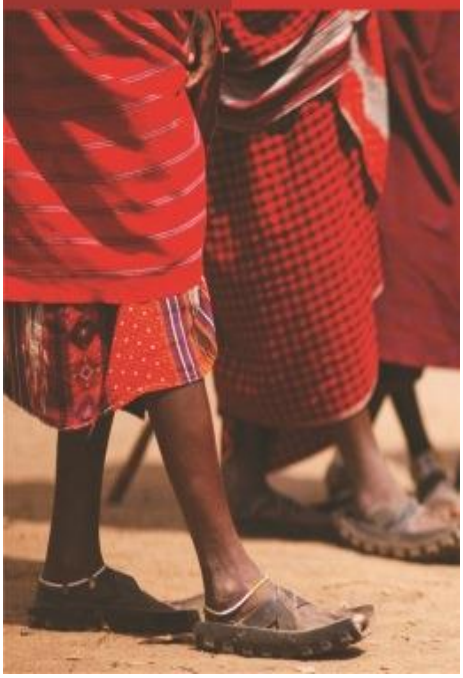

DIGBY WELLS
ENVIRONMENTAL

Environmental Authorisation for the KPSX: Weltevreden Project, Mpumalanga Province

Social Impact Assessment Report

Project Number:

BHP2690

Prepared for:

BHP Billiton Energy Coal South Africa (Pty) Limited (BECSA)

January 2015

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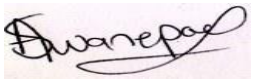
Angeline Swanepoel	Report Writer		29 January 2015
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EXECUTIVE SUMMARY

Introduction

Digby Wells Environmental (Digby Wells) has been appointed by BHP Billiton Energy Coal South Africa (Pty) Limited (BECSA) to undertake an Environmental Impact Assessment (EIA) for their proposed Klipspruit Extension (KPSX): Weltevreden Project. This SIA forms part of the EIA process of the KPSX: Weltevreden Project. The SIA assesses social-economic impacts associated with the development of an opencast operation and associated infrastructure to be development as part of the Project. BECSA is proposing to extend the Life of Mine (LoM) of its operations by implementing the Klipspruit Extension (KPSX) Project which incorporates Klipspruit South (KPSX: South), as well as BECSA's three neighbouring Prospecting Rights to the north east, collectively referred to as Weltevreden (KPSX: Weltevreden). The Mining Right for KPS incorporates the Klipspruit Main Pit, the Smaldeel Mini-pit, Bankfontein and KPSX: South. The KPSX: Weltevreden Project will extend the KPS LoM by at least another twenty (20) years.

This document presents the results of the Social Impact Assessment (SIA) for the KPSX: Weltevreden Project near the towns of Ogies and Phola in Mpumalanga Province, South Africa. The terms of reference for this study are as follows:

- To augment and update the existing socio-economic baseline profile as defined in the Projects scoping phase, with an emphasis on the local (project-specific) area, by means of (inter alia) a reconnaissance site visit;
- To describe the land use of the area affected by the proposed mine, informed by input of interested and affected parties;
- To investigate the potential impact of the Project-related activities on the social environment;
- To identify, describe and rate the significance of social impacts that may result from the proposed Project, including the potential impact of the proposed Project from a cumulative nature; and
- To develop feasible, practical and cost-effective mitigation and enhancement measures to ameliorate the significance of negative impacts and enhance the benefits of positive social impacts.

Methodology

The study was designed to comply with the relevant national legislative requirements, such as those stipulated in National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (Act No. 28 of 2002). The activities undertaken as part of the study comprised the following:

- Defining the primary and secondary study areas;

- Data collection, including a desktop review, undertaking of an investigative site visit comprising interviews with key informants, and a review of information from other specialist studies and the public participation process;
- The compilation of a baseline profile, including information on demographics, education, skills levels, employment, local and regional economic conditions, infrastructure and service delivery, health related issues, spatial development, claims and information pertaining to the prevalent concerns regarding and attitudes towards the proposed Project;
- Assessment of impacts (including cumulative impacts) on the basis of issues identified through specialist opinion, interviews with key informants and the public participation process. Impacts were identified in terms of a number of categories, related to physical intrusion resulting from Project activities, economic pull factors, as well as indirect impacts. These categories were then linked to the applicable Project phase in which an impact was most likely to originate, namely the construction, operational or decommissioning phases;
- Rating of impacts in terms of their anticipated duration, extent, intensity and probability. Duration, extent and intensity ratings were combined into a measure of an impact's expected consequence. Consequence ratings, in turn, were combined with probability ratings to give a measure of an impact's overall significance;
- Identification of appropriate mitigation measures to avoid or ameliorate negative social impacts and to enhance positive ones. The rating procedure was then repeated to assess the expected consequence, probability and significance of each impact after mitigation. This post-mitigation rating gives an indication of the significance of residual impacts, while the difference between an impact's pre-and post-mitigation ratings therefore represents the degree to which the recommended mitigation measures are expected to be effective in reducing or ameliorating that impact; and
- Formulating recommendations regarding the identified mitigation and enhancement measures, as well as other general recommendations that may aid the successful implementation of the proposed Project.

Baseline Socio-Economic Profile

The proposed Project is located in eMalahleni Local Municipality (ELM), within the Nkangala District Municipality (NDM) in Mpumalanga Province. The socio-economic characteristics of the population within each of the aforementioned areas are listed below.

Population and Demographics

According to the ELM 2013-2014 IDP, this municipality is the largest economic contributor to the NDM of the six local municipalities, contributing 45% to the districts economy. Dominant economic contributors include utilities (74.1%), mining (52.8%) and construction (52.5%).

Emalahleni's population size, as recorded by Stats SA 2011, was 395 466 people which makes up 30% Nkangala District's population. The population lives in 119 874 households with an average household size of 3.3 people. This is a relatively low family size, which may reflect the young age of the urban centres in the district, in which large family structures have not had time to develop. More established towns generally have average family sizes in excess of 4.5 people, while rural areas often average 5.5 people or more per household. The ELM's population grew by 43.1% between 2001 and 2011 while annualised population growth rate was measured at 3.6%.

Educational Status

Educational achievement is a key development indicator of a population. The majority of the population (ages over twenty) in the local study area as well as district municipality have not completed matric, however, there is a large percentage of learners who complete primary level education.

Employment and Labour

According to Statistics South Africa, (2011) the employment rate for Mpumalanga Province and Nkangala District Municipality was 24% and 27% respectively (Stats SA, 2011). There has been a drop in unemployment rate in the ELM from 38.4% to 27% between 2001 and 2011. A large portion of those employed are absorbed into the mining, construction, power generation and agricultural sectors.

Annual Household Income

Over 40% of people in Mpumalanga Province have no annual income at all. Average income figures for the local study area, the ELM and the NDM are all very much in line with the provincial average; however, the income earning figures are slightly higher for the local study area, with more people earning between R3 201 and R12 800 (Stats SA, 2011).

It can be gathered that the ELM has a higher income production than the provincial figures. This is attributed to the concentration of mining and power generation activities, and construction industry in this area (Stats SA, 2011).

Social Infrastructure and Services

All the urban areas within ELM (with the exception of informal settlements and townships) are fully reticulated in terms of potable water supply. A large percentage of households in the local study area have access to piped water either inside their house or within a communal yard, with an average of 77% having access to municipal water, whilst 8% have access to water through a borehole.

In terms of sanitation, data from the 2011 census, show that an estimated 57% of households in the local study area have access to waterborne sewer services (flush toilets, with or without septic tanks); the majority (33%) of the remaining households use pit latrines (Stats SA, 2011).

An estimated 69% of waste generated within the ELM is collected weekly by the local municipality. In contrast to the ELM, the most common means of waste disposal for

populations in Ward 30 is through utilisation of their own refuse dumps (39%), 36% make use of municipal services and a significant amount of the population has no means of waste disposal at all.

Of the households in local study area, 53% use electricity for cooking, heating and lighting. In contrast 69% of the households in the ELM use electricity. The bulk electricity provider throughout the municipality is Eskom (ELM IDP, 2012 - 2013).

The ELM is strategically located in terms of the provincial context and transport network. It is situated in close proximity to the City of Johannesburg, City of Tshwane and Ekurhuleni Metropolitan Municipalities in Gauteng, and is connected to these areas by the N4 and N12 freeways. Although roads in the ELM are sufficiently connected with district, provincial and national roads, many secondary road systems are in a state of disrepair, being insufficient to handle the increased traffic created by mining and other industrial developments.

Crime and community safety is generally a cause of concern for communities in the local study area. There has been a history of substance abuse and widespread criminal activity in the area, with several instances of community conflict, industrial action and opposition towards the local municipality and surrounding mining companies.

Health Services

It was found in an interview with the head nurses at the Phola Community Health Centre and the Ogies Clinic that prostitution has become an increased problem within the region as a result of the mining operations; this then in turn leads to an increase in HIV/AIDS rates. The mining operations also have resulted in an influx of inhabitants into the area which has put tremendous strain on health facilities.

Summary of Impacts and Recommended Mitigation Measures

As mentioned, impacts were identified in terms of a number of categories, related to physical intrusion resulting from project activities, economic pull factors, as well as indirect impacts. Impacts are discussed in detail in the report and appropriate mitigation measures are recommended to ameliorate negative impacts and enhance positive ones. A summary of potential impacts are tabled below:

Cause of Impact	Aspects	Impact
Effects on the local economy	Positive aspects	Employment during construction.
		Employment during operation.
		Multiplier effects on local economy.
	Negative aspects	Loss of farm/ other labour to the mine.
		Dependency on mine to sustaining local economy.
Effects from	Positive aspects	Improved access to services and increased local development.

Cause of Impact	Aspects	Impact
impacts to the physical environment	Negative aspects	Physical intrusion impacts.
		Land acquisition and displacement.
Effects of Population influx	Negative aspects	Community resistance-conflict and competition.
		Increased social pathologies.
		Increased pressure on local services/ resources.

The pre- and post-mitigation ratings assigned to the various impacts discussed in the report are summarised in Table A below. Adequate mitigation measures will reduce the significance of negative impacts to acceptable levels, while positive impacts will be enhanced to maximise benefits to surrounding communities.

Cumulative Impacts

Development of the proposed KPSX: Weltevreden Project, together with other developments in the area (including those current and within the foreseeable future), could result in large-scale economic development in the broader project area. The impacts that would result from a combination of the project and other future developments in the broader project area are likely to have a significant cumulative effect in the region. These are discussed in Section 6.5 of the report, and include the following:

- Job creation and the cumulative multiplier effect;
- Impacts related to population influx;
- Decrease in land availability; and
- Dependency on mining to sustain the local economy.

Conclusion

The investigations into the baseline conditions of the local and site-specific study areas, and the social impacts related to the proposed Project highlight the development needs and challenges of local communities, as well as the potentially positive impact that the proposed project could have on the development of the local economy.

It is recommended that the mitigation measures described in the report be incorporated into the Environmental Management Programme for the proposed mine and, where relevant, into the contract conditions to be issued to the contractors. Measures should also be put in place to monitor and assess the implementation of these mitigation measures and to take corrective action where necessary.

Table A: Summary of Project impacts and recommended mitigation and enhancement measures

Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
	Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance		Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance
Effects on the local economy													
Job creation during construction	Medium term	Municipal Area	Moderately high - positive	Moderately beneficial	Likely	Minor - positive	- Maximise and monitor local recruitment - Consult local labour recruitment offices - Prevent nepotism/corruption in local recruitment structures - Promote employment of women and youth - Train locally-recruited construction workers for longer-term employment where possible	Medium term	Municipal Area	High - positive	Moderately beneficial	Highly probable	Minor - positive
Job creation during operation	Project Life	Municipal Area	Moderate - positive	Moderately beneficial	Likely	Minor - positive	- Maximise and monitor local recruitment - Prevent nepotism/corruption in local recruitment structures - Promote employment of women and youth - Use of local labour for maintenance during operation - Training of workforce for employment on other mines after mine closure - Collaborate with Department of Labour and local business entities (e.g. Eskom, Sasol) to develop/share databases on locally-available skills	Project Life	Municipal Area	Moderately high - positive	Moderately beneficial	Highly probable	Moderate - positive
Multiplier effect on local economy	Project Life	Municipal Area	Moderate - positive	Moderately beneficial	Likely	Minor - positive	As for maximising employment benefits. Also: - Development of a register of local SMMEs - Linkages with skills development/ SMME development institutions - SMME skills development as part of mine SLP/LED commitments - Explore opportunities for collaboration with other mining/electricity enterprises on LED/CSR projects	Project Life	Municipal Area	Moderately high - positive	Moderately beneficial	Highly probable	Moderate - positive
Loss of farm/other labour to the mine	Medium term	Local	Moderate - negative	Slightly detrimental	Probable	Minor - negative	- Avoid recruitment on farms - Adhere to labour legislation - Provide accurate information on type/duration of job opportunities	Medium term	Local	Low - negative	Slightly detrimental	Unlikely	Negligible - negative

Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
	Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance		Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance
Dependency on mine for sustaining local economy	Beyond project life	Municipal Area	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	- Effect retrenchments according to procedures stipulated in approved SLP - Support economic diversification through development of alternative markets - Proactively and effectively implement mine closure - Collaborate with adjacent mining companies to develop and implement sustainable community projects	Beyond project life	Municipal Area	High - negative	Highly detrimental	Likely	Moderate - negative
Impacts related to the physical effect of mining activities													
Improved access to services and increased local development	Project Life	Local	Moderate - positive	Moderately beneficial	Unlikely	Negligible - positive	- Integration with mine and local government plans - Collaboration with other mining companies in terms of infrastructure upgrades - Implement commitments in SLP regarding infrastructure-related LED projects	Project Life	Local	Moderately high - positive	Moderately beneficial	Probable	Minor - positive
Physical intrusion impacts	Project Life	Local	High - negative	Moderately detrimental	Highly probable	Moderate - negative	- Traffic control and signage to prevent speeding - Appropriate training for drivers/operators - Implementing continuous maintenance programme. - Possibly form a joint fund with other companies/local government to pay for road maintenance. - Fencing of mine site - Prevention of fires - Community awareness raising/education - Establishment of Project Grievance Mechanism - Optimise mine plan to limit disruption of movement patterns - Inform communities of planned construction activities that would affect vehicle/pedestrian traffic	Project Life	Limited	Moderately high - negative	Moderately detrimental	Highly probable	Minor - negative
Land acquisition and displacement	Permanent	Limited	Extremely high - negative	Highly detrimental	Certain	Major - negative	- Optimise project design to avoid/limit displacement - Adequate compensation to displaced farmers - Meet with land owners to discuss the displacement of farmers and workers, and the legislative requirements as outlined in ESTA. - Consider including resettled farm workers in local skills development/training under SLP	Permanent	Limited	Extremely high - negative	Highly detrimental	Highly probable	Moderate - negative

Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
	Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance		Duration	Extent	Intensity	Conse-quence	Probability	Signifi-cance
Impacts related to population influx													
Conflict and competition	Medium term	Local	Moderately high - negative	Moderately detrimental	Likely	Minor - negative	- Maximise local employment - Clearly communicate preferential local employment policy to discourage influx - Collaborate with local law enforcement structures to help control instances of violence - Enforce code of conduct for contractors & employees in terms of interaction with local communities	Medium term	Local	Moderately high - negative	Moderately detrimental	Probable	Minor - negative
Increased social pathologies	Beyond project life	Municipal Area	Extremely high - negative	Highly detrimental	Highly probable	Moderate - negative	- Implement HIV/AIDS and substance abuse awareness and voluntary testing and provide contraceptives - Make HIV/AIDS/STD prevention programmes a condition of contract for suppliers/sub-contractors - Control access at site to prevent the presence of sex workers - Establish clear rules and regulations for access to the mine site - Work with local health service providers to provide services and health surveys also on substance abuse - Establish liaison structures with local police and local community policing forums	Beyond project life	Local	High - negative	Highly detrimental	Likely	Minor - negative
Increased pressure on local infrastructure and services	Long term	Municipal Area	High - negative	Moderately detrimental	Highly probable	Moderate - negative	- Discourage influx of job-seekers by: - Prioritising employment of unemployed members of local communities. - Enforcing local employment targets for contractors - Liaise with local municipality to ensure that expected population influx is taken into account in infrastructure development planning. - Include reasonable support for service provision in mine SLP/LED - Create synergies with local government IDP and other companies' SLP/CSR projects	Long term	Municipal Area	High - negative	Moderately detrimental	Likely	Minor - negative

