facility. While agriculture and mining have been identified as the primary sectors in the project affected area in terms of the spatial development frameworks; it is noted that the area is increasingly under significant pressure by mining; as a result, agricultural activities in the area are rapidly decreasing.

4.1.1.2 Assessment

This impact will occur during the construction phase; the loss of land will persist through the life of the mine. Post mine closure and rehabilitation, the area can be restored back to agricultural land. During the construction and operation processes, it is possible that damage may occur to surrounding agricultural land.

Table 4-1 Construction and operation impact: loss and damage of agricultural land

Issue/ Impact/ Nature	The impact related to the loss/damage of agricultural land associated with the project surface land take requirements will be **negative**, and **direct**.
Intensity	The intensity of the impact will be **low** given that the proposed project's surface infrastructure is relatively limited in terms of AAICs mining right area and the broader extent of agricultural land. However, the area is under significant pressure for conversion from agricultural to mining activities.
Duration	The land take associated with the project will be long term for the life of mine; therefore, the duration will be **very high**. The impact may be reversible after mine decommissioning, closure and rehabilitation.
Spatial Scale/ Extent	The impact will be experienced directly by the individually affected landowners, the effects of the loss of agricultural land will be experienced more broadly, as such the extent will be **high**.
Consequence (S+D+E)	**HIGH**
Probability	It is probable (**high**) that the impact will occur as the project will require land for its surface infrastructure.
Significance Rating (CxP)	Based on the above, this will be a **HIGH NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	The impact could be reversed completely post mine closure.
Avoidable, manageable, mitigatable?	The impact cannot be avoided but can be mitigated through the minimisation of land take and associated loss of agricultural land.
Mitigation Measures	See Section 4.1.1.4
Post-Mitigation Significance Rating	Following mitigation, the intensity and extent of the impact may be reduced; however, in terms of the impact assessment methodology, the significance rating remains one of high negative significance due to the probability rating. It is the specialist's opinion that despite the impact assessment rating, with the application of mitigation, AAIC can reduce this impact to one of **MEDIUM-LOW NEGATIVE** significance.

During the decommissioning and closure phases, this negative impact should be mitigated through rehabilitation of the project affected land. The land should be rehabilitated in accordance with the EMPr; it would be preferable if the land be restored for agricultural purposes. Given the current lack of information regarding land acquisition and preferred future uses, this phase of activity is not assessed.

4.1.1.3 Impact Rating Summary

Unmitigated Impact						
Phase	Intensity	Duration	Spatial Scale/ Extent	Consequence	Probability	**Significance**
Construction/ Operation	L	H	H	H	M	**H-**
Mitigated Impact						
Construction/ Operation	VL	H	M	M	M	**M-L-***

** It is the specialist's opinion that despite the impact assessment methodology, the impact significance can be reduced through implementation of effective mitigation.*

4.1.1.4 Mitigation Measures

The objective of mitigation is to avoid or minimise the loss of and/or damage to agricultural land.

Mitigation Measures

- AAIC will ensure that the project design and associated layout seeks to minimise the project footprint, thus minimising the loss of agricultural land.
- AAIC will engage with each directly affected landowner with the intention to acquire only the required servitude area.
- Where AAIC acquires the full farm and the project footprint only affects a portion of the land, the surrounding usable land should be utilised for agricultural purposes – potentially as part of a lease agreement.
- AAIC and their appointed contractors will develop suitable plans to avoid/ minimise damage to surrounding farm land during the construction and operation processes. Where damage is incurred, suitable compensation must be negotiated with the affected farmer.
- Prepare a site Rehabilitation Plan that will be implemented as part of the decommissioning phase.

- Where farm buildings/ infrastructure are located in close proximity to the surface infrastructure and will be materially affected by project activities (as defined by the noise, air quality, visual, traffic and water studies, as well as construction damage), AAIC to negotiate with the affected land owners to agree on suitable terms for compensation. This should be handled on a willing buyer/willing seller agreement.

- AAIC to implement a grievance mechanism that is easily accessible, culturally appropriate and scaled to the potential risks and impacts of the Project, through which complaints related to contractor or employee behaviour can be lodged and addressed. AAIC would respond to all such complaints. The grievance procedure should be aligned with the requirements of the IFC Performance Standards, 2012. Key steps of the grievance mechanism include:
    - circulation of contact details of 'grievance officer' or other key contact;
    - awareness raising among stakeholders regarding the grievance procedure and how it works; and
    - establishment of an electronic grievance register which AAIC will update, including all escalation actions, responses and response times.

4.1.2 Displacement of Farm Workers

4.1.2.1 Impact Description

Most farm workers in the area live on the farms with their families and have done so for extended periods of time and in some cases, for generations[9]. Often after retirement, workers remain on the farms where they have worked for many years. It has not been confirmed how many households reside on the project affected farms, what the status of their land rights are, or what the status of their contracts are with the current land owners[10]. It is likely that some of the farm workers could have life rights, others may have residential rights and some may have no contracts. To date, given that there has been no engagement with the directly affected land owners, it is not yet known whether the farms will be sold to AAIC, or whether the farm workers will be retained and accommodated by the current land owners.

The acquisition of land for the purpose of mining may leave farm workers displaced from their current accommodation, as well as their livelihood activities and source of income. It is reportedly common that farm workers are not accounted for in these transactions and are evicted, leaving them without physical residence and employment when the new land owner takes over the farm[11].

These households are considered to be vulnerable and are unlikely to have the means to relocate from their homes, re-establish their livelihoods and survive without intervention and significant support. The

[9] Key informant feedback: Cllr Mtsweni, 05/05/2016.
[10] Given the medium term commencement date and that AAIC has not yet initiated conversations/ negotiations with the project affected land owners, it was considered premature for the social specialist to undertake extensive and detailed interviews with land owners and their workers.
[11] Respondent feedback: Cllr Mtsweni, 05/05/2016.

households will have established social networks and systems upon which they rely. As such, any displacement of these households is considered to be involuntary in nature.

4.1.2.2 Assessment

This impact will occur at the commencement of the construction phase and it will persist for the life of the operation. It is possible that post-closure the land may be farmed again, and people will be employed and potentially housed on the land; however, it is unlikely that the same individuals will benefit.

Table 4-2 Construction and operation impact: displacement of farm workers

Issue/ Impact/ Nature	The displacement of farm workers due to the project will be **negative**, and **direct** due to physical and economic displacement of the farmworkers.
Intensity	The intensity of the impact will be **very high** due to the inability of the affected farm workers to recover, without significant intervention, as a result of potential physical and economic displacement.
Duration	The impact will be permanent and irreversible for the affected households; therefore, the duration will be **very high**.
Spatial Scale/ Extent	The impact will be experienced by the farm workers on some of the affected farms; as such the extent will be **very low**.
Consequence (S+D+E)	**HIGH**
Probability	It is possible (**medium**) that the impact will occur, especially where the affected landowners would prefer to sell their entire farms to the mine. However, it is possible that the farm workers may be retained by the land owner and moved to an alternate farm where they will continue to live and work.
Significance Rating (CxP)	Based on the above, this will be a **HIGH NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	Should the impact occur, it cannot be reversed for the affected households.
Avoidable, manageable, mitigatable?	The impact can potentially be mitigated.
Mitigation Measures	See Section 4.1.2.4.
Post-Mitigation Significance Rating	Following mitigation, it is possible that the significance rating will be reduced to one of **MEDIUM NEGATIVE** significance.