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ABBREVIATIONS AND ACRONYMS

BECSA	BHP Billiton Energy Coal South Africa (Pty) Limited
BoD	Burden of disease
CSI	Corporate Social Investment
CRR	Comment and Response Report
Digby Wells	Digby Wells Environmental
DMR	Department of Mineral Resources
DoL	Department of Labour
EIA	Environmental Impact Assessment
ELM	Emalahleni Local Municipality
EMP	Environmental Management Programme
ESTA	Extension of Security of Tenure Act
GDP	Gross Domestic Product
GLD	BHP Billiton Group Level Document
Ha	Hectare
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IDP	Integrated Development Plan
KPSX	Klipspruit Extension Project
KPSX: South	Klipspruit South Project
KPSX: Weltevreden	Klipspruit Weltevreden Project
Km	Kilometre
km^2	Square Kilometre
LED	Local Economic Development
LM	Local Municipality
LoA	Life of Asset
LoM	Life of Mine
Mtpa	Million ton per annum
MPRDA	Mineral and Petroleum Resources Development Act
MRA	Mining Right Application
NEMA	National Environmental Management Act
NGOs	Non-governmental Organisation
NDM	Nkangala District Municipality
PCPP	Phola Coal Processing Plant
PCD	Pollution Control Dam
PPP	Public participation process
RAP	Resettlement Action Plan
RBCT	Richards Bay Coal Terminal
RoM	Run of Mine
SERO	Socio-Economic Review & Outlook of Mpumalanga

SDF	Spatial Development Framework
SIA	Social Impact Assessment
SLP	Social and Labour Plan
SMMEs	Small, Medium and Micro-sized Enterprises
StatsSA	Statistics South Africa
STD	Sexually Transmitted Diseases
ToR	Terms of Reference

1 Introduction

Digby Wells Environmental (Digby Wells) has been appointed by BHP Billiton Energy Coal South Africa (Pty) Limited (BECSA) to undertake an Environmental Impact Assessment (EIA) for their proposed Klipspruit Extension (KPSX): Weltevreden Project.

BECSA is proposing to extend the Life of Mine (LoM) of its operations by implementing the Klipspruit Extension (KPSX) Project which incorporates Klipspruit South (KPSX: South), as well as BECSA's three neighbouring Prospecting Rights to the north east, collectively referred to as Weltevreden (KPSX: Weltevreden). The Mining Right for Klipspruit Colliery (KPS) incorporates the Klipspruit Main Pit, the Smaldeel Mini-pit, Bankfontein, KPSX: South. The KPSX: Weltevreden Project will extend the KPS LoM by at least another twenty (20) years.

This Social Impact Assessment (SIA) report forms part of the EIA process of the KPSX: Weltevreden Project. The SIA assesses social-economic impacts associated with the development of a proposed opencast coal mining operation and associated infrastructure, required for the development of the Project.

2 Project Description

2.1 Introduction

Currently, BECSA is a 90% owner-operator of the KPS. The mine produces a nominal 8 million ton per annum (Mtpa) Run of Mine (RoM) of both high and low quality coal. Authorisation for the Klipspruit Mine was received in 2003 in terms of section 39 of the Minerals Act (Act No. 50 of 1991) (Ref: OT6/2/2/495 EM), with an expected Life of Mine (LoM) to the year 2020.

Run of Mine coal from the KPS is processed at the Phola Coal Processing Plant (PCPP) – a joint venture operation with Anglo American Thermal Coal – and transported along the Richards Bay Coal Terminal (RBCT) railway line for export to international markets.

Currently, the Life of Asset (LoA) plan has a sharp decline in export tonnes as the operations at the KPS ramp down. To maintain the current export volume profile and fulfil the take-or-pay agreement at PCPP, BECSA intend to implement the KPSX: Weltevreden Project.

BECSA is the holder of three prospecting rights in close proximity to the existing Klipspruit operations, containing coal resources of approximately 500 million ton (Mt). The KPSX: Weltevreden Project is positioned to leverage off the existing export infrastructure, and extend the LoM by 20 years or more. The KPSX: Weltevreden Project is focused on the mining of the proposed Klipspruit Weltevreden open pit as part of the overall mining sequencing at KPS. The Klipspruit main pit was established in October 2003. These operations currently supplemented by coal from the neighbouring Smaldeel mini pit. However, the Smaldeel mini pit is due to be mined out.

The activities proposed to occur on the Klipspruit Extension Project area include only opencast mining, including the construction of offices and fuel bay, haul roads, Pollution Control Dams (PCDs), coal tip and conveyor belt, pipelines and clean water canals and a high mast radio communication tower.

2.2 Project Location

The KPSX: Weltevreden Project area is approximately 7 353.9 hectares (ha) in size. It is located in the Emalahleni Local Municipality (ELM), within the Nkangala District Municipality (NDM) in Mpumalanga Province.

Locally, the Project area is situated on various portions of the farms Hartebeeslaagte 325JS, Weltevreden 324JS, Tweefontein 238JS, Grootpan 7 IS and Wildebeesfontein 327JS. Refer to Figure 2-1 below illustrating the Project regional location.

In assessing the Project's social influence, it is necessary to identify the land and associated landowners who stand to be directly impacted by the Project. Directly affected landowners were identified during the land tenure investigations and are included in all consultations in terms of Project progress. These landowners as well as several land occupiers reside on the land within which the proposed Project is located. The respective farms and farm portions comprising the Project area are outlined in Table 2-1 below.

Table 2-1: Directly Affected Farms for the Mining Operations

Directly Affected Farm	Portion Number
Grootpan 7 IS	Portion 8, 11, 15, 33, 37, 43, 44, 45 and the Remaining Extent of Portion 32.
Grootpan Distribution Station 6 IS	Remaining Extent.
Hartebeestlaagte 325 JS	Portion 4, 8, 39, 40 and the Remaining Extent.
Oogiesfontein 4 IS	Portion 9.
Prinshof 2 IS	Portion 2, 14 and the Remaining Extent of Portion 10.
Tweefontein 328 JS	Portion 1, 3, 4, 5, 6, 8, 9, 11 and the Remaining Extent.
Vlaglaagte 330 IS	Portion 24.
Weltevreden 324 JS	Portion 2, 3, 4, 6, 7, and 8.
Wildebeesfontein 327 IS	Portion 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 37, 38 and the Remaining Extent.
Zaaiwater 11 IS	Remaining Extent of Portion 20.

The Project site is situated east and north of the town of Ogies, with Phola directly adjacent to the site. The N12 national road transects the southern third of the Project site. The KPS operations are located towards the southwest of KPSX: Weltevreden, with the northeast of KPS sharing the Project boundary, alongside the N12. The nearest major town is eMalahleni (Witbank), about 30 km north-east of the Project site, with Delmas situated approximately 32 km south-west of the site.

The Project area is located north-east of the existing Klipspruit Colliery and Phola processing facility. The R545 and R555 secondary enclose the KPSX: Weltevreden Project area.

Eskom's Kendal Power Station is located 11 km to the south west of the Project area.

The surrounding landscape consists of flat plains characterised by extensive coal mining, coal fired power stations and large agricultural operations.

According to the 2011 Demarcation Board ward boundaries, the proposed Project is located within (and adjacent to) Wards 19 and 28 - 32 of the ELM.

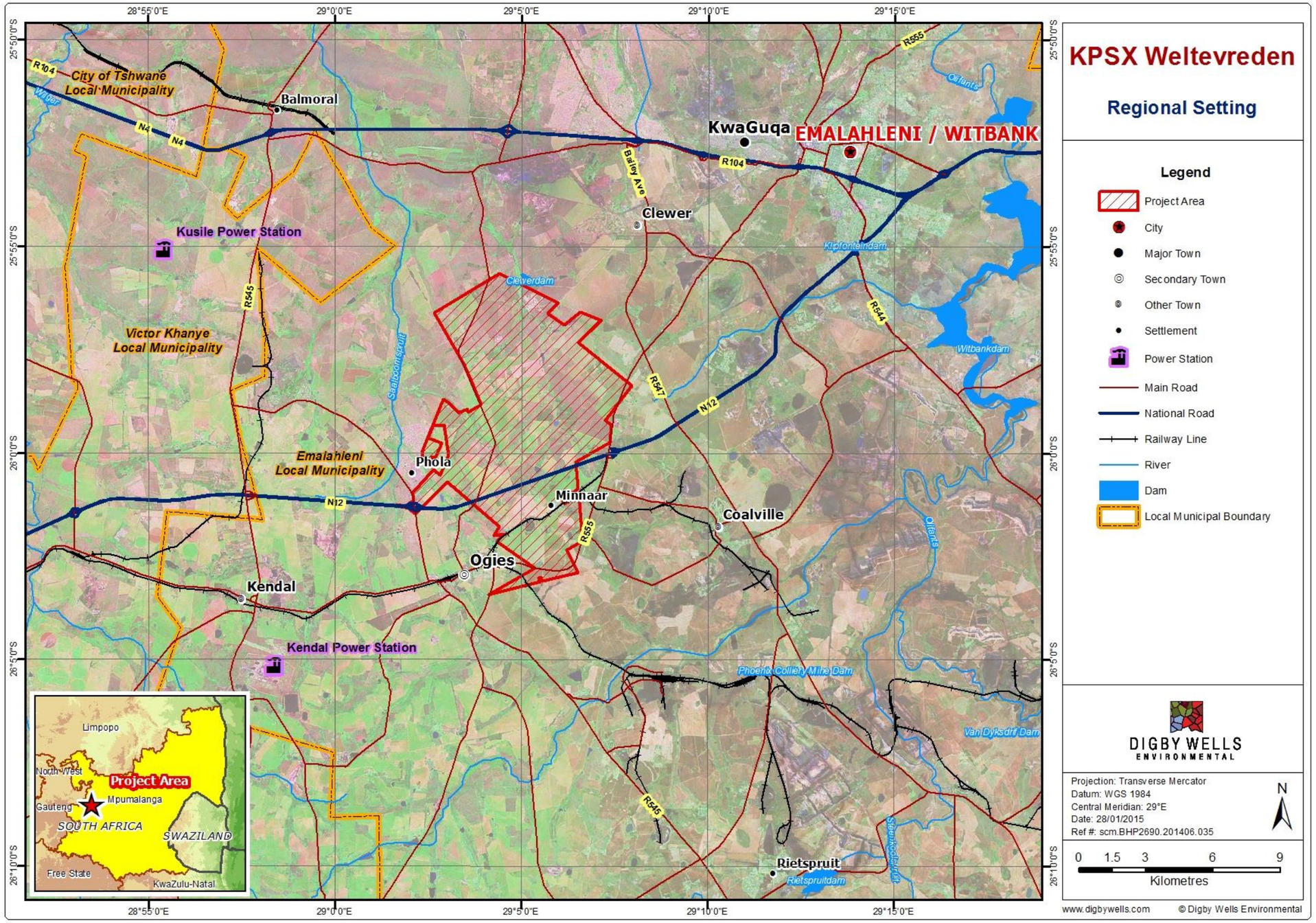

Figure 2-1: Project locality

2.3 Project Infrastructure

The KPSX: Weltevreden Project consists of two aspects:

- The opencast mining of the KPSX: Weltevreden coal resources and associated infrastructure; and
- The possible transport of a dragline from KPS to the KPSX: Weltevreden Project site which requires:
  - The diversion of numerous roads including the N12 national highway; and
  - The diversion of 132 kV Eskom powerlines.

BECSA intends to continue its current KPS operation by incorporating the neighbouring farms of KPSX: Weltevreden into its existing Mining Right. The current KPS operations are ramping down production as the LoM runs to a close and accessing new resources at KPSX: Weltevreden will allow the seamless replacement of resources currently being mined at KPS.

The proposed infrastructure associated with the KPSX: Weltevreden Project includes:

- Opencast pits including ramps and box cuts;
- Haul roads on site for the mining activities and for the transport of the dragline;
- Clean water cut off canals;
- Clean water attenuation dams;
- ROM stockpiles;
- Tip and crushing station;
- Overland conveyor;
- Overburden and topsoil stockpiles;
- Discard dumps;
- PCD and associated pipelines to the PCPP;
- Diesel and oil storage tanks;
- Change house facilities;
- Sewage treatment plant
- Workshops and mobile offices; and
- Electricity supply to workshops and shovel.

2.4 Project Activities

Related to the proposed infrastructure listed above, Table 2-2 below highlights the foreseen activities to be undertaken in the four phases of the KPSX: Weltevreden Project.

Associated with the proposed mining activities at KPSX: Weltevreden, the option of relocating its dragline from the KPS operations to the KPSX: Weltevreden Project site was investigated. Following further analysis and consultation, it was decided that this option would not take place. Should this option be re-considered in future, it will undergo the relevant authorisations and assessments.

Socio-economic impacts are identified through the assessment of the proposed activities against the expected changes they are likely to cause to the baseline social environment.

Table 2-2: Activities to be undertaken by different phases

Activity No.	Activity
Construction Phase	
1	The recruitment, procurement and employment of construction workers, engineers and contractors.
2	The transportation of construction material to the Project site via national, provincial and local roads.
3	Storage of fuel, lubricant and explosives in temporary facilities for the duration of the construction phase. These substances are classified as hazardous in terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and will be managed accordingly.
4	Site clearance and topsoil removal prior to the commencement of physical construction activities, as well as the open pit mining. This activity refers to the conversion of undeveloped, vacant land into industrial use.
5	Construction of surface infrastructure will take place, including the offices and fuel bay, haul roads, PCDs, coal tip and conveyor belt, pipelines and clean water canals and a high mast radio communication tower.
6	The construction of stockpiles, including topsoil, overburden and discard and emergency coal stockpiles.
7	The establishment of the initial boxcut and access ramps to the open pit mining areas.
Operational Phase	
8	Limited employment of skilled and unskilled labour will be required for the operation of the mine and support infrastructure.
9	Storage of fuel in diesel tanks, as well as lubricant and explosives in facilities for the duration of Project. These substances are classified as hazardous in terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and will be managed accordingly.
10	Drilling and blasting of the overburden rock for easy removal by excavators and dump trucks.

Activity No.	Activity
11	Coal removal by truck and shovel methods from the exposed coal seams. The coal is removed with shovels and transported to the plant by conveyor belt and trucks.
12	Vehicular activity on the proposed haul roads. Mining equipment will utilise the haul roads to access open pit areas, as well as to transport coal from the opencast pit to the plant and conveyor belt. The haul road will consist of wetland and stream crossings.
13	Mine water, or dirty water that is located within the opencast pits will need to be diverted by channels and berms to the PCDs to prevent clean water resources from being contaminated. Pipelines will pump the dirty water from the KPSX: Weltevreden PCDs to the KPS PCD.
14	Use of conveyor belts to transport the coal to the stockpiles at the KPS plant.
15	The PCDs will store all dirty water that has come into contact with the opencast pit, overburden stockpiles or emergency coal stockpile.
16	Operation and maintenance of the stockpiles, including topsoil, overburden and discard and ROM coal stockpiles.
17	Waste and sewage generation and disposal. All domestic, industrial and hazardous waste is produced during the mining process. Waste includes cans, plastics, used tyres and oil which must be disposed of in an appropriate manner by a contractor at a licensed waste disposal site. Sewage produced from the office buildings and ablutions will be treated at a sewage plant, septic tank or French drain system.
18	Concurrent replacement of overburden and topsoil and the re-vegetation of mined out strips. The mined strip will be backfilled with the overburden and compacted. Subsequently, the topsoil will be placed on top of the overburden and the area will be vegetated.
Decommissioning Phase	
19	Retrenchment of mine employees and staff will take place following the cessation of the mining operations and coal beneficiation activities.
20	Demolition of infrastructure will take place and includes the PCDs, haul roads, coal tip and conveyor belts, pipelines, high mast radio communication tower, fuel bay and mine offices and workshop.
21	Removal of fuel, lubricant and explosives will be required following the cessation of the mining activities to ensure that there is no health and safety risk to the environment and to people.
22	Final replacement of overburden and topsoil and the establishment of vegetation on the final open cast void. Overburden will be backfilled into the final void and compacted. Subsequently, topsoil will be placed and the area vegetated.
23	Waste handling of scrap metal and used oil as a result of the Decommissioning Phase will be undertaken.

Activity No.	Activity
Post-closure Phase	
24	Post-closure monitoring and rehabilitation will determine the level of success of the rehabilitation, as well as to identify any additional measures that have to be undertaken to ensure that the mining area is restored to an adequate state. Monitoring will include surface water, groundwater, soil fertility and erosion, natural vegetation and alien invasive species and dust generation from the coal discard dumps.

2.5 Workforce and Expenditure Forecasts

The workforce and Project expenditure are important aspects in assessing the impact a project has on the social environment. Employment and job creation are often among the largest positive impacts associated with development projects. In the case of the KPSX: Weltevreden Project this impact is not expected to provide a significant number of *new* employment opportunities. Due to the nature of the KPSX: Weltevreden Project, (comprising an expansion of the existing operations), there are expected to be a limited number of additional employment opportunities.

Although a large workforce will be required for the construction phase of the Project, as well as for the operational phase, this workforce will consist largely of current employees employed at the Klipspruit Mine and PCPP. This will enable many current employees to retain their jobs – jobs that they could lose if the proposed Project is not implemented.

The Project will make use of temporary labour for the construction phase of the Project, including semi-skilled and unskilled labour, primary related to machine operators, artisans and housekeeping.

In terms of the operational workforce, the proponent anticipates the use of existing employees who will be transferred from the current operations to the proposed operations associated with the KPSX: Weltevreden Project. The transfer to the Weltevreden Project will see a ramp-up in workforce requirements over the first three to six years of the Project inception. This ramp-up in workforce will be required as the amount of overburden to be removed in order to access the coal seam, increases. Although this ramp-up is likely to take place, this will be reassessed as the Project progresses in terms of timing and scaling.

Expenditure forecasts for the Project are currently unknown at this stage, however, it is foreseen that the current procurement processes and plans in place for the existing Klipspruit mine will be continued into the development of the Weltevreden Project. In this regard, BECSA is committed to maximising the use of local services where feasible.

3 Methodology

A Social Impact Assessment can be defined as "the process of analysing, monitoring, and managing the intended and unintended social consequences (both positive and negative) of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment" (International Association for Impact Assessment, 2003).

The following section provides a description of the approach taken in carrying out the SIA for the KPSX: Weltevreden Project.

3.1 Definition of the Study Area

Generally, the social impacts of a project can be divided into three broad categories, as follows:

- Impacts related to the ***physical intrusion*** of Project infrastructure and Project-related activities on the surrounding environment (which may include socio-economic impacts arising from land acquisition, noise, dust, vibration and changes in the visual characteristics of the landscape). Such impacts typically extend to land uses and households within a few hundred metres from the edges of a project's footprint;
- Impacts related to the ***"economic pull"*** exerted by the Project (including job creation, an influx of workers and job-seekers into the Project area, multiplier effects in the local and regional economy (as a result of the creation of new jobs and Project-related expenditure), as well as the concomitant risk of increased social pathologies and community conflict). Such impacts usually extend to the settlements or small towns located closest to the project – which may be up to a few kilometres from the edges of the project footprint; and
- ***Indirect or induced impacts*** that are by-products or ripple-effects of the impacts in the foregoing two categories. These could include increased pressure on local services and resources (as a result of the population influx), macroeconomic benefits of the Project and benefits derived from corporate social investment by the Project proponent. The geographical reach of such impacts tend to include the larger towns or cities in the vicinity of the project site – which could be up to fifty kilometres away.

The relevance of this distinction for the definition of the study area stems from the fact that the type and level of baseline information required for an adequate prediction of socio-economic impacts differs between these three categories. Accordingly, three concentric and interdependent study areas were identified for the purposes of this study. Each study area roughly corresponds to the geographical extent of one of the three categories of impacts defined above. However, in defining the study areas, the manner in which publicly-available socio-economic data is aggregated was also taken into account. The three concentric study

areas were thus defined to correspond to *existing administrative boundaries*, the sizes of which approximate the impact radii discussed above. The three study areas are as follows:

- The ***site-specific study area*** – the area likely to experience impacts related to the physical intrusion of Project infrastructure and Project-related activities (i.e. up to a few hundred metres from the edges of a project's footprint). This study area is defined as the extent of the farm portions comprising the footprint of Project infrastructure and a 500 m buffer surrounding it, as well as farm portions neighbouring this area (see Section 5.3).
- The ***local study area*** – the area likely to experience impacts related to the *"economic pull"* exerted by the Project (i.e. up to a few kilometres from the edges of the project footprint). This area was approximated as the geographical extent of the municipal wards that encompass and surround the proposed Project footprint – namely, Wards 19, 28, 29, 30, 31 and 32 of Emalahleni Local Municipality (according to the most recent ward delineations), set against the backdrop of the local municipality as a whole.
- The ***regional study area*** – the area likely to experience the *indirect or induced impacts* of the proposed Project. The typical reach of such impacts mentioned above (i.e. an area circumscribed by a radius of up to a fifty kilometres) includes most of Emalahleni Local Municipality as well as part of the Nkangala District Municipality, set against the backdrop of Mpumalanga Province as a whole (see Section 5.1).

3.2 Data Collection

The approach taken to data collection – and to the SIA in general – was to capitalise as much as possible on collaboration with other members of the Digby Wells teams involved in the EIA and supporting specialist studies. Particular instances of such collaboration included the following:

- Information obtained by the Digby Wells stakeholder engagement team (e.g. during meetings with local government officials and other local and regional stakeholders) was used to inform the social baseline and impact assessment;
- Questionnaires and data collection protocols used for the SIA were designed in collaboration with other specialists. This ensured that, where possible, information obtained by the SIA team included data that could be used by other specialists in their studies; and
- As the study neared completion, the findings of other specialist studies were reviewed to identify cross-disciplinary linkages – i.e. impacts assessed by one specialist discipline that could give rise to indirect or induced impacts relevant to another discipline. As an example, Project-induced changes in groundwater quality and quantity could cause social impacts by altering the availability and/or quality of water for agriculture and domestic consumption.

Specific data collection activities undertaken during this study are outlined below.

3.2.1 Desktop review

A review was undertaken of available documents to obtain relevant information on current and planned Project activities, on baseline socio-economic conditions and on anticipated impacts of the Project.

Secondary data sources reviewed includes the following:

- 2007 Community Survey (Stats SA, 2007);
- The 2011 National Census (Stats SA, 2011);
- The ELM and NDM Integrated Development Plans (IDP), 2013 – 2014; and
- Provincial and local socio-economic reports and publications.

In addition to governmental literature, project and development-based literature was reviewed, such as:

- Previous social and environmental assessment reports for Klipspruit-related projects;
- National and regional research reports, such as Bench Marks Foundation, South African coal Mining Policy Gap report on community engagement, concerns and impacts, and the Socio-Economic Review & Outlook of Mpumalanga (SERO) presentation on socio-economic challenges in Mpumalanga; and
- Web-based publications and journal articles based on the effects of mining on the social environment.

3.2.2 Investigative site visit and interviews

A visit to the project site was undertaken between 23 and 27 January 2015 by various members of the project team, including two social scientists, in order to gain an appreciation of the socio-economic characteristics of the area.

During the site visit, meetings and focus groups discussions were carried out with a number of key stakeholders and informants. These were later supplemented with telephonic and email conversations where necessary. The aims of these interviews and focus group discussions were:

- To verify and augment data on local socio-economic conditions obtained from secondary sources; and
- To gain insight into local experiences, perceptions and feelings about the Project.

Table 3-1 outlines the stakeholders interviewed during the site visit.

Table 3-1: Interviews conducted as part of the specialist study

Name / Stakeholder Group	Meeting Objectives
Local municipal representatives (authorities)	Role of local municipality in the municipality, including the influence mining has played in economic growth, development and the provision of services.
Directly affected land owners	Feelings of local landowners towards mining. Challenges faced by landowners in day to day living. Concerns about potential buy-out and relocation from the land required by the project.
Farmers and agricultural representatives	Current status of agricultural practices in the municipality, including the challenges faced by large scale commercial and smaller scale farming activity. Influence that mining has exerted on agricultural practices in the past. Concerns about farmworkers and people resident on affected farmland.
Safety and security representatives	Status of crime and safety in the area, including challenges faced by law enforcement.
Community healthcare and education representatives	Status of healthcare and education services in the area, including the challenged faced by these service providers.
Community Leadership	Brief history of Phola, role of community leadership, community challenges and experiences with mining operations in the past

The above stakeholders groups participated in interviews conducted by two Digby Wells social specialists. The summaries from the above mentioned interviews are included in Appendix A of the SIA report.

3.2.3 Information from the public consultation process

As part of the data collection process, the SIA made use of information gathered during the public consultations. The relevance of this data lies in the fact that the public participation process serves as a stage through which stakeholders air their concerns and perceptions about the Project. This allows for the early identification and confirmation and assessment of social impacts. The Comment and Response Report (CRR) compiled as part of the public consultation process was reviewed as part of the data collection process.

3.3 Compilation of Baseline Socio-economic Profile

On the basis of the information collected through the desktop review and interviews with key informants, a socio-economic baseline profile was compiled of the site-specific, local and regional study areas. Topics considered as part of this profile include (but are not limited to):

- Demographics, including population size and growth, composition, age and gender distributions;

- Educational levels;
- Economic conditions, including an overview of the most prominent economic activities in the area;
- Employment;
- Infrastructure and service availability;
- Community needs and challenges, (including municipal strategies to address these needs);
- Spatial development and land use; and
- Conservation and cultural heritage.

3.4 Impact Assessment

A range of potential social impacts of the proposed Project were identified based on information obtained from the public consultation process, consultations that took place for the purposes of the SIA, as well as specialist opinion. Impacts were grouped into four broad categories:

- Effects on the local economy;
- Effects from impacts to the physical environment;
- Effects of population influx; and
- Cumulative impacts.

The impact assessment and rating process is designed to provide a quantitative rating of the identified social impacts, whist still allowing for the subjective assessment of said impacts. The significance rating follows an established impact/risk assessment formula, as shown below:

***Significance** = **consequence** of an event x **probability** of the event occurring*

where

Consequence** = Type of impact **x (Intensity + Spatial Scale + Duration)

and

Probability** = **Likelihood of an impact occurring

In the formula for calculating **consequence**:

Type of impact **= +1** (for positive impacts) ***or* -1** (for negative impacts)

The weight assigned to the various parameters for positive and negative impacts in the formula is presented in Table 3-2 to Table 3-5 below.

Table 3-2: Rating options: Intensity

Rating	Negative impacts (Type of impact = -1)	Positive impacts (Type of impact = +1)
7	Irreparable damage to highly valued items of great cultural significance or complete breakdown of social order.	Noticeable, on-going social benefits which have improved the livelihoods and living standards of the local community in general.
6	Irreparable damage to highly valued items of cultural significance or breakdown of social order.	Great improvement to livelihoods and living standards of a large percentage of population.
5	Very serious widespread social impacts. Irreparable damage to highly valued items.	On-going and widespread positive benefits to local communities which improves livelihoods.
4	On-going serious social issues. Significant damage to structures / items of cultural significance.	Average to intense social benefits to some people.
3	On-going social issues. Damage to items of cultural significance.	Average, on-going positive benefits, not widespread but felt by some.
2	Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected.	Low positive impacts experience by very few of population.
1	Minimal social impacts, low-level repairable damage to commonplace structures.	Some low-level social benefits felt by very few of the population.

Table 3-3: Rating options: Spatial scale

Rating	Definition
7	**International:** The effect will occur across international borders
6	**National:** Will affect the entire country
5	**Province/ Region:** Will affect the entire province or region
4	**Municipal Area:** Will affect the whole municipal area
3	**Local:** Extending across the site and to nearby settlements
2	**Limited:** Limited to the site and its immediate surroundings
1	**Very limited:** Limited to specific isolated parts of the site

Table 3-4: Rating options: Duration

Rating	Definition
7	**Permanent:** The impact will remain long after the life of the Project
6	**Beyond Project life:** The impact will remain for some time after the life of the Project
5	**Project Life:** The impact will cease after the operational life span of the Project
4	**Long term:** 6-15 years
3	**Medium term:** 1-5 years
2	**Short term:** Less than 1 year
1	**Immediate:** Less than 1 month

Table 3-5: Rating options: probability

Rating	Definition
7	**Certain/Definite:** There are sound scientific reasons to expect that the impact will definitely occur
6	**Almost certain/ Highly probable:** It is most likely that the impact will occur
5	**Likely:** The impact may occur
4	**Probable:** Has occurred here or elsewhere and could therefore occur
3	**Unlikely:** Has not happened yet but could happen once in the lifetime of the Project, therefore there is a possibility that the impact will occur
2	**Rare/ improbable:** Conceivable, but only in extreme circumstances and/ or has not happened during lifetime of the Project but has happened elsewhere. The possibility of the impact materialising is very low as a result of design, historic experience or implementation of adequate mitigation measures
1	**Highly unlikely/None:** Expected never to happen.

Impacts are rated prior to mitigation and again after consideration of the proposed mitigation measures. The impact is then determined and categorised into one of eight categories, as indicated in the Table 3-6 below. The relationship between the consequence, probability and significance ratings is graphically depicted in the Figure 3-1 below.

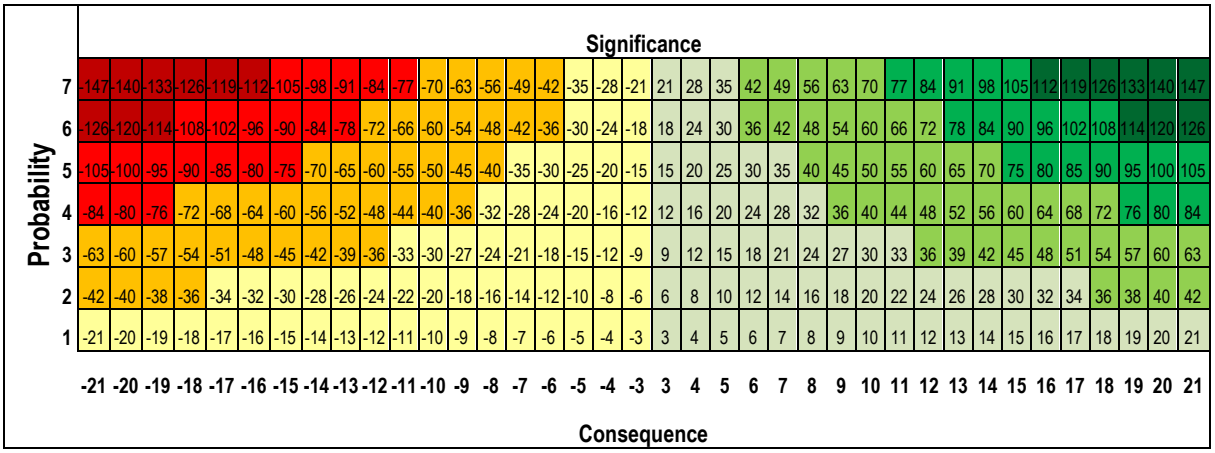

Figure 3-1: Relationship between consequence, probability and significance ratings

Table 3-6: Significance ratings

Score	Description	Rating
109 to 147	A very beneficial impact which may be sufficient by itself to justify implementation of the Project. The impact may result in permanent positive change.	**Major (positive)**
73 to 108	A beneficial impact which may help to justify the implementation of the Project. These impacts would be considered by society as constituting a major and usually a long-term positive change to the (natural and/or social) environment.	Moderate (positive)
36 to 72	An important positive impact. The impact is insufficient by itself to justify the implementation of the Project. These impacts will usually result in positive medium to long-term effect on the social and/or natural environment.	Minor (positive)
3 to 35	A small positive impact. The impact will result in medium to short term effects on the social and/or natural environment.	Negligible (positive)
-3 to -35	An acceptable negative impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in negative medium to short term effects on the social and/or natural environment.	Negligible (negative)
-36 to -72	An important negative impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the Project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in negative medium to long-term effect on the social and/or natural environment.	Minor (negative)
-73 to -108	A serious negative impact which may prevent the implementation of the Project. These impacts would be considered by society as constituting a major and usually a long-term change to the (natural and/or social) environment and result in severe effects.	Moderate (negative)
-109 to -147	A very serious negative impact which may be sufficient by itself to prevent implementation of the Project. The impact may result in permanent change. Very often these impacts are immitigable and usually result in very severe effects.	Major (negative)

3.5 Mitigation Measures and Recommendations

Appropriate management and mitigation/enhancement measures are recommended to avoid or ameliorate negative social impacts and to enhance positive impacts. The criteria for the selection of mitigation measures included the following:

- That measures should be effective in ameliorating the impact without having severe negative secondary consequences; and
- That they should be practically feasible and cost-effective.