During the decommissioning and closure phases, it is possible that the land will be rehabilitated and continue as agricultural land. As such, new farm workers may be employed and potentially housed on the land. Given the current lack of information regarding rehabilitation, preferred future uses and the employment/ accommodation of farm workers, this phase of activity cannot be assessed.

4.1.2.3 Impact Rating Summary

Unmitigated Impact						
Phase	Intensity	Duration	Spatial Scale/ Extent	Consequence	Probability	**Significance**
Construction/ Operation	VH	VH	VL	H	M	**H-**
Mitigated Impact						
Construction/ Operation	M	L	VL	M	L	**M-**

4.1.2.4 Mitigation Measures

The objective of mitigation is to avoid and or minimise the displacement of farmworkers due to the project's land requirements.

Mitigation Measures

- AAIC will engage with each directly affected landowner with the intention to acquire only the required servitude area.

- Prior to finalising negotiations/ contracts with the affected land owners, AAIC will undertake a study to identify the affected farm workers, as well as gain a detailed understanding of their socio-economic status and dependence on the land and employment contracts.

- Suitable mitigation measures should be defined that protect the farm workers and ensure that they are adequately provided for and supported should they be moved or lose their employment. If the land owner is not able to ensure security of residence and employment, then AAIC must make appropriate provisions; a Resettlement Action Plan and associated Livelihood Restoration Plan may be required. No affected farm worker should be left without secure tenure or income – this measure should be addressed in terms of Anglo American's commitment to the International Finance Corporation's Performance Standard 5 (IFC PS5): Land Acquisition and Involuntary Resettlement[12].

- Implement the Grievance Mechanism as described in Section 4.1.1.4 to ensure ongoing, proactive engagement and effective management of grievances.

[12] Anglo American's Social Way: Version 2, and Anglo American's Socio-economic Assessment Toolbox: Version 3.

4.1.3 Increased Pressure on Infrastructure and Services

4.1.3.1 Impact Description

The municipal authorities describe the broader project area as having inadequate basic services and infrastructure. The inadequate infrastructure and services are experienced with the slow provision of housing (thus leading to an increase in informal settlements), poor water and sanitation provision, limited waste removal, degraded road infrastructure, etc. The authorities attribute the inadequacy of infrastructure and services to rapid population growth resulting from natural population growth and influx of migrant workers and job-seekers, as well as significant financial and resource constraints.

Direct impact of the project

The project is not planning to provide any housing for its workers during any of the project phases. The workers are likely to reside in the nearby towns of Kriel, Emalahleni, and Bethal. The ~500 construction workers may comprise of both local (people from the local and district municipalities) and migrant workers. The migrant workers will require houses and associated services over the 3-year construction period. On-site project services such as the provision of water, sanitation, power (electricity), and waste removal will be provided by AAIC. The R545 (provincial road) will be the main access route to the proposed project site; an access road that links to the R545 will be constructed (and paved) to transport staff, material, equipment, and waste material to and from the site.

During the operational phase, the project will provide for its own water via onsite water storage tanks. Power will be sourced from Eskom, and waste management will be provided on site and removed by a reputable waste disposal contractor. Sewage will be managed with the provision of sewage treatment plant and sewage sludge will be removed on a regular basis by a reputable waste contractor for disposal at licensed facilities. Similar to the construction phase, workers will be housed off site. However, it is expected that the majority of the workers would already have secured housing and be established in the area given that they will be transferred from the Elders Colliery during decommissioning and closure[13].

Indirect impact of the project

The proposed project area has seen significant influx of job-seekers as related to the high incidence of mines and industry/ commercial agriculture. It is likely that there will be further influx as a result of this project. The majority of people are most likely to begin migrating to the area pre-construction and at the start of the construction phase; it is possible that influx will continue throughout the construction phase and into operation, albeit at a far slower rate. Given the already persistent rate of influx to the broader area, it is expected that influx will merely continue – it is unlikely that there will be a significant increase in the rate of influx as a result of this project.

[13] To avoid job losses associated with the closure of Elders Colliery, operational phase workers will be moved from Elders Colliery to Alexander Mine.

4.1.3.2 Assessment

The combined pressure resulting from the proposed project activities, workers, and the influx of job-seekers will exert additional pressure on infrastructure and services for the duration of the construction phase. No additional workers are anticipated during the operational phase as the workers will be transferred from Elders Colliery, thus they will already be housed and established in the area. Project-related influx is likely to subside during the operational phase once employment is finalised.

Table 4-3 Construction impact: increased pressure on infrastructure and services

Issue/ Impact/ Nature	The increased pressure on infrastructure and services will be **negative**, and **direct** as a result of the proposed project and the presence of construction workers, and **indirect** as a result of the influx of job-seekers.
Intensity	Intensity will be **high** given that the infrastructure and services are already strained and the existing population does not have adequate access to basic services. In addition to the proposed project activities, ~500 construction workers and job-seekers will place further strain on the services as they will be living in the surrounding towns.
Duration	The disruption will be experienced for the full construction phase and may extend beyond this time if the job-seekers remain in the area; therefore, the duration will be **low**. The impact may be reversible over time as workers and job-seekers leave the area.
Spatial Scale/ Extent	The impact will be experienced in the project affected local municipalities. As such, the extent will be **medium**.
Consequence (S+D+E)	**MEDIUM**
Probability	It is probable (**medium**) that additional pressure will be placed on the already strained infrastructure.
Significance Rating (CxP)	Based on the above, this will be a **MEDIUM NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	Strain on infrastructure and services is likely to persist.
Avoidable, manageable, mitigatable?	The impact is manageable and partly mitigatable; however, the impact cannot be resolved by AAIC. AAIC can assist in its management along with the local authorities and other mining companies in the area.
Mitigation Measures	See Section 4.1.3.4
Post-Mitigation Significance Rating	Following mitigation, the intensity of the impact may be reduced; however, in terms of the impact assessment methodology, the significance rating remains one of **MEDIUM NEGATIVE** significance.

Table 4-4 Operation Impact: increased pressure on infrastructure and services

Issue/ Impact/ Nature	The increased pressure on infrastructure and services will be **negative**, and **direct** as a result of the proposed Project and the presence of operational workers, and **indirect** as a result of the influx of job-seekers.
Intensity	Intensity will be **low** given that operational phase workers will come from Elders Colliery and will therefore already be established in the area, and limited additional influx is anticipated.
Duration	The impact will be experienced for the life of the project and beyond should the limited job-seekers remain in the area; therefore, the duration will be **high**.
Spatial Scale/ Extent	The impact will be experienced in the local municipalities. As such, the extent will be **medium**.
Consequence (S+D+E)	**MEDIUM**
Probability	It is conceivable (**low**) that additional pressure will be placed on the already strained infrastructure and services.
Significance Rating (CxP)	Based on the above, this will be a **MEDIUM NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	Strain on infrastructure and services is likely to persist as workers and job-seekers may not leave the area.
Avoidable, manageable, mitigatable?	The impact is manageable and partly mitigatable; however, the impact cannot be resolved by AAIC. AAIC can assist in its management along with the local authorities and other mining companies in the area.
Mitigation Measures	See Section 4.1.3.4
Post-Mitigation Significance Rating	Following mitigation, the intensity of the impact may be reduced; however, in terms of the impact assessment methodology, the significance rating remains one of **MEDIUM NEGATIVE** significance.

During the decommissioning and closure phases, this negative impact will largely be eliminated given that the direct Project activities will cease and some of the workers/ job-seekers may leave the area in search of alternate employment. It is, however, likely that some workers and job-seekers will remain in the area as they may seek employment locally or want to remain in the area where they will have established networks. There is no available information about Project demand for infrastructure and service use during the decommissioning and closure phases, and it is not possible to determine the number of people who will remain or the state and availability of municipal services. As such, this phase of activity is not assessed.

4.1.3.3 Impact Rating Summary

Unmitigated Impact						
Phase	Intensity	Duration	Spatial Scale/ Extent	Consequence	Probability	**Significance**
Construction	H	L	M	M	M	**M-**
Operation	L	H	M	M	L	**M-**
Mitigated Impact						
Construction	M	L	M	M	M	**M-**
Operation	VL	H	M	M	L	**M-**

4.1.3.4 Mitigation Measures

The objectives of mitigation are:

- to limit, as far as reasonably possible, additional pressure on existing infrastructure and services;
- to work in partnership with government, industry, and relevant organisations to enhance the existing infrastructure and services;
- to liaise openly and frequently with affected stakeholders to ensure they have information about the Project; and
- to make available, maintain and effectively implement a grievance/complaints register that is easily accessible to all neighbours and affected stakeholders.

Mitigation measures:

Recruitment procedures to enhance local employment

- AAIC will implement all relevant mitigation measures as proposed in the Economic Specialist Study. Complementary to these measures, AAIC will implement the following.
    - Advertise the number and details of available positions, as well as the minimum requirements to qualify for jobs. Adverts should state that preference will be given to people originating from the proposed project affected local municipalities.
    - Communication about employment needs and the criteria for employment should be undertaken well in advance of the construction and operation phases; AAIC to prepare a fact sheet for use by all those engaging with stakeholders. Sharing of this information can take many forms (eg. formal and informal engagement activities, radio interviews/ adverts, printed media/ adverts, amongst others).
    - Local employment must be maximised to reduce the extent of influx. AAIC will confirm the percentage commitment to local employment (this figure should be as high as possible). The company's commitment to employing local people will be communicated in all advertisements and public meetings.

- No hiring will take place ‘at the gate’, only formal recruitment channels will be followed. AAIC to identify and use suitable local and national recruitment channels.
- Contractors should be required to apply the same recruitment measures to maximise the employment of local people.
- All recruitment procedures to be undertaken in accordance with South African relevant legislative requirements.

Planning and partnering to alleviate pressure

- AAIC will meet all relevant government departments to confirm the needs and constraints, and to establish the areas in which direct and indirect proposed project activities will increase pressure to an extent that the municipalities are unable to accommodate.

- AAIC will develop a strategy and associated implementation plans to address the identified areas of need. These will be developed in consultation with the relevant government departments and businesses and aligned with the Integrated Development Plans (IDPs) and other relevant plans. The plans will outline objectives, specific commitments, partnerships and monitoring procedures. The strategy and the plans will:
  - define objectives that commit to making contributions that strive for sustainability;
  - define a process for selecting projects;
  - outline processes for consulting with relevant stakeholders to identify key needs;
  - present accurate budgets and identify additional resource requirements;
  - outline a project implementation schedule in agreement with the authorities and other partners;
  - specify planned partnerships, including roles and responsibilities (can be in the form of signed Memorandums of Understanding);
  - identify how the plan will be communicated to beneficiaries as a way of managing expectations; and
  - describe monitoring measures for all interventions.

- AAIC will update these plans on an annual basis and make them available to the authorities for their input and final approval.

- Implement the Anglo American Housing Action Plan for Alexander mine employees as indicated in Alexander Project SLP.

- AAIC to participate in working groups and task teams initiated by government or other businesses that address infrastructure and service constraints. These should be identified in consultation with authorities and potential partners.

- AAIC will keep records of all meetings, commitments and results.

Corporate Social Investment/ Local Economic Development

- AAIC to identify corporate social investment (CSI)/ local economic development (LED) opportunities that strive to improve infrastructure and services available in the project area. These are to be identified in collaboration with the relevant authorities and the IDPs.

- Detailed implementation plans to be developed to guide implementation activities, schedules, resource needs, monitoring activities, and communication with relevant stakeholders. AAIC to implement the projects identified in a manner that maximises efficiencies and benefits.

- AAIC to commit resources, financial and other (as required) to undertake these projects.

Ongoing engagement and grievance management

- AAIC to develop a Stakeholder Engagement Plan (SEP) that is revised and updated on an annual basis. The SEP should be developed and implemented at least 2 years prior to commencement of the construction phase in order to proactively identify and manage stakeholder concerns.

- The SEP should be aligned with the requirements of the IFC Performance Standards (2012). The plan should cover (but not be limited to) the following:
  - outline the aim and objectives of ongoing engagement;
  - describe all internal and external stakeholder groups (including levels of support and influence);
  - describe all stakeholder issues and concerns as known currently (this will require exploratory meetings with each stakeholder group);
  - define engagement techniques and protocols for each stakeholder group;
  - present a schedule that includes all identified stakeholders and topics;
  - outline resources required for implementation, timeframes, responsible people, monitoring mechanisms; and
  - layout process for undertaking and documenting engagement, including a clear process for registering and responding to issues and concerns raised.

- Implement the Grievance Mechanism as described in Section 4.1.1.4 to ensure ongoing, proactive engagement and effective management of grievances.

4.1.4 Increased Social Ills Linked to Influx of Workers and Job-Seekers

4.1.4.1 Impact Description

The proposed Project is located in an area where mining, agriculture and small industries are the most dominant economic activities. Based on feedback from key stakeholders there has been significant influx resulting from the existing mines and the proposed mine expansions; this assertion is supported by the demographic structure of the population. Instability (e.g. in fighting and protests linked to high levels of distrust) in the area is common and has been attributed to the perceived benefits (eg. employment, business opportunities, and community trust funds) of having mines in the vicinity. High levels of crime, drug and alcohol abuse, increase in informal settlements, high prevalence of sexually transmitted

diseases such as HIV/AIDS and general unrest due to increased competition are common in the local communities.