After suitable mitigation measures were identified for each impact, the rating procedure described in Section 3.4 was repeated to assess the expected consequence, probability and significance of each impact after mitigation or enhancement. This post-mitigation rating gives an indication of the significance of residual impacts, while the difference between an

impact's pre- and post-mitigation ratings represents the degree to which the recommended measures are expected to be effective in reducing or ameliorating that impact.

In addition to recommending mitigation and enhancement measures, the study makes general recommendations that could aid the successful mitigation of Project-related risks.

3.6 Assumptions and Limitations of the Study

Although all reasonable efforts were made to provide an updated and representative picture of socio-economic impacts relevant to the study areas, this report is still subject to some assumptions and limitations:

- This report is based on available information obtained from the client, secondary sources, other specialists and stakeholders consulted during fieldwork. The sources consulted are in no way exhaustive, although deemed sufficient to meet the ToR for the current study. No information has been deliberately excluded from this report, and it is assumed that no party withheld relevant information from the specialists.
- The social specialists acknowledge the importance and value of local knowledge obtained through consultation with a variety of local stakeholders. As such, efforts were made during the consultation process to elicit the relevant knowledge required for a comprehensive and accurate impact assessment of the social environment. It should be noted that although several focus groups were planned for the data collection phase, some of these discussions did not materialise as stakeholders were not available. Despite this, the author is confident that in all respects where the nature or magnitude of potential socio-economic impacts is dependent on accurate and current baseline data, these have been sufficiently updated from individual interviews with key informants, combined the appropriate data collected during the public participation process.
- Socio-economic impacts associated with the eventual decommissioning of the mine at the end of its life are briefly discussed but are not subject to detailed assessment, as it is deemed appropriate to rather assess decommissioning and closure as part of the Klipspruit Mine rather than focussing directly on the KPSX: Weltevreden Project.

4 Legal and Policy Framework

From an environmental and social perspective, the proposed KPSX: Weltevreden Project needs to comply with all requirements in terms of the provisions of the National Environmental Management Act (NEMA), the Minerals and Petroleum Resources Development Act (MPRDA) and the National Water Act (NWA).

Currently the legislation in South Africa applicable to mining and the protection of the environment has no direct reference to SIAs. There is however, legislation detailing the type, extent and timeframes for public participation and stakeholder engagement during the EIA phases of a Project. South African laws which, either directly or indirectly, inform the social context in which SIAs are compiled are outlined below:

4.1 The South African Constitution

Section 24 of the Constitution provides that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that –

i. Prevent pollution and ecological degradation;
ii. Promote conservation; and
iii. Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Section 25 of the Constitution provides that expropriation of property is permissible to effect land redistribution, or in order to achieve some other public purpose or for the public interest. However, Section 25 prohibits arbitrary deprivation of property as well as the expropriation of property without payment of just and equitable compensation, which has either been agreed upon or which has been decided by a court of law.

4.2 National Environmental Management Act, 1998

This Act provides that sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions so as to ensure that development serves present and future generations. The Act further sets out the process for public participation.

4.3 Mineral and Petroleum Resources Development Act, 2002

Upon the acceptance of an application for a mining right, the applicant is required to prepare an Environmental Management Programme (EMP) in accordance with requirements of the MPRDA, to mitigate both bio-physical and social impacts of the proposed development.

The MPRDA furthermore requires that mining companies assess the social impacts of their activities from start to closure and beyond. Companies must also develop and implement a comprehensive Social and Labour Plan (SLP) to promote socio-economic development in their host communities and to prevent or lessen negative social impacts.

The EIA/EMPr Report (for which this SIA report is inclusive) will form part of the submission to the DMR for the application of the Mining Right. The Draft EIA/EMPr Report will assess the environmental and social impacts associated with the Listed Activities forming part of the proposed Project.

In accordance with the MPRDA, a specific charter, the Mining Charter, was developed to ensure that historically disadvantaged South Africans benefit from the exploitation of mineral resources. The first

Mining Charter, adopted in 2002 and updated in 2010, regulates a number of areas connected to sustainable development within the mining industry. One example is that all multinational corporations which supply products to the mining companies must budget 0.5%

of their annual income from the mining companies for development projects for the local communities. The mining companies should also consult the local communities and analyse their needs prior to initiating development projects (The Chamber of Mines, 2002).

4.4 White Paper on Local Government (1998)

This White Paper sets the framework for a developmental local government system that is committed to working with citizens, groups and communities to create sustainable human settlements, which provide for a decent quality of life and meet the social, economic and material needs of communities in a holistic fashion.

4.5 Municipal Systems Act (Act No. 32 of 2000)

The Municipal Systems Act provides for the principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities, and to ensure universal access to essential services that are affordable to all.

4.6 Extension of Security of Tenure Act (ESTA) (Act No. 62 of 1997)

This Act confers certain rights to non-landowning residents of a property, where such rights are linked to the period of time in which persons have been resident on the land. The Act applies to all rural areas in South Africa, regardless of whether the land is used for farming or mining purposes. No occupier can be evicted unless the provisions of ESTA have been strictly followed and a Court Order has been obtained.

4.7 The National Heritage Resources Act (Act No. 25 of 1999)

The requirements of the above Act are detailed in the specialist Heritage report. The findings of this report have been incorporated into the SIA report where these have a direct bearing on Project-induced social impacts.

4.8 The Department of Mineral Resources Consultation Guidelines

The above Guidelines were compiled for use by applicants for prospecting and mining rights. It provides that Interested and Affected Parties include, amongst others, host (or receiving) communities, land owners, traditional authorities, land claimants; lawful occupiers, any other person whose socio-economic conditions may be directly affected by proposed prospecting or mining activities.

4.9 BECSA Requirements

Policy documents applicable to the BECSA will also be utilised to ensure compliance with local legislation and key performance standards.

The BHP Billiton Group Level Document (GLD) and its applicable BECSA Asset Level Document (ALD) will be adhered to throughout the development of the Project. The

requirements will be adopted within the recommendations developed within the studies forming part of this EIA process. These include:

- BHP Billiton Charter;
- BHP Billiton GLD for Major Capital Projects (GLD. 031);
- Community GLD (GLD.008);
- Environmental GLD (GLD.009);
- Fatal Risk Control GLD (GLD.010);
- Health GLD (GLD.011);
- HSEC Reporting GLD (GLD.012);
- Risk Management GLD (GLD.017);
- Contractor Engagement Pack (ADL BECSA HSE 002); and
- BECSA Fatal Risk Control ALD (ALD STA_HSE_010).

5 Socio-economic Baseline Profile

This section describes the main socio-economic characteristics of the Project's study areas - namely, the regional local and site-specific study areas as defined in Section 3.1.

5.1 Regional Study Area - District Municipality

As was mentioned, the regional study area was defined as the NDM for the purposes of this study.

Data on the socio-economic environment of the regional study area was largely obtained from the 2007 Community Survey (Stats SA, 2007), the 2011 National Census (Stats SA, 2011) and the ELM Integrated Development Plan: 2013/2014 (ELM, 2013) and the NDM Integrated Development Plan: 2013/2014, (NDM, 2013).

Nkangala District Municipality consists of six local municipalities: Dr JS Moroka Local Municipality, Thembisile Hani Local Municipality, Victor Khanye Local Municipality, Emalahleni Local Municipality (within which the Project falls), Steve Tshwete Local Municipality, and Emakhazeni Local Municipality (ELM IDP 2013-2014).

5.1.1 Demographic Overview

The Mpumalanga Province is subjected to high levels of immigration (both legal and illegal) from adjoining countries - especially Mozambique. The close proximity of Swaziland and the strong cultural ties between it and the Swazi's semi-independent homeland of KaNgwane (now absorbed into Mpumalanga) creates extensive opportunities for double counting during census surveys, as these people might be counted as part of the Mpumalanga population and Swazi immigrants. Labour migration on a weekly and monthly basis is prevalent between the province and neighbouring Gauteng. Even with the vast number of people from other cities and adjacent countries, the provincial population growth was at 1.8% for the period 2001-2011. This is not much higher from 1996-2001 population growth figure, which stood at 1.5%.

The relatively low population growth rate can be attributed to the province's high HIV infection rate which, according to the 2011 National Antenatal Sentinel HIV and Syphilis Prevalence Survey, was at 37%, the highest in the country.

In the Nkangala District the Black population formed the bulk of the district's population with 90.9%, followed by the White population with 7.8%, and the Indian and Coloured constituting the remaining 1.3%. The majority of the population in the district resides in Emalahleni Local Municipality, which accounts for 35.4% of the population of the district and 11.9% of the provincial population. Emakhazeni /has the smallest population in the district, with only 3.6% of the district's population and 0.9% of the provincial population living there.

Whilst all the municipalities within the district registered a proportionate increase in their respective populations (an average of 2.5% as mentioned earlier), the increase varies as indicated by number of factors therein, which includes migration patterns owing to levels of

development, employment opportunities and proximity to socioeconomic amenities therein amongst others (NDM IDP 2013-2014).

5.1.2 Economic Profile

Mpumalanga is the second-smallest province in South Africa after Gauteng and is located in the north-eastern part of the country bordering Swaziland and Mozambique to the east. It covers an area of 79 490 km^2 and has a population of approximately 4 million, representing 7.8% of the South African population. The best performing sectors in the province include mining, manufacturing and services, while tourism and agri-processing are potential growth sectors.

Mpumalanga is rich in coal reserves and home to South Africa's major coal-fired power stations. The province is divided into three district municipalities, which are further sub-divided into 18 local municipalities. Regionally, the KPSX: Weltevreden Project falls within the NDM and locally falling into the ELM. The ELM are is the biggest coal producers in Africa, with the Government recognising the Waterberg Coalfields (in Limpopo) as a future growth point within the coal mining arena.

The Emalahleni and Middelburg areas are home to the major economic activity concentrations in NDM. However, the main concentrations of economic activity around Emalahleni and Middelburg are starting to encroach on environmentally highly significant areas and important and necessary areas. The south-western regions of the district are referred to as the Energy Mecca of South Africa, due to the large deposits of coal reserves and associated power stations, particularly the Emalahleni and Steve Tshwete areas. The regeneration of some of the mothballed power stations pose opportunities for the mining and energy sectors, as well as the regeneration of some of the smaller towns in the district such as Delmas, Hendrina and Arnot. Greater portions of the district, particularly the Dr JS Moroka and Thembisile Hani municipal areas, are characterised by subsistence agriculture according to NDM IDP 2013-2014.

5.1.3 Regional Employment

Around one third of the population of Mpumalanga falls within the working ages of 15 to 64, with only 24% of this working population being employed. Although there are numerous mining and agricultural operations in this province, the constant influx of people (in search of employment) to the region contributes to the low employment rate. According to Stats SA (2011), the employment rate increased by 11% between 2001 and 2011,

According to Stats SA, (2011) the employment rate for NDM is 27%; the employment rate increased by 13.83% between 2001 and 2011. It can therefore be deduced that on an annual basis (between 2001 and 2011), the employment rate of NDM increased by 1.4% (NDM IDP 2013-2014).

5.2 Local Study Area - Local Municipality

This section describes the local study area, including the ELM, but focussing on specific wards within which the Project falls (Ward 19 and 28 to 32), which constitute the local study area for this SIA. Where possible, quantitative data referring to these wards were aggregated, and are referred to in the tables and graphs below as the "local study area." In many instances, equivalent statistics for the regional study area (NDM) are also provided by way of comparison.

5.2.1 Overview

The Emalahleni Local Municipality (*Emalahleni* meaning "place of coal") comprises the towns of Emalahleni, Kwa-Guqa, Ga-Nala and Ogies. Emalahleni is the most industrialised municipal area in Nkangala District and its landscape features mainly underground and opencast coalmines. This area has the largest concentration of coal power stations in the country.

According to the ELM 2013-2014 IDP, this municipality is the largest economic contributor to the NDM of the six local municipalities, contributing 45% to the districts economy. Dominant economic contributors include utilities (74.1%), mining (52.8%) and construction (52.5%). The distribution of the relevant industries within the district municipality is highlighted in Table 5-1 below.

Table 5-1: Industry distribution within the Nkangala District Municipality (ELM IDP 2013-2014)

Industry	Victor Khanye	Emalahleni	Steve Tshwete	Emakhazeni	Thembisile Hani	Dr JS Moroka	Nkangala
Agriculture	30.8%	13%	42.8%	6.8%	2.0%	4.6%	100%
Mining	2.4%	52.8%	40.6%	3.3%	0.8%	0.0%	100%
Manufacturing	1.4%	19%	74.9%	1.7%	2.4%	0.6%	100%
Utilities	0.3%	74.1%	20.9%	1.2%	1.9%	1.7%	100%
Construction	4.4%	52.5%	27.7%	3.9%	6.7%	4.8%	100%
Trade	5.8%	46.1%	26.0%	3.2%	14.7%	4.3%	100%
Transport	8.5%	48.3%	25.9%	9.9%	4.8%	2.6%	100%
Finance	5.1%	48.9%	39.6%	2.3%	2.3%	1.9%	100%
Community Services	6.6%	34.5%	26.1%	3.6%	14.9%	14.3%	100%
Total	**4.5%**	**45.2%**	**38.7%**	**3.5%**	**4.9%**	**3.2%**	**100%**

The Project area and its location in relation to the local settlements (i.e. the towns of Ogies and Phola – within the local municipality) can be seen in Figure 5-1 below.