The project will create new employment opportunities during the construction phase. Workers will not be accommodated on site; they will reside in the surrounding communities and in towns (e.g. Kriel, Bethal and Emalahleni). This will increase the levels of interaction with the local population. The majority of workers/ job-seekers are likely to be male and living away from their families specifically, during the construction phase.

As a worst-case scenario, these changes can increase levels of crime/ theft, drug and alcohol abuse, increase the incidence of sex work, spread of sexually transmitted infections (STIs) and HIV/AIDS, domestic violence, and general conflict. These impacts typically occur as a result of increased competition for jobs, limited access to basic resources and services, increased income, and different cultural backgrounds/ beliefs. The most likely social ills that may occur as a result of the increased number of workers and job-seekers are described below.

- Petty **theft** may be exacerbated as there will be an increased number of people in the area with no employment and therefore no income.

- An increase in disposable income within the proposed project area (among workers) could result in an **increase in alcohol and drug abuse**, **increased incidences of prostitution and casual sexual relations.** These activities could lead to an increased incidence of HIV/AIDS and increased numbers of teenage and unwanted pregnancies. The increased prevalence of HIV/AIDS would affect contractors, employees, local residents and the families and sexual partners of anyone becoming infected in the proposed project area.

- **General unrest** may be further exacerbated as a result of increased pressure for resources, resentment towards those who secure employment and procurement opportunities as well as benefits from other projects (specifically if the beneficiaries are from outside the area).

4.1.4.2 Assessment

The impact associated with an increase in social ills due to influx of job seekers is already present in the broader project area due to ongoing influx; a further mine will merely promote influx to continue. The impact is expected to commence during the pre-construction phase of the project as job-seekers migrate to the area. The impact will persist through the construction phase and into the operational phase; it is likely to be more intense during the construction phase when there are a greater number of workers and job-seekers. During the operation phase, no new jobs will be available as employees will be moved from Elders Colliery to Alexander - some job-seekers may leave the area.

Table 4-5 Construction impact: increased social ills

Issue/ Impact/ Nature	The increase in social ills will be **negative** and **direct** as a result of construction workers, and **indirect** as a result of migrant job-seekers.
Intensity	Intensity will be **high** given that there will be a relatively large number of workers and influx is expected to occur. Workers will not be housed on site, therefore AAIC will have little control over their activities outside the workplace. Many stakeholders raised concern about this impact occurring.
Duration	The impact will be experienced prior to the commencement of construction, through the construction phase and may extend beyond this time if workers and job-seekers remain in the area; therefore, the duration will be **low (to medium)**. The impact may be reversible over time as workers and job-seekers leave the area, consequences such as HIV/AIDS and unwanted pregnancies will be permanent.
Spatial Scale/ Extent	The impact will be experienced in the local municipalities. As such, the extent will be **medium**.
Consequence (S+D+E)	**MEDIUM**
Probability	The impacts associated with mining in the broader project area are indicative of the impact possibly occurring (**medium**).
Significance Rating (CxP)	Based on the above, this will be a **MEDIUM NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	This impact can result in consequences that will have irreplaceable losses of a physical and psychological nature.
Avoidable, manageable, mitigatable?	The impact will be difficult to manage, AAIC does not have control to fully mitigate or manage the impact. The authorities and other existing and proposed mines are also responsible.
Mitigation Measures	See Section 4.1.4.4
Post-Mitigation Significance Rating	Following mitigation, the intensity of the impact may be reduced; however, in terms of the impact assessment methodology, the significance rating remains one of **MEDIUM NEGATIVE** significance. Without mitigation, the negative impact could worsen.

Table 4-6 Operation impact: increased social ills

Issue/ Impact/ Nature	The increase in social ills will be negative and **direct** as a result of operational workers, and **indirect** as a result of migrant job-seekers (albeit expected to be limited).
Intensity	Intensity of the impact is expected to be **low** (as it relates to the project and its operational workers) given that the project will not be hiring new workers. However, the workers will live in the surrounding towns and AAIC will have no control over their actions. Operational phase workers are likely to live with their families.
Duration	The impact will be experienced through the operational phase and may extend beyond this time if workers and job-seekers remain in the area; therefore, the duration will be **high**.
Spatial Scale/ Extent	The impact will be experienced in the local municipalities. As such, the extent will be **medium.**

Consequence (S+D+E)	**MEDIUM**
Probability	The historical trend and the existence of these social ills indicate that this impact will possibly occur (**medium**).
Significance Rating (CxP)	Based on the above, this will be a **MEDIUM NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	This impact can result in consequences that will have irreplaceable losses of a physical and psychological nature.
Avoidable, manageable, mitigatable?	The impact will be difficult to manage, AAIC does not have control to fully mitigate or manage the impact. The authorities and existing mines and proposed mines are also responsible.
Enhancement Measures	See Section 4.1.4.4
Post-Mitigation Significance Rating	Following mitigation, the significance rating is expected to remain one of **MEDIUM NEGATIVE** significance. It is the specialist's opinion that AAIC must make every effort to mitigate this impact despite the unchanged significance rating. Without mitigation, the negative impact could worsen.

During the decommissioning and closure phases, it is likely that workers will remain in the area as they may seek employment locally and are likely to have established networks and become connected after a long period of time. Given the high levels of uncertainty regarding the actions of people or nature of the socio-economic environment, it is not possible to assess this project phase.

4.1.4.3 Impact Rating Summary

Unmitigated Impact						
Phase	Intensity	Duration	Spatial Scale/ Extent	Consequence	Probability	**Significance**
Construction	H	L	M	M	M	**M-**
Operation	L	H	M	M	M	**M-**
Mitigated Impact						
Construction	M	L	M	M	M	**M-***
Operation	L	H	M	M	M	**M-***

** Without mitigation, the post-mitigation significance rating could potentially worsen.*

4.1.4.4 Mitigation Measures

The objectives of mitigation are:

- to limit, as far as reasonably possible, social ills caused by influx of workers and job-seekers;
- to liaise openly and frequently with affected stakeholders to ensure they have information about the Project; and

- to make available, maintain and effectively implement a grievance/complaints register that is easily accessible to all neighbours and affected stakeholders.

Mitigation measures:

Recruitment procedures to enhance local employment

- Apply all mitigation measures as described in the Economic Specialist Study and Section 4.1.3.4 to enhance local employment. This will serve to reduce the number of workers from outside the area, and discourage influx.

Planning and partnering to alleviate pressure

- As indicated in the SLP, AAIC will partner with the District Municipality and the Local Municipality to address influx issues within their areas of responsibility.

- Apply all mitigation measures as described in Section 4.1.4.4 with regards to planning for and managing influx related impacts.

Ongoing engagement and grievance management

- Apply all mitigation measures as described in Section 4.1.1.4 to ensure ongoing, proactive engagement and effective management of grievances.

Workforce management

- AAIC and its appointed contractors to develop an induction programme, including a Code of Conduct, for all workers (AAIC and contractor's workers) directly related to the Project. A copy of the Code of Conduct (CoC) will be presented to all workers and signed by each person. The CoC must address the following aspects:
  - respect for local residents;
  - respect for farm infrastructure and agricultural activities;
  - no hunting or unauthorised taking of products or livestock;
  - zero tolerance of illegal activities by workers including: unlicensed prostitution; illegal sale or purchase of alcohol; sale, purchase or consumption of drugs; illegal gambling or fighting;
  - compliance with the Traffic Management Plan and all road regulations; and
  - description of disciplinary measures for infringement of the Code and company rules.

- If workers are found to be in contravention of the (CoC), which they signed at the commencement of their contract, they will face disciplinary procedures that could result in dismissal. Stock theft should be noted as a dismissible offence.

- AAIC and its contractors will develop and implement an HIV/AIDS policy and information document for all workers directly related to the proposed Project. The information document will address factual health issues as well as behaviour change issues around the transmission and infection of HIV/AIDS. AAIC will make condoms available to employees and all contractors.

4.1.5 Increased Nuisance Factors and Changed Sense of Place

4.1.5.1 Impact Description

The proposed project area is largely rural in nature, characterised by large commercial farms (primarily crop farming with some livestock farming), mines, and residential areas. The area is disturbed and generally of medium to low visual quality and sensitivity[14]. The proposed surface infrastructure will be located on land that is currently used for agriculture; the area will be transformed due to the construction of the project's surface infrastructure (shaft complex and overland conveyor).

As a result of the proposed project activities, there will be an increase in the noise, air pollution, traffic and visual impacts resulting from the construction, operation and decommissioning/closure activities at the facility[15]. The combined effect of the noise, air quality, visual and traffic impacts are likely to have a negative impact on the sense of place for some stakeholders. In addition, the influx of workers and job-seekers is likely to result in further disruptions to the sense of place through the generation of a range of nuisance factors, including increased competition for the already strained infrastructure and services (see Section 4.1.3), increased levels of crime/ unrest, and health related concerns (see Section 4.1.4).

4.1.5.2 Assessment

It is expected that this impact will commence pre-construction phase as job-seekers begin migrating to the area and will persist through the construction and operation phases, and begin to dissipate during the decommissioning phase. The impact will be experienced in different ways by different receptors, the relatively large geographic extent, and the complexity of the subject. An indicative assessment is provided; the significance rating is based on the worst case scenario for the majority of affected receptors.

Table 4-7 Construction impact: nuisance factors and changed sense of place

Issue/ Impact/ Nature	The increase in nuisance factors and associated changed sense of place will be **negative**, and **direct** as a result of Project activities, and **indirect** as a result of migrant job-seekers.
Intensity	The intensity of the impact will be **medium** given the combined effect of the influx of workers and job-seekers, visual, noise, air quality and traffic impacts. The area is already relatively disturbed; however, there are some activities that rely on the appearance and sense of place of the surrounding area.
Duration	The impact will be experienced for the duration of the construction phase; therefore, the duration will be **low**. The impact may be largely reversible over time.
Spatial Scale/ Extent	The impact will be experienced in the local municipalities. As such, the extent will be **medium**.

[14] The Visual Impact Assessment was not available at the time this report was drafted.
[15] These impacts have been assessed separately in the respective specialist studies; for details of these impacts, refer to the Noise, Air Quality, Traffic and Visual Impact Assessments. Mitigation measures are provided for each impact. At the time of drafting the SIA, the findings of these studies were not available.

Consequence (S+D+E)	**MEDIUM**
Probability	It is possible (**medium**) that the impact will occur for some sensitive receptors (specifically property owners who will be affected by the surface infrastructure). Not all receptors will experience this impact in the same way.
Significance Rating (CxP)	Based on the above, this will be a **MEDIUM NEGATIVE** impact.
Irreplaceable loss / enhancement of receptors	This impact can result in consequences that will have irreplaceable losses of a physical and emotional nature.
Avoidable, manageable, mitigatable?	The impact is largely mitigatable for most stakeholders affected.
Mitigation Measures	See Section 4.1.5.4
Post-Mitigation Significance Rating	Following mitigation, the significance rating is likely to reduce to one of **MEDIUM to LOW NEGATIVE** significance. It is the specialist's opinion that despite the impact assessment methodology, the impact significance can be reduced slightly through implementation of effective mitigation.

Table 4-8 Operation impact: nuisance factors and changed sense of place

Issue/ Impact/ Nature	The increase in nuisance factors and associated changed sense of place will be **negative**, and **direct** as a result of Project activities, and **indirect** as a result of migrant job-seekers.
Intensity	The intensity of the impact will be **medium** given the combined effect of the influx of workers and job-seekers, visual, noise, air quality and traffic impacts. The area is already relatively disturbed; however, there are some activities that rely on the appearance and sense of place of the surrounding area.
Duration	The impact will be experienced for the duration of the operational phase; therefore, the duration will be **high**. The impact may be largely reversible over time.
Spatial Scale/ Extent	The impact will be experienced in the local municipalities. As such, the extent will be **medium**.
Consequence (S+D+E)	**HIGH**
Probability	It is possible (**medium**) that the impact will occur for some sensitive receptors (specifically property owners who will be affected by the surface infrastructure). Not all receptors will experience this impact in the same way.
Significance Rating (CxP)	Based on the above, this will be a **HIGH NEGATIVE** impact.
Irreplaceable loss / enhancement of	This impact can result in consequences that will have irreplaceable losses of a physical and emotional nature[16].

[16] Potential financial losses on surrounding land uses are addressed in the Economic Impact Assessment.

receptors	
Avoidable, manageable, mitigatable?	The impact is largely mitigatable for most stakeholders affected.
Enhancement Measures	See Section 4.1.5.4
Post-Mitigation Significance Rating	Following mitigation, the significance rating is likely to reduce to one of **MEDIUM NEGATIVE** significance for most receptors. The impact may remain high negative for some affected property owners; however, the majority of facilities should not be affected given their proximity to the proposed Project and the already disturbed nature of the area immediately surrounding the project.

During the decommissioning and closure phases, the majority of the proposed project aspects that resulted in a changed sense of place will no longer exist, the community is likely to have adapted (albeit unwillingly) to the existence of migrants in the area. Given the high levels of uncertainty regarding the actions of people or nature of the future socio-economic environment, it is not possible to assess this project phase; however, it is expected that the impact will largely be mitigated.