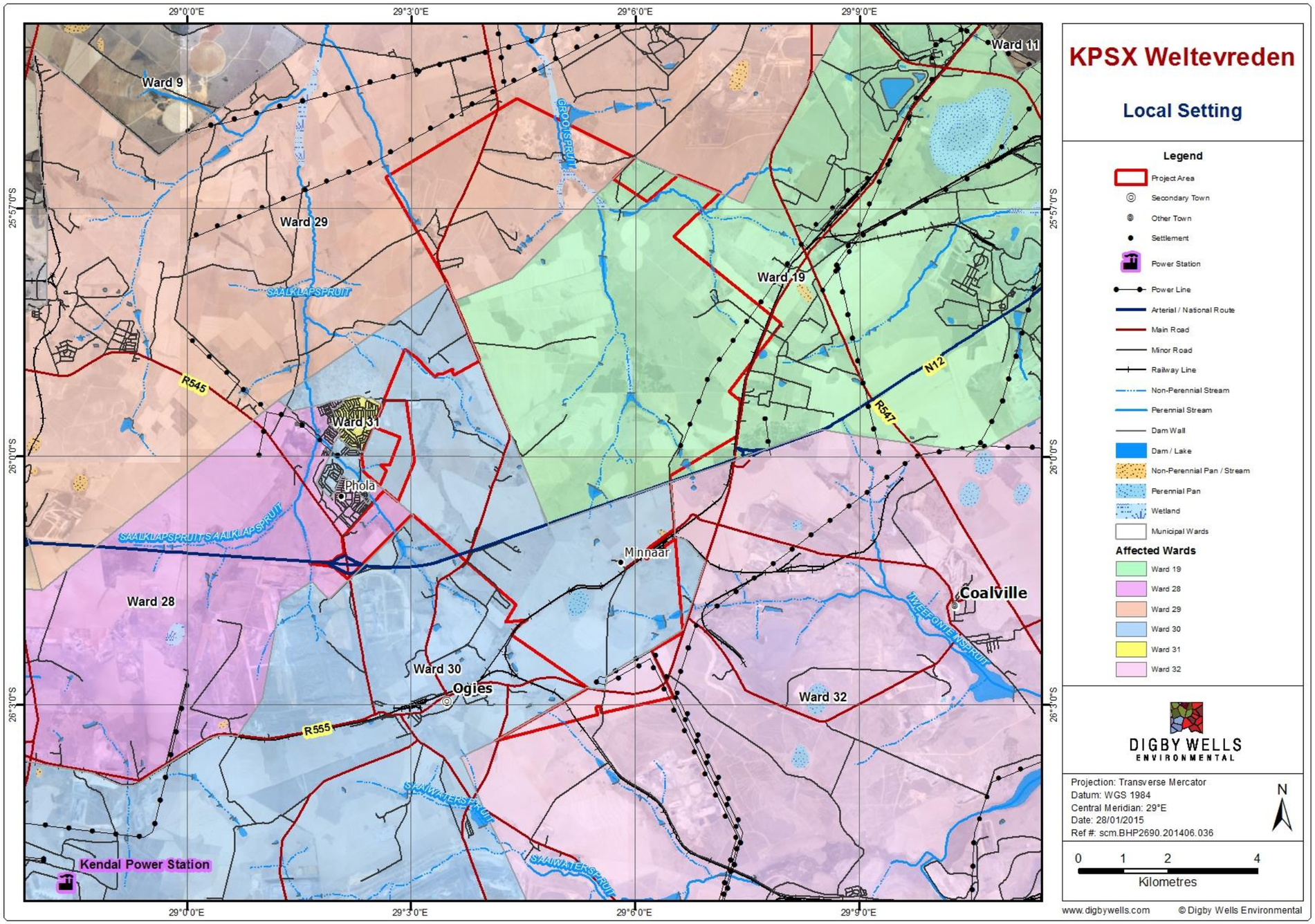

Figure 5-1: Local setting of the KPSX Weltevreden Project

5.2.2 Demographics

5.2.2.1 Population and population distribution

Emalahleni's population size, as recorded by Stats SA 2011, was 395 466 people which makes up 30% Nkangala District's population. The population lives in 119 874 households with an average household size of 3.3 people. This is a relatively low family size, which may reflect the young age of the urban centres in the district, in which large family structures have not had time to develop. More established towns generally have average family sizes in excess of 4.5 people, while rural areas often average 5.5 people or more per household. The ELM's population grew by 43.1% between 2001 and 2011 while annualised population growth rate was measured at 3.6%.

The majority of the population distribution within the local study area, as within Emalahleni and NDM, are Black Africans. Individuals from Coloured, Indian and Asian decent make up the smallest portion (no more than 3%) of the population in all three municipal areas (i.e., district municipality, local municipality and local study area). The White population averages 3% in the local study area, though accounts for 16% and 10% in ELM and NDM respectively (Stats SA 2011), as illustrated in Figure 5-2 below. The figure highlights a comparative population distribution amongst the populations within the identified in the local study area, the ELM and broader NDM.

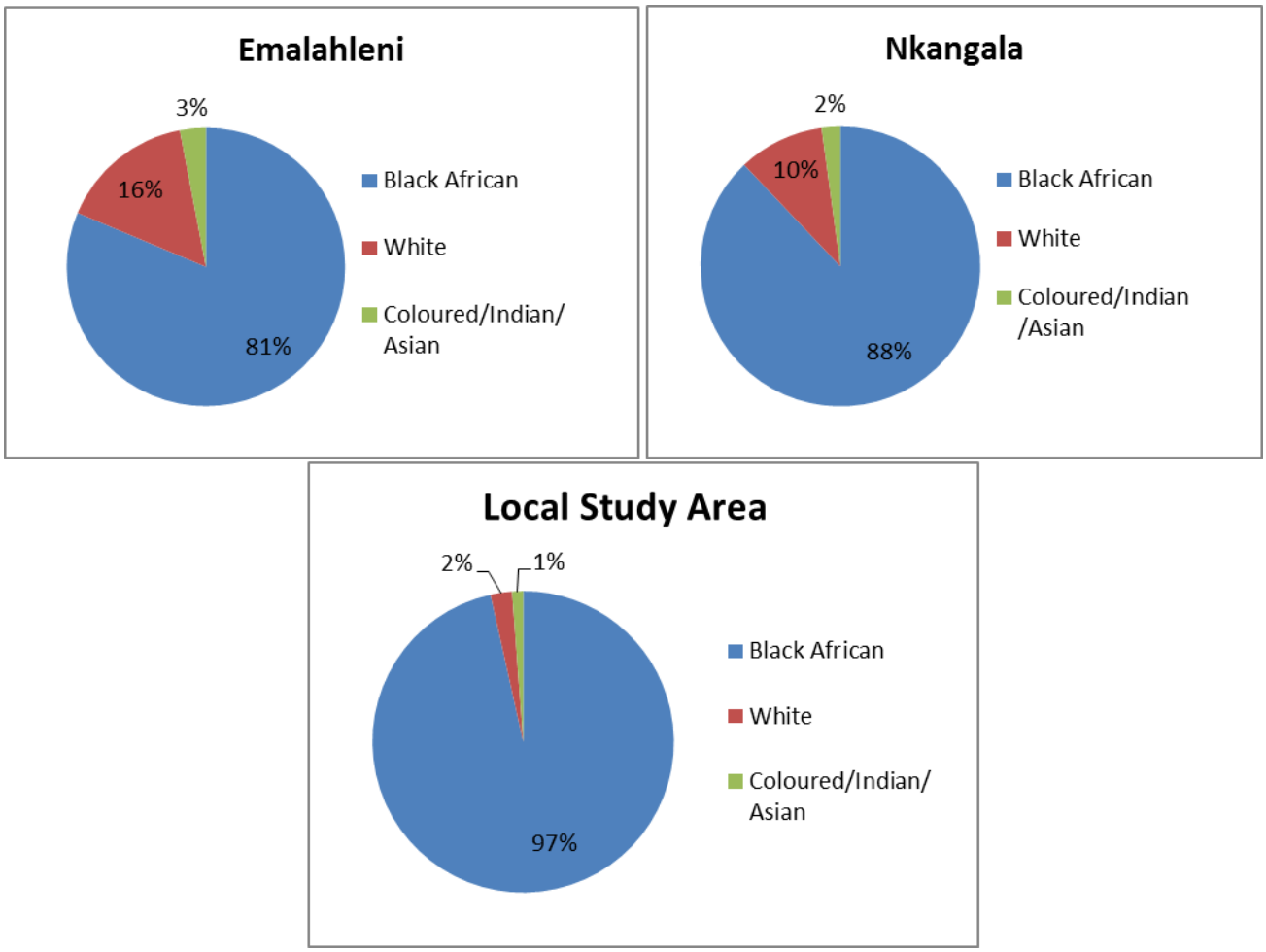

Figure 5-2: Population group distribution for the local study area, compared to local and district municipalities (Stats SA 2011)

5.2.2.2 Age and sex distribution

The age and sex structure of the population is a key determinant of population change and dynamics. Males outnumber females in the local study area (Wards 19 and 28 to 32) as well as the local and district municipalities, as seen in Table 5-2 below. This may be attributable to the nature of industries around the municipal area (such as mining and the construction sector) that tend to lend itself to the employment of more males than females.

It is evident that the local study area and local municipality has a large potential workforce; with over 70% of the population being aged between 15 and 64 years, whilst there are limited number of elderly (over 65 years of age) (NDM IDP 2013-2014). This low number of elderly corresponds with the high unemployment (and consequently low incomes), with limited health services available.

Table 5-2: Age distribution and gender distribution in the Local study area, ELM and NDM (stats SA 2011)

	Local study area	ELM	NDM
Age Structure			
Population Under 15	25.1%	25.2%	28.5%
Population 15 to 64	72.2%	71.2%	66.5%
Population Over 65	2.7%	3.6%	5%
Sex Ratio			
Males per 100 females	127	111.8	100.7

5.2.2.3 Language characteristics

The predominant language in the local study area is Zulu, as illustrated in Figure 5-3 below. In this case, language distribution has only been provided for Ward 30 as it encompasses the largest population distribution (i.e. the majority of the population in the local study area is from Ward 30). Zulu is spoken by 43% of people within Ward 30, and 39% in the broader ELM. This is in contrast with the district average with Zulu being the second most spoken language, whilst Ndebele is the first. Ndebele and Sepedi make up the other two major languages spoken in Ward 30 and ELM (Stats SA 2011).

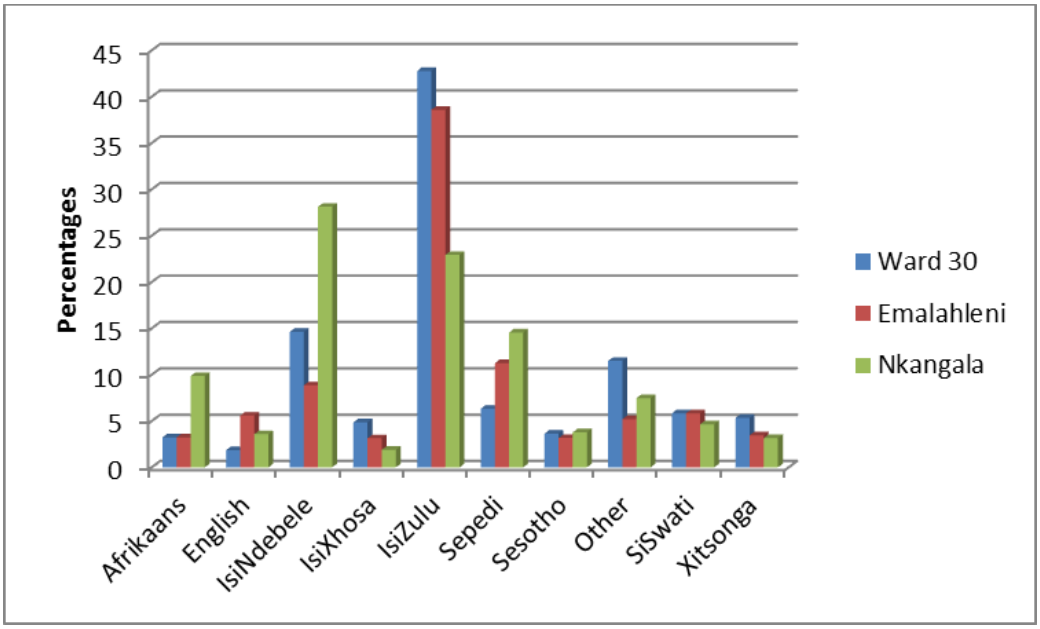

Figure 5-3: Comparison of the language distribution between Ward 30, and the local and district municipalities (Stats SA 2011)

5.2.3 Educational Status

Educational achievement is a key development indicator of a population. The majority of the population (over the age of 20) within the local study area (as with the broader district municipality) have not completed matric. The table below highlights census data that show populations from the local study area, local municipality and district municipality have very low percentages of people with a tertiary level education. This low level of further education has implications on the economic and social status of the region, as it implies that the municipality may have a partially unemployable population, particularly if the type of industry that employs the majority of the population i.e. mining ceases/ plummets.

These figures indicate that the majority of the population is employable within the unskilled, semi-skilled and (somewhat) in skilled labour sector, but not in the professional sector. Table 5-3 and Figure 5-4 below illustrated the distribution of educational training amongst people from within the local study area, the ELM and NDM.

Table 5-3: Highest form of education for local study area, the local municipality and district municipalities (Stats SA 2011)

Highest level of schooling	Local study area	Emalahleni	Nkangala
Grade 0 - 7	26%	23%	27%
Grade 8 - 10	19%	20%	19%
Grade 11 - 12	30%	30%	27%
Diploma with less than Grade 12	2%	4%	2%
Certificate / Diploma with Grade 12	2%	3%	2%
Higher Diploma / Degree / Masters / PhD	1%	3%	2%
Other	10%	12%	12%
No schooling	9%	5%	8%

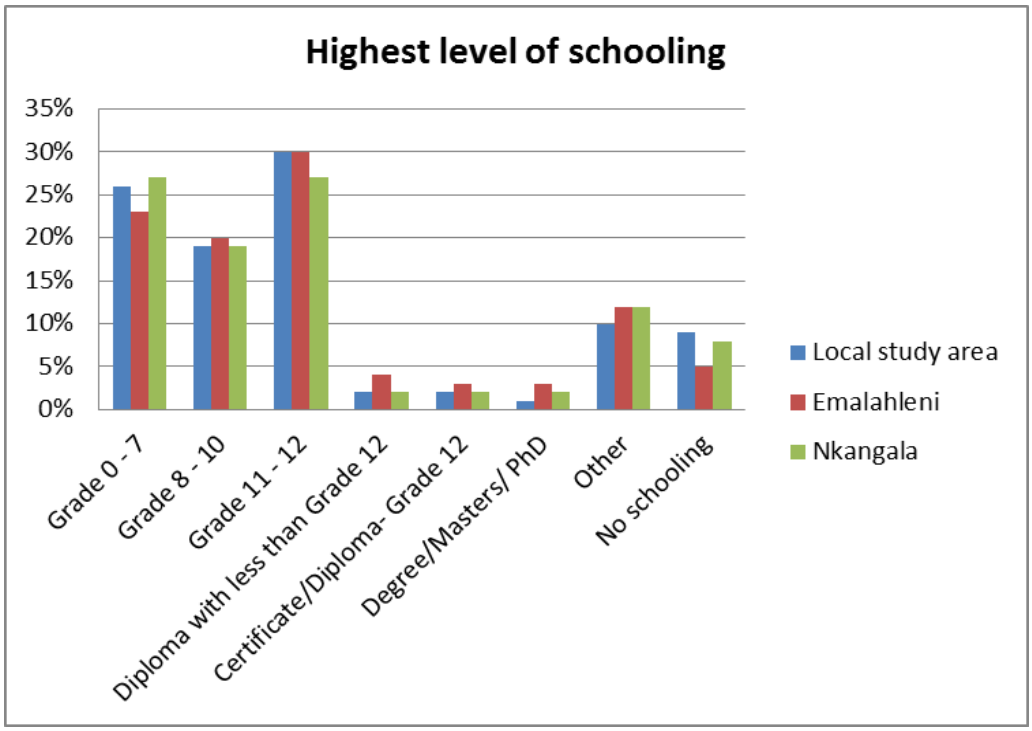

Figure 5-4: Comparative analysis of levels of education in the local study area, the local and district municipality

5.2.4 Employment and Labour

According to Statistics South Africa, (2011) the employment rate for Mpumalanga Province and Nkangala District Municipality was 24% and 27% respectively (Stats SA, 2011). There has been a drop in unemployment rate in the ELM from 38.4% to 27% between 2001 and 2011.