4.1.5.3 Impact Rating Summary

Unmitigated Impact						
Phase	Intensity	Duration	Spatial Scale/ Extent	Consequence	Probability	**Significance**
Construction	M	L	M	M	M	**M-**
Operation	M	H	M	H	M	**H-**
Mitigated Impact						
Construction	L	L	M	M	M	**M-L-***
Operation	L	H	M	M	M	**M-**

** It is the specialist's opinion that despite the impact assessment methodology, the impact significance can be reduced through implementation of effective mitigation.*

4.1.5.4 Mitigation Measures

The objectives of mitigation are:

- To minimise all nuisance factors such as noise, air quality, traffic, and visual.
- To liaise openly and frequently with affected stakeholders to ensure they have information about activities that will generate nuisance factors. This is most relevant for occasional events.
- To make available, maintain and effectively implement a grievance/complaints register that is easily accessible to all neighbours and affected stakeholders.

Mitigation measures:

- Implement all mitigation measures as specified in the relevant 2016 specialist studies, namely:
    - noise impact assessment;
    - air quality impact assessment;
    - traffic impact assessment; and
    - visual impact assessment.

- Where farm buildings/ infrastructure will be materially affected by project activities (as defined by the noise, air quality, visual, traffic and water studies, as well as construction damage), AAIC to negotiate with the affected land owners to agree on suitable terms for compensation. Where quality of life is altered, AAIC should negotiate with the affected land owners in a manner aligned with their commitment to operating in accordance with best practice (IFC PS)[17]. This should be handled on a willing buyer/ willing seller agreement.

- Implement all mitigation measures as specified in terms of the following:
    - recruitment procedures to enhance local employment (Economic Specialist Study and Section 4.1.3.4);
    - planning and partnering to alleviate pressure on infrastructure and services (Section 4.1.3.4);
    - ongoing engagement and grievance management (Section 4.1.1.4); and
    - workforce management (Section 4.1.4.4).

- Periodic communication (annual at a minimum) and feedback should be undertaken to the affected communities and stakeholders in respect of the activities that will generate nuisance factors.

4.1.6 Anger and Resentment Towards AAIC

4.1.6.1 Impact Description

The creation of employment and various business opportunities is the most anticipated positive impact of any project. Feedback from the surrounding community leaders (Ward Councillors) and other stakeholders indicates that there are high expectations for jobs as a result of this project. However, given that this Project is merely an extension of existing mining operations (Elders Colliery), there will be limited new jobs created especially during the operational phase. This has already been communicated to the stakeholders during the Scoping phase of the EIA and stakeholders have clearly indicated their frustration in this regard.

Furthermore, stakeholders have also voiced their anger and resentment towards the existing Anglo operations in the area not meeting expectations (real and perceived). Some of their issues raised about Anglo include:

- perceived nepotism linked to employment and business opportunities offered by existing operations;

[17] This commitment is outlined in the Anglo Social Way and the Socio-Economic Assessment Toolbox.

- poor implementation of promised CSI related development;
- varying levels of stakeholder engagement; for instance, the affected landowners only heard about the project through the EIA notification process and have yet to have direct discussions with AAIC; and
- perceived mishandling of community trust fund, noting that the communities have not received any benefits from the community trust fund.

Based on the above, it is clear that AAIC stakeholders do not differentiate between the various Anglo American Operations in the area; as far as the stakeholders are concerned all Anglo operations are the same. As such, AAIC needs to actively manage its relations and communication with the stakeholders more proactively and ensure that the distribution of benefits is communicated clearly with stringent timeframes in order to gain stakeholder trust.

Even though the project will generate a limited number of jobs, AAIC is committed to benefiting the affected communities in other ways, as outlined below.

- AAIC is committed to investing 1% of its operating profit into sustainable community development projects. Through its involvement in the development of IDP and LED plans; AAIC's plan is to direct most of its CSI spend into the following priority areas - poverty alleviation, alternative employment opportunities, infrastructure development, education, healthcare, and small medium enterprise development.

- In addition, in the SLP, AAIC has identified its first joint project with one of the local municipalities; namely the construction of a waste water treatment plant in Charls Cellier. The project will take about five years to complete and estimated to cost ~R30 million.

- Other community development projects that AAIC is planning to invest in include:
    - provision of electrical infrastructure network, including the fitting of high mast lights in streets;
    - upgrade of the sewerage system;
    - provision of clean drinking water;
    - construction of bridges or subways, paving and maintenance of roads;
    - construction of a new school and clinic;
    - multi-purpose centre and recreation park for children; and
    - creation of jobs through CSI and SLP projects.

4.1.6.2 Assessment

It is envisioned that the implementation of these interventions may address some of the stakeholders' feelings of anger and resentment towards AAIC. Increasingly, in South Africa, unmet expectations lead to unrest and conflict, sometimes violent. It is not possible to assess this potential impact as the variables are not known and the socio-political climate may be significantly different in the medium-term. It is, however, important for AAIC to proactively manage these expectations, as levels of conflict and tension can escalate to conditions of unmanageable disruption which could affect the project's social license to operate, disrupt operational activities, and potentially lead to acts of violence. Stakeholder perceptions,

whether real or not need to be managed through proactive communication with the affected communities and their leadership.

This potential negative impact is considered to be very serious and the significance should not be overlooked.

4.1.6.3 Management Measures

- As per the SLP, develop and implement a Stakeholder Engagement Plan to guide AAIC's engagements, and determine the frequency of all consultations and involvement on different and various engagement forums (see SEP mitigation presented in Section 4.1.3.4).

- Refine and implement the SEP at least 2 years prior to construction. Seek ways in which to collaborate with stakeholders to incorporate meaningful stakeholder participation into project design and associated technical and specialist assessment.

- As committed in the SLP, establish a stakeholder forum in line with Anglo American standards, specifically Anglo American Good Citizenship Principles, Anglo Social and Environment Way which aims to:
    - promote strong relationships with, and enhance, the capacities within the communities where the mine operates;
    - seek regular engagement with the community around issues that affect them;
    - support upliftment projects that reflect the priorities of local people and support the principles of sustainability and cost effectiveness; and
    - develop and implement a grievance/complaints register through which all community and interested and affected parties (I&AP) complaints are recorded and addressed.

- If there is a project implementation delay, at least 3 years prior to the commencement of project construction, appoint an appropriately qualified specialist to critically review the social and political climate. The specialist should assess the socio-economic feasibility of the project in light of the review findings. Appropriate additional measures should be developed to avoid, mitigate and manage any additional identified risks.

- Implement all mitigation measures in the Economic Specialist Study related to economic development of the project area.

- Align all SLP commitments to the IDPs of the affected municipalities.

- Ensure all commitments made in the SLP regarding local business development are adhered to.

- Implement the skills and development training programmes outlined in the SLP in the project areas.

- All directly affected communities should be considered for corporate social investment initiatives.

- Through the SLP, develop a plan for the management of downscaling and retrenchments.

- All I&APs should be informed of the commencement of the decommissioning phase and the date of mine closure on a regular basis.

4.1.7 Cumulative Impacts

The cumulative social impacts resulting from the proposed project will occur as a result of project induced influx and nuisance factors (including noise, air pollution, visual and traffic). Throughout the broader project area, the economy is driven by the existence of mines, and commercial agricultural activities. Together, these sectors have attracted and retained job-seekers and contribute to noise, air quality, traffic and visual impacts.

An increase in direct project nuisance factors; namely, noise, air pollution, traffic and visual disturbances could further impact negatively on the sense of place for some receptors. Implementation of suitable mitigation measures will be proposed to reduce and manage these nuisance factors as far as reasonably possible. Traffic impacts are expected to be manageable with mitigation.

An influx of workers (direct) and job-seekers (indirect) may lead to increased pressure on infrastructure and services and an increase in social ills. AAIC should make every effort to discourage influx by communicating early and widely that local residents will be given preference for employment. AAIC to work together with the relevant local authorities and mining operations to identify and actively participate in initiatives/ projects to improve capacity where required. While the potential impacts linked to influx can have negative consequences, this is a common and anticipated phenomenon that cannot be a reason for preventing further development.

4.1.7.1 Additional Mitigation Measures

- AAIC should collaborate with local authorities and other mines in the area to ensure adherence to the South African legal requirements for pollution management. Where the legislation falls short, AAIC should consider international best practise guidelines such the IFC Performance Standards (2012) to guide its pollution levels.

- AAIC should adhere to Anglo American's SEAT and the Anglo Way to manage the impacts on affected communities and address impacts proactively.

- AAIC to undertake all Project management and mitigation measures in alignment with their overarching Environmental and Social Management System (ESMS).

- All Project activities, including management and mitigation of impacts should ensure respect for human rights.

- AAIC should undertake regular internal and external monitoring to ensure compliance with the Environmental and Social Management Plan (ESMP).

- At least 10 years prior to decommissioning and closure, all potential social impacts should be re-identified and assessed, and suitable management measures should be put in place to minimise the negative impacts linked to closure and enhance the potential success of LED/CSI project hand-over.

5 CONCLUSION

The application by AAIC for the construction and operation of a new underground coal mine, the Alexander Project (this Project) should be given due consideration in light of the need for coal and the various strategic commitments in the area for developing and operating mines.

The project area is already marked by large-scale mining and agricultural operations. Influx associated with these industries is common and is likely to continue as a result of this project, generating increased pressure on the already strained infrastructure and services, and aggravating social ills (such as theft and HIV/AIDS). In combination, the noise, air quality, visual, traffic and increase in influx will further degrade the overall sense of place. There will be some loss of agricultural land and potentially the associated involuntary displacement (physical and economic) of farm workers. With effective implementation of the proposed mitigation measures, it is expected that the significance of these social impacts will be reduced to levels that are considered to be acceptable in the context of the receiving environment.

There are already high levels of anger and resentment towards mining operations in the area, notably Anglo American, the development of this mine compounded with the lack of new employment opportunities during the operations phase are likely to fuel and enhance the current levels of anger and conflict. This is a notable and concerning social impact that is difficult to assess; however, it could potentially be a very high negative impact that will be difficult to mitigate given the proposed project activity.

It is the reasoned opinion of the social specialist that the proposed Project be approved on condition that all mitigation measures described in the SIA be implemented and monitored regularly over the construction and operation phases.

6 REFERENCES

AfriGIS Census 2011, www.census2011.com

Anglo American Social Way: Version 2, 2014.

Anglo American Socio-Economic Assessment Toolbox: Version 3.

Census 2011 Municipal Report Mpumalanga; Statistics South Africa

Emalahleni Local Municipality Integrated Development Plan 2015/ 2016; Emalahleni Local Municipality

Emalahleni Local Municipality: Spatial Development Framework Draft Report 2015; Emalahleni Local Municipality

Gert Sibande District Municipality: Spatial Development Framework Final Report November 2014; Gert Sibande District Municipality

Govan Mbeki Municipality: Draft Integrated Development Plan Review 2016/ 2017

Govan Mbeki Spatial Development Framework (SDF) 2014 -2034; Govan Mbeki Local Municipality

Limpitlaw, Aken, Lodewijks & Viljoen (2005); Post-Mining Rehabilitation, Land Use and Pollution at Collieries in South Africa. Sustainable Development in the Life of Coal Mining, Boksburg, 13 July, 2005. Website: https://www.researchgate.net/publication/237436743

Nkangala District Municipality: Draft Integrated Development Plan 2016/2017-2020/2021; Nkangala District Municipality.

6.1 Interviews

- Jan Venter: Department of Agriculture (Province)
- Ignatius Mathebula: Govan Mbeki Municipality: Assistant Manager of Spatial Planning
- Cllr Joseph Mtsweni: Govan Mbeki Local Municipality – Ward Councillor (Ward 15)
- Jackpot Ndinisa: Govan Mbeki Municipality Ward 17 Community Development Worker
- Encee Van Huyssteen: Govan Mbeki Local Municipality – Ward Councillor (Ward 18)
- Cllr Mdluli: eMalahleni Local Municipality – Ward Councillor (Ward 25)
- Cllr Mahlangu: eMalahleni Local Municipality – Ward Councillor (Ward 26)
- Erwin Rode: Rode Property Consultants

- Witbank 576 IS, The Farm: Hj Pieterse Vlakfontein Tweehonderd Pty Ltd
- Kafferstad 79 IS 19: Van De Merwe Pieter Hendrik Schalk

7 ANNEX A: SPECIALIST DETAILS AND DECLARATION OF INDEPENDENCE

7.1 Kerryn McKune Desai

Kerryn offers fourteen years of experience in the fields of socio-economic development and social performance in corporate, non-profit and academic environments. My social capabilities draw on my in-depth knowledge of the International Finance Corporation (IFC) Performance Standards in order to provide the following key offerings:

- review and assessment of existing and planned social programmes at both the corporate and operational levels;
- review/ gap analyses of existing reports and management plans;
- social risk identification and assessment;
- resettlement planning and reviews;
- social impact assessment and peer review;
- auditing of social and labour/ working conditions;
- development and facilitation of training and capacity building;
- stakeholder engagement planning and implementation; and
- qualitative research and analysis.

She has diverse sector expertise, with specific focus in the mining, oil and gas, and power/ renewable energy sectors. She has worked throughout Africa, including South Africa, Botswana, Uganda, Cameroon, Ghana, Nigeria, Tanzania, Guinea, Zambia, São Tomé and Príncipe, Mozambique, as well as in Albania and Turkey.

She aims to use her skills and experience to support companies and projects to plan for and manage their challenging socio-economic environments and the associated risks. The anticipated outcome would be to build trust based on best practice and a positive reputation, and the attainment of a regulatory and social license to operate.

7.2 Declaration of Independence

I, Kerryn McKune Desai, author of this report, hereby declare that I am an independent consultant. I compiled the report based on impartial research and analysis of the proposed project. I confirm that I have no business, financial, personal or other interest in the activity or application in respect of which I have been involved.

Kerryn McKune Desai

8 ANNEX B: IMPACT ASSESSMENT METHODOLOGY

Impact assessment methodology as provided by Synergistics.