In 2011, the unemployment rate of ELM was 27.3%, with 52 114 people out 395 466 being unemployed (with an economically active population – EAP – of 190 662).

The unemployment rate for females was 37.1%, whilst for males it was 20.8 %. According to the ELM IDP, the youth unemployment rate in 2011 was 36.0%.

According to the data from Stats SA (2011), the average percentage of people employed within the local study area was 32%, with 16% being unemployed. While the unemployment figures for the study area seem low, it needs to be noted that the remaining 52% of the population falls within the “other” category. This includes individuals that are not economically active, under the working age of 15, and those individuals that classify themselves as “discouraged work seekers” (Figure 5-5).

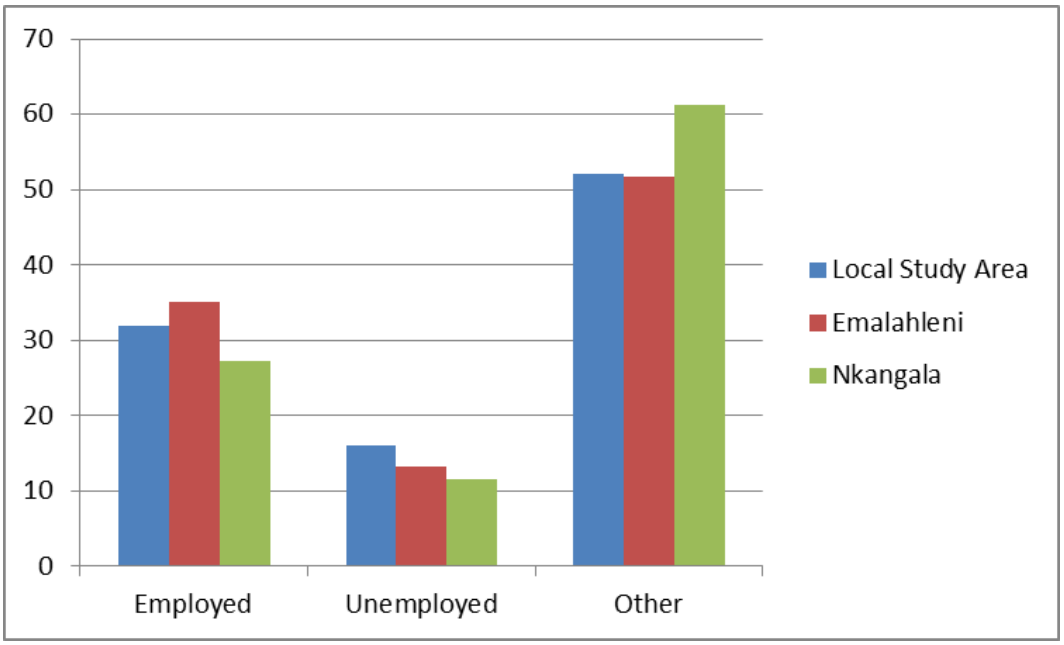

Figure 5-5: Employment rates for the local study area, the ELM and NDM (Stats SA 2011)

5.2.5 Annual Household Income

As shown in Table 5-4, over 40% of people in Mpumalanga Province have no annual income at all. Average income figures for the local study area, the ELM and the NDM are all very much in line with the provincial average; however, the income earning figures are slightly higher for the local study area, with more people earning between R3 201 and R12 800.

It can be gathered from the table below that the ELM has a higher income generation than the provincial figures. This is attributed to the concentration of mining activities and construction industry in this area (Stats SA, 2011).

Table 5-4: Average monthly income

Location	No income	R 1 - R 800	R 801 - R 3 200	R 3 201 - R 12 800	R 12 801 or more	Unspecified /other
Local Study Area	33%	17%	24%	17%	3%	6%
Emalahleni	41%	15%	16%	13%	7%	9%
Nkangala	41%	21%	18%	9%	4%	7%
Mpumalanga	42%	24%	17%	7%	3%	7%

5.2.6 Social Infrastructure and Services

This section provides an overview of the basic community services and infrastructure available in the local study area. Figure 5-6 illustrates the location of several social services in relation to the surrounding communities and the proposed Project area.

5.2.6.1 Water and sanitation

A large percentage of households in ELM as well as the local study area have access to piped water either inside their house or within a communal yard, with an average of 77% having access to municipal water, whilst 8% have access to water through a borehole. All the urban areas within ELM (with the exception of informal settlements and townships) are fully reticulated in terms of potable water supply.

In terms of sanitation, data from the 2011 census, show that an estimated 57% of households in the local study area have access to waterborne sewer services (flush toilets, with or without septic tanks); the majority (33%) of the remaining households use pit latrines (Stats SA, 2011).

5.2.6.2 Waste disposal

The eMalahleni area makes use of the Leeuwpoort landfill site. The refuse that is dumped daily is compacted and covered to ensure the sustainable functioning of the landfill site. The waste removal services cater for domestic waste removal as well as industries and businesses. An estimated 69% of waste generated within the ELM is collected weekly by the local municipality (see Table 5-5 below). In contrast to the ELM, the most common means of

waste disposal for many areas within the local study area is through utilisation of their own refuse dumps, as seen in the table below (36% of Ward 30) make use of municipal services and a significant amount of the population has no means of waste disposal at all.

Table 5-5: Means of waste disposal for ward 30 and ELM (Stats SA 2011)

Means of waste disposal	Ward 30	Emalahleni
Removed by local authority	36%	69%
Own refuse dump	39%	21%
No rubbish disposal	23%	7%
Other	2%	4%

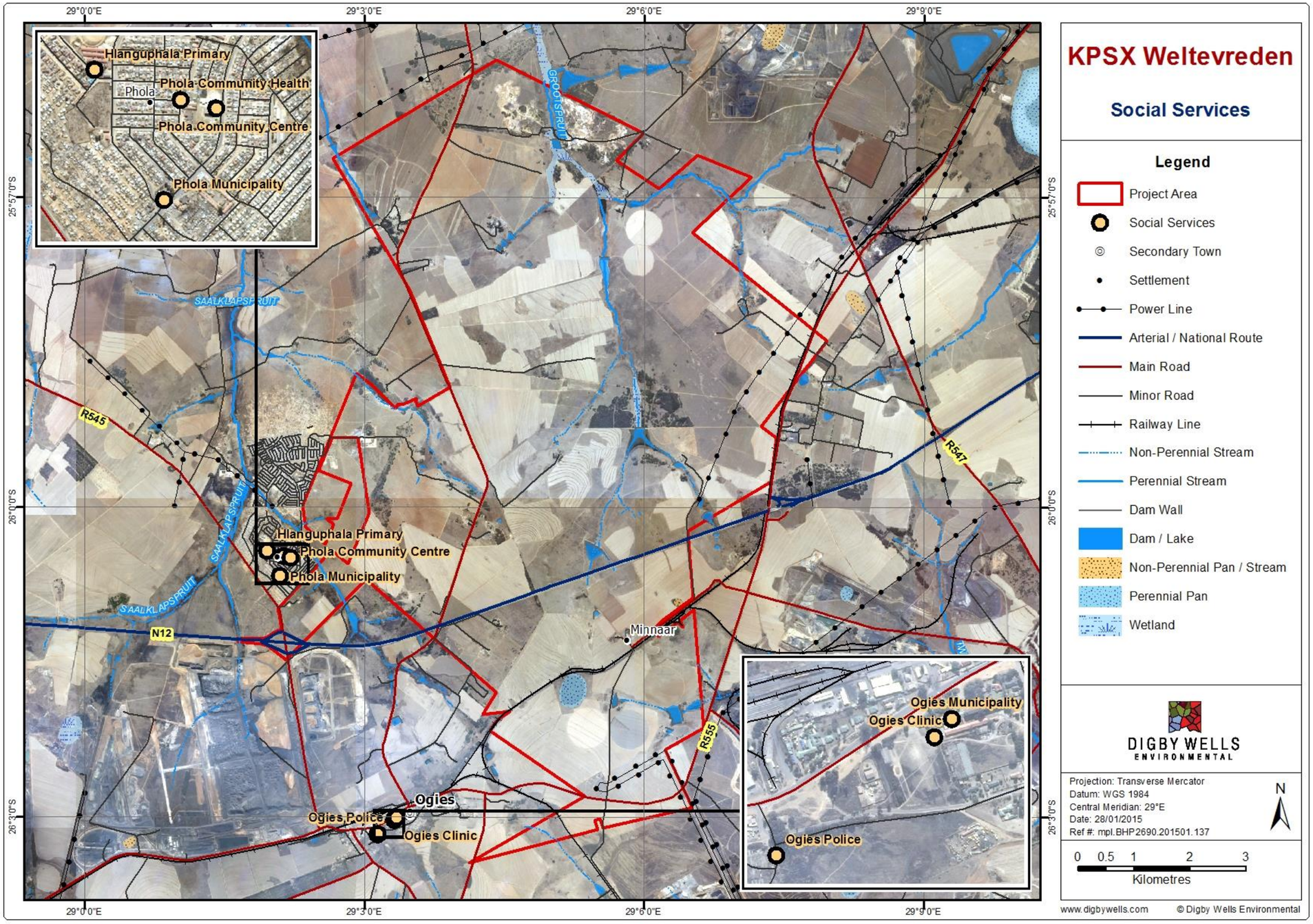

Figure 5-6: Location of local settlement in relation to community services

5.2.6.3 Sources of lighting and heating

Access to electricity for lighting is an important indicator of the provision of a key resource the majority of households in urban South Africa rely on.

Of the households in the local study area, 55%, have access to electricity for cooking, heating and lighting, whilst 28% are reliant on paraffin as their main source of energy. In contrast more households (69%) in the ELM have access to electricity.

The bulk electricity provider throughout the municipality is Eskom (ELM IDP, 2012 - 2013).

Although many households within the local study area have access to electricity, the constant influx of people to the area is placing a strain on the electrical grid, as highlighted by local government representatives.

5.2.6.4 Transportation

The ELM is strategically located in terms of the provincial context and transport network. It is situated in close proximity to the City of Johannesburg, City of Tshwane and Ekurhuleni Metropolitan Municipalities in Gauteng, and is connected to these areas by the N4 and N12 freeways. These freeways converge at eMalahleni (Witbank), from where the N4 extends to Mbombela (Nelspruit) and ultimately Maputo in Mozambique. The N4 freeway, along with the railway line that runs adjacent to the freeway from Gauteng to Mozambique, constitutes the Maputo Corridor.

Although roads in the ELM are sufficiently connected with district, provincial and national roads, many secondary road systems are in a state of disrepair, being insufficient to handle the increased traffic created by mining and other industrial developments.

Public transport in the form of buses, taxis and trains are available in the region, yet they do not entirely meet the requirements of the current working population.

5.2.6.5 Safety and policing

Crime and community safety are generally cause of concern for communities in the local study area. There has been a history of substance abuse and widespread criminal activity in the area, largely due to the uncontrolled population influx and lack of available employment. During an interview conducted with the a Captain from the South African Police Service in Ogies, it was established that the mining operations in the area are indirectly (as a result of the large-scale in-migration of jobseekers) playing a part in the rise of substance abuse in the community, leading to increased violent acts. According to the Captain the increased violent acts places strain on the police force as they are not geared or resourced for the increased criminal activity and increased risk to community safety.

The SAPS informant noted that the SAPS have a positive relationship with BECSA and other mines in the area. They are engaged in a positive relationship with the security companies appointed on the Klipspruit mine, with the aims of providing greater control and crime intelligence in the region.

5.2.6.6 Health Services

The NDM is geographically the smallest district municipality in the province but, with a population of just over one million people, it has the highest population density (68 people per km^2). The district's 2009 burden of disease (BoD) profile was considered from an analysis of the causes of death.

The proportion of the district level population with medical aid coverage is 13% (Massyn *et al*., 2013). Statistically, the NDM has less than one district hospital bed per 1 000 people. The bed utilisation rate[1] is 72%, the highest in the province and higher than the national average of 67%. In both 2010/11 and 2011/12, Nkangala ranked as the district with the second lowest immunisation coverage for children under the age of one year in the country. Nkangala district's antenatal client HIV 1st test rate[2] was 107.9%. Healthcare facilities within the ELM as well as the type of facility (i.e. clinic, specialised hospital etc.) are listed in Table 5-6 below. Within the local study area, there are two health care facilities, namely the Ogies Clinic (8 hour facility) and the Phola Community Health Centre (24 hour facility).

Table 5-6: Healthcare facilities in the ELM (Mpumalanga Department of Health)

Facility	Facility Type
Ackerville Clinic	Clinic
Beatty Clinic	Clinic
HJE Schultz TB Hospital	Specialised Hospital
Hlanikahle Clinic	Clinic
Klipfontein Clinic	Clinic
Kriel Clinic	Clinic
Louise Clinic	Clinic
Lynnville Clinic	Clinic
Ogies Clinic	Clinic
Phola CHC	Community Health Centre
Poly Clinic	Clinic

[1] The number of patient days during the reporting period, expressed as a percentage of the sum of the daily number of usable beds. (Comment: The calculation here is an approximation - it assumes (1) a day patient occupies a bed for half a day, (2) there are always 30 days in a month.

[2] Antenatal clients HIV tested for the first time during current pregnancy as the proportion of antenatal clients eligible for first HIV tests.

Facility	Facility Type
Siphosesimbi CHC	Community Health Centre
Thubelihle Clinic	Clinic
Witbank Hospital	Provincial Tertiary Hospital

Interviews were conducted with the head nurse at Ogies Clinic and the Phola Community Health Centre to collect qualitative data to supplement the quantitative data presented by Stats SA. During the interviews, it was found that prostitution has become an increased problem within Ogies and Phola as a result of the mining operations. This in turn leads to an increase in HIV/AIDS rates, which stands as the primary health challenge in the area noted by the informants. The mining operations have resulted in an influx of inhabitants into the area which has put tremendous strain on the health care facilities. There is a great need for additional resources and equipment to ensure that current medical facilities are able to accommodate the growing population. The informant noted they would greatly benefit through the provision of a mobile clinic in cases where people are not able to travel directly to the clinic in town.

5.3 Site-Specific Study Area

The site-specific study area (defined in Section 3.1 as the extent of the farm portions overlapping with and adjoining the Project footprint), will experience direct Project-related impacts, given its proximity to the Project and proposed activities. To gauge the significance of the aforementioned impacts, a thorough understanding of the socio-economic baseline conditions is required. The information presented in the subsequent subsections should be considered in light of the preceding (mostly) quantitative information about the area.

5.3.1 Project Site and Surrounding Areas

The land on which the proposed KPSX: Weltevreden Project is located is used primarily for agricultural purposes. As with any proposed mine (in this case the extension of an existing operation), the acquisition of land will be required to make way for the mining project. Should the applications for the mining rights be approved, the acquisition of the land will take place through private sale negotiations and agreements with BECSA. Although the status and conditions of any agreements are not discussed in this report, the resultant influence on the landowner to make a decision to sell the land for the purposes of the proposed mining is discussed.

As noted, the primary land use within the Project boundary is commercial agriculture. There are several commercial farmers operating in the area. It was noted that not all of the farmers have their primary agricultural operations (i.e. workshops, storage areas, housing etc.) within the project footprint, however, there are exceptions. Each of the active farmers has differing numbers of permanent and temporary employees. Following investigations, it was

established that some farmworkers are resident on land within the Project area, whereas others stay in nearby settlements (primarily Phola). More intensive investigations will determine the exact number of temporary and permanent employees within the Project footprint.

In cases where a farmer has been operating in the area for many years (i.e. the land and operations are taken over by succeeding family generations), the employees and their families often follow the same trend (i.e. several generations are employed on the farm). The loss of land to the Project will likely result in challenges to both landowners/farmers, as well as farm workers. Employers may not be able to assist their employees in providing alternative work in the event that the farm is acquired for the expansion of the mine.