8.1 Determination of Significance of Impacts

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

8.2 Impact Rating System

The proposed method for the assessment of environmental and social impacts is set out in **Table 8-1**. This assessment methodology enables the assessment of environmental issues including:

- the intensity of impacts (including the nature of impacts and the degree to which impacts may cause irreplaceable loss of resources),
- the extent of the impacts,
- the duration and reversibility of impacts,
- the probability of the impact occurring, and
- the degree to which the impacts can be mitigated.

Table 8-1 Criteria for assessing impacts

Note: Part A provides the definition for determining impact consequence (intensity + extent + duration). Impact consequence and significance are determined from Part B and C, respectively. Interpretation of impact significance is given in Part D.

PART A: DEFINITION AND CRITERIA*		
Definition of SIGNIFICANCE		**Significance = consequence x probability**
Definition of CONSEQUENCE		**Consequence is a function of intensity, spatial extent and duration**
Criteria for ranking of the INTENSITY of environmental impacts	**VH**	Severe change, disturbance or degradation. Associated with severe consequences. May result in severe illness, injury or death. Targets, limits and thresholds of concern continually exceeded. Substantial intervention will be required. Vigorous/widespread community mobilization against project can be expected. May result in legal action if impact occurs.
	H	Prominent change, disturbance or degradation. Associated with real and substantial consequences. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Will definitely require intervention. Threats of community action. Regular complaints can be expected when the impact takes place.
	M	Moderate change, disturbance or discomfort. Associated with real but not substantial consequences. Targets, limits and thresholds of concern may occasionally be exceeded. Likely to require some intervention. Occasional complaints can be expected.
	L	Minor (Slight) change, disturbance or nuisance. Associated with minor consequences or deterioration. Targets, limits and thresholds of concern rarely exceeded. Require only minor interventions or clean-up actions. Sporadic complaints could be expected.
	VL	Negligible change, disturbance or nuisance. Associated with very minor consequences or deterioration. Targets, limits and thresholds of concern never exceeded. No interventions or clean-up actions required. No complaints anticipated.
	VL+	Negligible change or improvement. Almost no benefits. Change not measurable/will remain in the current range.
	L+	Minor change or improvement. Minor benefits. Change not measurable/will remain in the current range. Few people will experience benefits.
	M+	Moderate change or improvement. Real but not substantial benefits. Will be within or marginally better than the current conditions. Small number of people will experience benefits.
	H+	Prominent change or improvement. Real and substantial benefits. Will be better than current conditions. Many people will experience benefits. General community support.
	VH+	Substantial, large-scale change or improvement. Considerable and widespread benefit. Will be much better than the current conditions. Favourable publicity and/or widespread support expected.
Criteria for ranking the DURATION of impacts	**VL**	Very short, always less than a year.
	L	Short-term, occurs for more than 1 but less than 5 years.
	M	Medium-term, 5 to 10 years.
	H	Long term, between 10 and 20 years. (Likely to cease at the end of the operational life of the activity)
	VH	Very long, permanent, +20 years (Irreversible. Beyond closure)
Criteria for ranking the EXTENT of impacts	**VL**	A portion of the site.
	L	Whole site.
	M	Beyond the site boundary, affecting immediate neighbours
	H	Local area, extending far beyond site boundary.
	VH	Regional/National

PART B: DETERMINING CONSEQUENCE

INTENSITY = VL

DURATION	Very long	**VH**	**Medium**	**Medium**	**Medium**	**High**	**High**
	Long term	**H**	**Low**	**Medium**	**Medium**	**Medium**	**High**
	Medium term	**M**	**Low**	**Low**	**Medium**	**Medium**	**Medium**
	Short term	**L**	**Very low**	**Low**	**Low**	**Medium**	**Medium**
	Very short	**VL**	**Very low**	**Low**	**Low**	**Low**	**Medium**

INTENSITY = L

DURATION	Very long	**VH**	**Medium**	**Medium**	**High**	**High**	**High**
	Long term	**H**	**Medium**	**Medium**	**Medium**	**High**	**High**
	Medium term	**M**	**Low**	**Medium**	**Medium**	**Medium**	**High**
	Short term	**L**	**Low**	**Low**	**Medium**	**Medium**	**Medium**
	Very short	**VL**	**Very low**	**Low**	**Low**	**Medium**	**Medium**

INTENSITY = M

DURATION	Very long	**VH**	**Medium**	**High**	**High**	**High**	**Very High**
	Long term	**H**	**Medium**	**Medium**	**High**	**High**	**High**
	Medium term	**M**	**Medium**	**Medium**	**Medium**	**High**	**High**
	Short term	**L**	**Low**	**Medium**	**Medium**	**Medium**	**High**
	Very short	**VL**	**Very low**	**Low**	**Medium**	**Medium**	**Medium**

INTENSITY = H

DURATION	Very long	**VH**	**High**	**High**	**High**	**Very High**	**Very High**
	Long term	**H**	**Medium**	**High**	**High**	**High**	**Very High**
	Medium term	**M**	**Medium**	**Medium**	**High**	**High**	**High**
	Short term	**L**	**Medium**	**Medium**	**Medium**	**High**	**High**
	Very short	**VL**	**Low**	**Medium**	**Medium**	**Medium**	**High**

INTENSITY = VH

DURATION	Very long	**VH**	**High**	**High**	**Very High**	**Very High**	**Very High**
	Long term	**H**	**High**	**High**	**High**	**Very High**	**Very High**
	Medium term	**M**	**Medium**	**High**	**High**	**High**	**Very High**
	Short term	**L**	**Medium**	**Medium**	**High**	**High**	**High**
	Very short	**VL**	**Low**	**Medium**	**Medium**	**High**	**High**
			VL	**L**	**M**	**H**	**VH**
			A portion of the site	Whole site	Beyond the site boundary, affecting immediate neighbours	Local area, extending far beyond site boundary.	Regional/ National
			EXTENT				

PART C: DETERMINING SIGNIFICANCE							
PROBABILITY (of exposure to impacts)	Definite/ Continuous	**VH**	Medium	High	High	Very High	Very High
	Probable	**H**	Medium	Medium	High	High	Very High
	Possible/ frequent	**M**	**Low**	Medium	Medium	High	High
	Conceivable	**L**	**Low**	**Low**	Medium	Medium	High
	Unlikely/ improbable	**VL**	**Very low**	**Low**	**Low**	Medium	Medium
			VL	**L**	**M**	**H**	**VH**
			CONSEQUENCE				

PART D: INTERPRETATION OF SIGNIFICANCE	
Significance	**Decision guideline**
Very High	Potential fatal flaw unless mitigated to lower significance.
High	It must have an influence on the decision. Substantial mitigation will be required.
Medium	It should have an influence on the decision. Mitigation will be required.
Low	Unlikely that it will have a real influence on the decision. Limited mitigation is likely to be required.
Very Low	It will not have an influence on the decision. Does not require any mitigation