Following several interviews with local key informants, the following summary findings are pertinent to the Project site:

- The Project area is used primarily for precision commercial farming and cattle grazing;
- Mining operations have resulted in significant areas of agricultural land being lost, with the competition for land an ongoing challenge;
- Residents from Ogies and Phola originate from a variety of locations/provinces/countries. The majority of residents who are not originally from the area reportedly migrated to the area in search of prospective job opportunities;
- The influx of non-local inhabitants have reportedly had a significant role in crop/veld fires as well as violent situations within the local communities;
- Community leaders feel that mining operations have not provided sufficient growth and development to the area, and are causing. This is a major causes of protests and tension;
- According to community leaders and education service providers, the majority of the population in this area do not have a matric certificate (an estimated percentage of 85%);
- The average number of people her household in Phola is seven members; and
- With overcrowding as mentioned above, disease has increased, clean drinking water is not guaranteed as the local municipality are not maintaining service or ensuring safe resources.

5.3.2 Settlements

There are several settlements adjacent to the proposed Project area. These settlements stand to be the most influenced (directly and indirectly) by the Project.

5.3.2.1 Ogies Town

Ogies Town situated at the south-west portion of the Project area (illustrated in Figure 5-1). Ogies is a historical coal-mining town 29 km south-west of Witbank and 70km north-east

of Springs. It was laid out in 1928 on the farm Ogiesfontein, 'fountain with many "eyes" or springs'. The town of Ogies was officially proclaimed in the early 1960s.

The town of Ogies originated due to the existence of the railway station and the associated passing of main roads through the same area. A further factor which supported to establishment of a town here was the growth of coal mining activities and the associated influx of people working on the mines. In 1944 it was decided that the area needed governing and the Health Committee for Rural Areas was assigned to take control. On the 4th November 1959 the health Committee for Rural Areas started advertising their intention to prepare a development scheme for the proposed town, which would comprise 1.56 square miles of the committee's 2.88 square mile area. It was established that a dolerite reef running east/west alongside the railway line along with an uneconomical coal deposit which comprised approximately 130 acres would be well suited for the development of a town (Archaeology Africa cc, 2008).

There are several businesses operating in Ogies, some of which provide services to mines and industry within the ELM.

5.3.2.2 Phola Township

Phola Township was reportedly established (proclaimed) in 1964 as a new housing development set up by the provincial government. People from Ogies were allegedly relocated to this area due to limited available space in Ogies Town. Phola was established as a new housing development and has grown and developed since that time.

5.3.2.2.1 Demographics

Phola Township falls within three wards in the ELM namely; ward 28, 30 and 31, comprising a total population of 37 003. This figure is however not indicative of Phola's population, as it is inclusive of other areas (with the exception of Ward 31, comprising the largest portion of Phola). In an attempt to establish a more realistic estimate of Phola's population, various approaches were taken, including discussions with local informants and municipal officials, and the use of the most recent available aerial imagery through spatial analysis. The table below presents the results of this analysis.

Table 5-7: Estimated number of households for Phola Township

Area of analysis	Area (Hectares)	No. of Dwellings (physical count)	No of Dwellings (calculated)
Sample Area (500m x 500m)	25	461	
Phola (total extent of Phola)	455		8 404

From the table above, it is seen that there are an estimated 8 404 households (dwellings) within Phola. Interviews with community leadership showed a reported average of seven people per household (a minimum of two and a maximum of 12). This average was based on a household profile carried out in 2013 as part of the local social services department. Based on these reports, it is therefore estimated that the total population of Phola is around 59 000. In addition to this estimate, the same community informants reported an estimated population of 64 000. These figures are markedly higher than the combined population of wards 28, 30 and 31. This discrepancy may be attributed to the northern section of Phola comprising largely informal settlers who may not have been part of the census carried out in 2011, as well as the constant population influx into the Township due to the growing mining and power generation industries.

Of this population, it is reported that around 70% to 80% are South African nationals, whilst the rest are a combination of people from neighbouring countries and further abroad (such as Somalia, Pakistan and China). Even with this cosmopolitan population, it is reported that there are seldom tensions arising between different cultural or ethnic groups.

As a result of the extensive influx of people, the population within Phola is largely made up of youth. This is consistent with age distributions within the local and district municipalities.

5.3.2.2.2 Economic overview

The high levels of unemployment in the local study area have been highlighted in this report, with this same trend prevalent in Phola.

The main forms of employment in the Phola are mining and construction. Phola is largely inhabited by employees within the surrounding mining and industrial operations, as well as migrant jobseekers that relocated to this area in the hopes of securing employment within the ever growing mining and manufacturing industry. Individuals unable to secure employment mostly sustain themselves through petty trading; however, the success of such petty trading operations is often constrained by increasing competition among traders. Many people are engaged in trades related to mining and power stations such as boiler making.

In addition to informal trade, there are several SMMEs operating in the township, such as those within the transport sector (taxi companies). There are several SMMEs that have reportedly succeeded in their operations, whilst others require additional capital investment to sustain and develop their businesses. It was highlighted by the local community members that the private sector can play an important role in assisting with the growth and development of these businesses. Consequently, there is concern that mines are not contributing enough to increase economic development.

5.3.2.2.3 Community challenges and needs

Phola community face a number of challenges and needs. Many of these were highlighted during discussion and interviews with informants from both the community and the local municipality. The following constitutes the primary challenges needs as reported by these informants.

Access to reliable services: Due the population of Phola increasing on an almost daily basis, the current provision of municipal services is not sufficient to accommodate the growing population. This is further strained by the extensive informal settlements in associated with Phola. Many of these settlers place further strain on the services through illegal connection (in the case of electricity) and the non-payment of these services

Lack of employment opportunities and economic growth: Although there are many mining and power generation operations in the vicinity of Phola, they are only able to absorb a certain number of employees. The extensive population of Phola (many of whom are unemployed) results in the a significant increase in the unemployment rate of the local municipality

Crime and drug abuse (social ills): Coupled to the high unemployment rate and the consequently the high rate of poverty, this leads to an increase in a variety of social ills. Respondant noted that there is a significant amount of criminal activity within Phola. Additionally, many of the youth who leave school and not able to secure employment of further education are lured into using drugs.

5.4 Summary of Stakeholder Concerns

Stakeholder concerns raised during interviews conducted for the SIA are listed below. The issues have been categorised into emerging trends identified during the interviews.

- Land availability and property value:
  - Landowners are concerned that property values will change. One stakeholder noted that the area he farms in is the ideal area in terms of high yield soils, as well as the location not requiring hail insurance cover;
- Environmental and community health:
  - The community leaders are concerned about the high HIV/AIDS rate and they feel the mine's in the area are responsible for this and thus need to contribute in the form of awareness programmes;
- Environmental resources:
  - The constant growth of mining in area results in a drop in the quality and quantity of water required for agricultural activities
- Economic and community development:
  - Community members noted that mines in the region have not done enough to assist local communities. There have been several conflicts against mining companies over the years.
- Employment:
  - Community member noted

- Landowners raised concerns over farm workers not having a place to stay or able to sustain their employment in the event the mine purchases the land;

- Influx and related social challenges:
  - The SAPS captain raised his concern that the continual influx of people in the area will be putting even more pressure on an already dire situation in Ogies, with a shortage of officers;
  - Community leaders are concerned about the foreseen influx of individuals into an already saturated/densely populated area;
  - They are concerns that the local municipality is already not keeping up with service delivery, thus they are concerned about what will happen with an even higher influx of people to the area
- Service delivery and availability
  - The head nurse interviewed feels that health care facilities need help in the form of a generator, a mobile clinic and upgrades on the clinic; with a foreseen population influx the above will be much needed.

6 Impact Assessment and Mitigation

6.1 Introduction

Like a biological and physical impacts, social impacts have to be identified and measured in order to be understood and communicated to the impacted population and decision-makers. SIAs provide an appraisal of the possible social consequences and suggestions for project alternatives and possible mitigation measures. Social impacts are responsive to perceptions and therefore the intensity and significance could change as and when new perceptions are formed.

The organisation and presentation of socio-economic impacts expected to arise because of a proposed project are challenging, for a number of reasons. Potential impacts and the elements that combine to determine the socio-economic status of affected populations are generally multi-dimensional and interrelated. For example insufficient access to services such as water, sanitation and healthcare is both a cause and an effect of poverty.

On the one hand, a lack of access to such services impacts negatively on health status, the opportunity to acquire market-related skills and the amount of time available for productive activities. On the other hand, individuals in a low-income bracket are regularly forced to live in areas where service delivery is limited or absent. Hence, if a project increases the availability of services in an area, the ability of surrounding communities to take advantage of these services may to some extent depend on their current socio-economic status.

Secondly, the linkages between various potential project impacts are complex and can be mutually reinforcing. For example, in-migration and increased incomes can combine to put pressure on economies and public infrastructure. Impacts may also have both positive and

negative dimensions. Employment creation for example is an important Project benefit, but it may also contribute to social conflict or excessive in-migration.

Thirdly, many socio-economic impacts cascade. For example, in-migration could in itself be project-induced impact, but in turn may engender additional impacts, such as pressures on available services and natural resources.

In this section, impacts have been grouped into the following categories:

- Impacts on the local economy;
- Effects from impacts to the physical environment; and
- Impacts associated with population influx.

Each category is further subdivided into positive and negative impacts.

The discussion of each impact structured as follows:

- Description of the impact;
- Discussion on mitigation measures to avoid and/or ameliorate negative impacts and enhance positive ones; and
- A table presenting the rating of the impact, summarising the recommended mitigation measures, and repeating the rating exercise after the application of mitigation.

Where findings from other specialist studies are applicable, these have been referred to, particularly where such findings may contribute to the identified social impacts.

6.2 Effects on the Local Economy

This section deals with social impacts derived from the Project's effect on the local economy (both positive and negative). These include:

- Positive impacts:
  - Employment creation during both construction and operation; and
  - Multiplier effects on the local economy.
- Negative impacts:
  - Loss of farm labour to the mine; and
  - Dependency on the mine to sustaining the local economy.

6.2.1 Positive Impacts

6.2.1.1 Employment during construction

6.2.1.1.1 Impact description

Consultations with stakeholders have confirmed that there is a widespread expectation that Projects such as the KPSX: Weltevreden Project should provide local employment opportunities and contribute to the socio-economic upliftment of host communities. Community leaders and representatives of ELM claim that mines in the area are not adhering to the practice of recruiting local community members, but rather recruit from outside of the municipality.

As mentioned in Section 2.5, the fact that the Project involves the expansion of an existing operation (rather than an entirely new project) implies that that the mine and its contractors will largely make use of their existing workforce; these people would simply be transferred from the existing operation. Opportunities for workforce expansion are further limited by a limited requirement for extensive surface infrastructure.

Consequently, only a small number of new jobs will be created during the construction phase. Where opportunities may become available, these will be temporary, and will mostly be for unskilled and semi-skilled positions. This represents a small positive impact for host communities, in that the positions that do become available could be filled by individuals resident in the local study area.

The significance of this positive impact is, however, increased by the fact that the Project will allow for the sustained/continued employment of existing employees (the ones who would be transferred from the existing operation); if the Project should not proceed, some of these persons would likely lose their jobs. Its significance is further increased by the fact that new skills during the construction period will make people more employable in the future.

6.2.1.1.2 Recommended enhancement measures

Given that communities in the site-specific and local study areas (e.g. Ogies, Phola and surrounding rural communities), will be most affected by the Project, it is consistent with best-practice that these communities should directly benefit from the proposed Project. These benefits should include local employment opportunities during the ***construction*** phase. However, experience with other projects has shown that contractors routinely make use of an existing workforce, many of which does not originate from the respective project areas.

In order to enhance employment benefits for host communities, it is recommended that the following measures be implemented:

- Recruitment during the construction phase (where required) should not take place on site but should be coordinated through the appropriate institutions. Care must be

taken that recruitment practices are fair and transparent and are not unduly influenced by pressure groups in the communities;

- Those responsible for recruiting should engage the local office of the Department of Labour (DoL), as well as the National Youth Development Agency (NYDA) to source suitably qualified workers from within the ELM, if the required skills and qualifications are not available in the immediate Project area;
- In order to promote the creation of employment opportunities for women and youth during construction, it is proposed that a percentage of employment opportunities be reserved for women and younger persons, respectively. These positions should be filled with persons outside of these categories only when no suitable persons are available locally;
- Where possible and economically viable, labour-intensive methods of construction should be used;
- Where feasible, appropriate training and skills development should be offered to local community members to improve their ability to take advantage of employment opportunities arising through the Project and future mining projects;
- Where current employees are from the surrounding communities, priority should be given to these persons in maintaining employment during downsizing and retrenchments associated with the Project;
- Conditions of local employment should be included in the contracts of contractors, and a monitoring system should be established to ensure that all contractors honour the employment policy;
- Recruitment policies must be clearly defined and publicised to avoid nepotism and unfair practices; and
- Local employees should be provided with reference letters that they can submit to gain further employment elsewhere. Also, certificates of completion should be provided for in-house (on-the-job) training provided.

6.2.1.1.3 Impact rating

IMPACT DESCRIPTION: Job creation during construction				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Medium term (3)	Equal to the duration of the construction phase	Consequence: Moderately beneficial (11)	Significance: Minor - positive (55)
Extent	Municipal Area (4)	Some positions will be filled by persons from the local municipal area; the remainder from elsewhere in SA		
Intensity x type of impact	Moderately high - positive (4)	It is expected that contractors will use their existing workforce, thereby sustaining current employment. Additionally, a relatively small number of local people could benefit - mostly temporary, low-skilled jobs.		
Probability	Likely (5)	Without appropriate mitigation, forecasts of local recruitment might not be achieved		
MITIGATION: - Maximise and monitor local recruitment - Consult local labour recruitment offices - Prevent nepotism/corruption in local recruitment structures - Promote employment of women and youth - Train locally-recruited construction workers for longer-term employment where possible				
POST-MITIGATION				
Duration	Medium term (3)	As for pre-mitigation	Consequence: Moderately beneficial (12)	Significance: Minor - positive (72)
Extent	Municipal Area (4)	As for pre-mitigation		
Intensity x type of impact	High - positive (5)	Mitigation will maximise local job creation		
Probability	Highly probable (6)	Mitigation will maximise probability that local recruitment targets are achieved and local benefits optimised		

6.2.1.2 Employment during operation

6.2.1.2.1 Impact description

Employment during operation will largely be of a permanent nature and will involve different categories of employment (BECSA permanent staff, mining contractors, daily wage workers etc.).

Due to the KPSX: Weltevreden Project comprising an expansion of the existing Klipsrpruit mine, existing employees will be transferred to activities on the Klipspruit Weltevreden portion. However, although the Project workforce will largely comprise existing employees limited additional employment opportunities may become available during the operational phase of the proposed Project as the Project ramps up and the amount of overburden to be moved in order to access the coals seam increases. Although it constitutes a positive

impact, the significance of this impact will be dependent on the number of additional positions made available, whilst the influence on the local economy will depend on the number of locally sourced employees. Similarly, as noted under the construction phase, should the Project not proceed, there will be a loss of current employment, as opposed to sustained employment through the expansion of the Klipspruit operations.

Although employment figures are not available, as these estimates are defined and more definitive employment figures are available for the KPSX Weltevreden Project, this impact should be reassessed.

The maximisation of local employment will benefit the area around the mine, thus offsetting some of the negative impacts. Those who ultimately succeed in gaining employment at the mine will benefit substantially in terms of wages, training/skills development and income security. Local employment associated with the procurement and expenditure on services could further increase this impact though indirect employment.

6.2.1.2.2 Recommended enhancement measures

As with the construction phase, the Project's recruitment policy should dictate that local persons (i.e. persons residing within the local municipality – but primarily those from Ogies and Phola), should be given preference as positions become available. It is expected that Project contractors utilised or the Project will use their existing workforce, as these workers will have the necessary skills and experience. However, the challenge for BECSA will be to ensure that any contractors appointed for the Project comply with BECSA recruitment policies, as well as the requirements of the MPRDA and mining charter with regard to local employment.

Measures to optimise the benefits derived from employment creation through the operational phase are the same as those recommended for the construction phase. In addition, it is recommended that the Project develop a skills register to ascertain which skills are available in the area, and also by engaging in training and capacity building of the local labour force.

As was mentioned above, the requirement for local employment creation will/should form part of contractor management plans for all contractors. BECSA should monitor mine- and contractors' recruitment practices throughout the life of the mine. It is understood that BECSA aim to reduce reliance on contractors for various operational activities for the Project. In this case, BECSA should aim to retain those employees appointed by the contractors. This will ensure that there is continuity in terms of experience and understanding of the Klipspruit operations, as well as avoiding the need for.

Similarly, during future downsizing of the Project, priority should be given to employees from the surrounding communities in maintaining their employment, whist those employees from other areas should be retrenched first; however, this should take place as per the retrenchment requirements/plan in the approved SLP.

6.2.1.2.3 Impact rating

IMPACT DESCRIPTION: Job creation during operation				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Project Life (5)	Equal to the duration of the operational phase.	Consequence: Moderately beneficial (12)	Significance: Minor - positive (60)
Extent	Municipal Area (4)	Some positions will be filled by persons in the local municipal area; the remainder from the province and further afield		
Intensity x type of impact	Moderate - positive (3)	Operational workforce will mostly be current employees at existing operations; without this project, they may lose their jobs when current operations reach the end of their life. The number of additional permanent jobs created by the project is expected to be low.		
Probability	Likely (5)	Without appropriate mitigation, forecasts of local recruitment to the operational workforce might not be achieved		
MITIGATION: - Maximise and monitor local recruitment - Prevent nepotism/corruption in local recruitment structures - Promote employment of women and youth - Use of local labour for maintenance during operation - Training of workforce for employment on other mines after mine closure - Collaborate with Department of Labour and local business entities (e.g. Eskom, Sasol) to develop/share databases on locally-available skills				
POST-MITIGATION				
Duration	Project Life (5)	As for pre-mitigation	Consequence: Moderately beneficial (13)	Significance: Moderate - positive (78)
Extent	Municipal Area (4)	As for pre-mitigation		
Intensity x type of impact	Moderately high - positive (4)	Mitigation will maximise local job creation and skills development		
Probability	Highly probable (6)	Mitigation will maximise probability that local recruitment targets are achieved and local benefits optimised		

6.2.1.3 Multiplier effects on local economy

6.2.1.3.1 Impact description

Although not deemed to be a substantial impact for the development of the KPSX: Weltevreden Project as a standalone development, the proposed Project in combination with the existing Klipspruit mine will likely result in further economic benefits for local communities through multiplier effects stimulated by capital expenditure, construction activities and extended operational activities through the expansion of the Klipspruit mine.

The multiplier effect will operate through various mechanisms, as described below.

Firstly, the Project itself will require the procurement of goods and services during construction and operation. These procurement requirements will stimulate/maintain local manufacturing and service sectors that are able to provide these services. Impacts in this category are referred to as *indirect* economic impacts.

Secondly, the Project may also create opportunities for small and medium size businesses and entrepreneurs able to provide services to the mine, provided they are formalised and able to meet the procurement requirements of the mine. The proximity of the Project to Ogies and Phola allow for businesses and service providers in these settlements to gain some benefit from the increased operations in the region. Revenue accruing to local enterprises, as a result of mine-related procurement and expenditure, will produce sustained beneficial downstream impacts on the local economy. Impacts in this category are referred to as induced economic impacts.

In addition to services required by the mine, the likely influx of workers and job seekers to the area, especially during the construction phase will create increased demand for consumable items such as food, entertainment, clothing and accommodation. This will create further opportunity for local service providers and entrepreneurs to benefit. For example, local residents with extra rooms or houses can renting these out, thereby increasing their income production. Guest house owners may build additional rooms to accommodate short- to medium term workers and/or service providers. Taxi operators may expand their fleet and transport routes. Local restaurants will be in greater demand due to the increase in the number of people.

Thus, while many of the social consequences of population influx (discussed under Section 6.4) are negative, there are positive effects to the local economy.

Thirdly, the salaries earned from the mine or its contractors will strengthen the spending power of the local population (those employed on the mine). Given that a significant proportion of moneys derived from wages earned would likely be spent in the vicinity of the Project, it is anticipated to create considerable flows of revenue within surrounding communities, thus acting as a catalyst for growth in the formal and informal economy.

At the time of writing, there was insufficient Project information available to assess the extent of the multiplier effect on the local economy, either in terms of total value of business sales leveraged by the Project's capital investment, or through indirect and induced employment creation. It is, nevertheless, expected that the Project's multiplier effect will have an influence on the local economy. While most of these economic benefits will accrue to the construction and manufacturing sectors, other sectors will also benefit from the multiplier effect.

Additionally, through the mine's SLP and associated Local Economic Development (LED) Plan, the Project will provide benefits to the local economy by stimulating the growth of small businesses and contributing towards skills development.

6.2.1.3.2 Recommended enhancement measures

The measures recommended above to maximise local employment will also serve to maximise the positive impacts of the Project on the local economy. In addition, the following measures are recommended to maximise this positive impact. To improve the likelihood of improved economic effects, these measures should be included in the mine SLP:

- The establishment and upgrading of services and infrastructure, where feasible. The Project will need to liaise with the Directorate: Development Planning of the ELM, (which is responsible for integrated development planning, land use management, local economic development, tourism development, as well as coordinating SMME development);
- Supporting housing development through promoting house ownership for employees;
- Creating improved economic opportunities through entrepreneurship development and the development of skills supporting employment and economic development. This process can form part of the existing development plans and programmes that may be active through the Klipspruit Colliery;
- Implementing selected poverty eradication, infrastructure development and welfare creation Projects that meet the criteria of the company, and other legislation. These measures could include providing financial support such as bursaries to persons attending higher education institutions;
- Empowering local Black businesses, and undertaking and/or supporting development initiatives in the mine's labour sending areas and affected communities, where these are feasible/appropriate;
- Developing a register of local SMMEs (should it not exist), recording the types of goods and services they provide, and working with the ELM to develop SMMEs through the relevant ELM forums and working committees;
- Establishing linkages with institutions involved in skills development and SMME development, such as community-based development projects and non-governmental organisations (NGOs) active in the local study area;
- Creating synergies with other mining companies' LED and corporate social investment (CSI) Projects;
- Addressing the priority needs of employee households (basic services, housing, road infrastructure; etc.) through:
  - Implementing infrastructure development Projects; and
  - Increasing the access of employee households to development credit and assets (e.g. housing).
- Complying with legislation through implementing portable skills programmes that will contribute to the empowerment of employee households and community members

(particularly the unemployed, women and the youth) so as to encourage sustainable development;

- Continually assessing the projected IDP and LED initiatives of the municipality to ensure that the mine SLP commitments remain relevant in terms of the above initiatives;
- Evaluating the operational strategy for CSI (to determine where possible improvements can be made) and communicate that to communities. This will also help to manage community expectations with regard to the role of the mine in providing municipal infrastructure and community services; and

It is expected that BECSA, through its corporate investment initiatives, will invest in local development programmes and provide sponsorship for community initiatives. While these Projects are often awarded based on the holding company's approved CSR policy/principles, it is recommended that the Project participate in activities that will contribute to addressing underlying development issues such education and health (including HIV/AIDS). It is further suggested that these initiatives should make special provision for including vulnerable groups in these Projects These kinds of investments will afford communities the opportunity to improve their living conditions and their environment. Host communities, however, must be well organised to receive such benefits and explore avenues of acquiring resources.

6.2.1.3.3 Impact rating

IMPACT DESCRIPTION: Multiplier effect on local economy				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Project Life (5)	Will continue through the life of the mine	Consequence: Moderately beneficial (12)	Significance: Minor - positive (60)
Extent	Municipal Area (4)	Will include micro- and macro-economic impacts in surrounding settlements/towns		
Intensity x type of impact	Moderate - positive (3)	Will derive from increased cash flow from wages, small business development, local procurement, LED initiatives and fiscal impacts		
Probability	Likely (5)	Will depend on proportion of local spending by employees and availability local enterprises to supply goods/services		
MITIGATION:				
As for maximising employment benefits. Also: - Development of a register of local SMMEs - Linkages with skills development/ SMME development institutions - SMME skills development as part of mine SLP/LED commitments - Explore opportunities for collaboration with other mining/electricity enterprises on LED/CSR projects				
POST-MITIGATION				
Duration	Project Life (5)	As for pre-mitigation	Consequence: Moderately beneficial (13)	Significance: Moderate - positive (78)
Extent	Municipal Area (4)	As for pre-mitigation		
Intensity x type of impact	Moderately high - positive (4)	Mitigation will enhance the ability of local enterprises & entrepreneurs to benefit from the project		
Probability	Highly probable (6)	Increased local employment, skills/business development and local procurement will enhance likelihood of benefits to local economy.		

6.2.2 Negative Impacts

6.2.2.1 Loss of farm labour to the mine

6.2.2.1.1 Impact description

Employment levels are low in the Project area, with most employment opportunities associated with mining, industry and agriculture. Many agriculturally-based jobs tend to be seasonal, with many positions being low-income earning positions. With the expansion of the mining developments in the area, including that of the KPSX: Weltevreden Project, it is likely that some farmworkers (particularly those with transferable skills) will leave their farming jobs in the hope of securing more lucrative positions at the mine. During interviews with land

owners and farmers in the region, there was some concern over the potential loss of employees to the Project.

The significance of this impact is, however, expected to be low, for a number of reasons. Frist, due to the fact that the Project will create a limited number of new employment opportunities, the attraction for farm workers to leave their current employment will be smaller than in an cases where new mining operations are developed. Second, due to the high unemployment levels in the area, there would be many people willing to take up jobs on the farms.

The significance of this impact is, however, not completely negligible; where losses of farm labour does occur, farm owners would still be required to recruit new workers and provide appropriate training and/or increase wages to maintain existing employees.

6.2.2.1.2 Recommended mitigation measures

People have a Constitutional right to take up work where they please and it is hence neither possible, nor desirable, to attempt to prohibit farm workers from seeking more lucrative work elsewhere. Nevertheless, it is accepted that a measured approach to employment of labour could mitigate this impact. Hence, the following measures are recommended:

- No recruitment of labour should take place on farms. As was mentioned above, it is recommended that recruitment be coordinated through the structures recommended by the ELM;
- Provide opportunities for affected farmers to discuss concerns/complaints with the mine (e.g. liaison office, grievance mechanism);
- Contractors must adhere to the national and international labour laws and human rights standards which prohibit employment of under-aged children (those younger than 18 years, or younger than 16 years for certain employment categories), and/or employment practices that will interfere with the education of under-aged persons; and
- Any persons applying for jobs with any of the Project's construction contractors are to be informed that such jobs are temporary and do not offer security of employment. The contractors must demonstrate proof of disseminating this and other relevant employment information to applicants.

While the above mitigation measures may not prevent the impact, it could contribute towards building constructive relationships with the affected farmers and local communities.

6.2.2.1.3 Impact rating

IMPACT DESCRIPTION: Loss of farm/other labour to the mine				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Medium term (3)	Is expected to peak during ramp-up, when new workers are recruited	Consequence: Slightly detrimental (-9)	Significance: Minor - negative (-36)
Extent	Local (3)	Will impact on surrounding landowners		
Intensity x type of impact	Moderate - negative (-3)	Will create temporary inconvenience for current employers. However, the local labour pool unlikely to be depleted		
Probability	Probable (4)	Already a problem due to existing exploration/mining operations		
MITIGATION: - Avoid recruitment on farms - Adhere to labour legislation - Provide accurate information on type/duration of job opportunities				
POST-MITIGATION				
Duration	Medium term (3)	As for pre-mitigation - people are constitutionally entitled to take up work where they please	Consequence: Slightly detrimental (-8)	Significance: Negligible - negative (-24)
Extent	Local (3)	As above		
Intensity x type of impact	Low - negative (-2)	Will reduce the effect of the loss of employees to surounding farmers		
Probability	Unlikely (3)	Mitigation will reduce the likelihood of people leaving current jobs for perceived opportunities in mining		

6.2.2.2 Dependency on mine for sustaining local economy

6.2.2.2.1 Impact description

Dependency of the local economy on mining is the result of two interdependent factors:

- The “pull” factor (in that the significant economic opportunities in mining reduces the incentive to develop other sectors of the economy, thus leaving it vulnerable to severe negative effects in the event of eventual mine closure); and
- The “push” factor (in that the loss of arable land to mining inevitably has a negative effect on the local agricultural economy; a shrinking agricultural sector by default increases the *relative* economic contribution of the largest competing sectors – namely, mining and power generation).

These two complementary processes are discussed in turn below.

In terms of the “pull” factor, mining and mining-related activities are generally high income-producing practices, and the local economy (particularly in Mpumalanga) benefits

substantially from the revenue, employment, economic investment and local development created by this sector. The negative aspect of these benefits resides in the fact that mining is not a permanent activity.

When coal reserves are depleted and mines undergo decommissioning and closure, there will be a loss of employment together with various downstream effects (closing down of businesses, and a decrease in local investment and spending), resulting in an overall decline of the local economy. Mine closure could therefore have significant negative consequences for areas/local economies that have not invested in economic diversification.

This impact will be felt most intensely by mine employees and their dependents. Many of those employed on the mine are likely to have specific skills (related primarily to mining) and may be less employable than their multi-skilled counterparts. It will be more difficult for them to secure jobs (outside of the mining industry) once they have been retrenched. If they have accumulated sufficient work experience and have benefitted from training and mentorship, they may be more employable and more likely to obtain similar work elsewhere, possibly at another mine. If however they are unable to secure alternative employment, the loss of work will mean the loss of a stable income source for their families.

Retrenched staff who are unable to secure alternative employment may be unable to maintain their lifestyle and see their level of indebtedness increasing. Inability to find alternative employment could also lead to an increase in social pathologies such as alcohol or drug abuse and crime.

It is emphasised that the mine's LED initiatives could increase, rather than reduce dependency of the local economy unless they are planned and managed in such a way to ensure their sustainability beyond the life of the mine. This means that the Project's LED and CSR initiatives contribute to diversification of the local economy as well as creating an enabling environment that will foster sustainable community-based development.

It should be noted that this impact cannot be fully discussed in relation to the KPSX: Weltevreden Project as a stand-alone Project, as dependency on mining is a cumulative impact arising from the combined effect of the large number of mines in the region. This cumulative effect is revisited in Section 6.5 below.

In terms of the "push" factor (increased dependency on mining due to the loss of active commercial agricultural operations and surrounding arable land), there is a long history of tension and conflict between the agricultural and coal mining industry in Mpumalanga. Mpumalanga produces a significant percentage of the country's maize, whilst also producing the highest percentage of coal. Both activities are essential to the local (and national) economies.

A Project-induced loss of farmland will add to the impact of other mining projects in the area, reducing the ability of the local agricultural sector to sustain food security for a growing local, provincial and national population. This cumulative impact is revisited in Section 6.5 below.

6.2.2.2.2 Recommended mitigation measures

An important approach to mitigating economic dependency on the mining and energy sector is to develop alternative and sustainable livelihoods so that, by the time coal resources are depleted, local communities and businesses are able to support themselves through other economic sectors.

The proposed Project, together with other mines and energy producers, should work through the ELM and relevant provincial and national government agencies to support the diversification of the local economy.

The MPRDA requires that the mine's SLP provide strategies and measures that could prevent job loss in the event of circumstances threatening guaranteed employment. These include the establishment of Future Forums to manage downscaling and retrenchments. In the event of retrenchments becoming necessary as a result of downscaling or closure, options to minimise this downscaling should be investigated beforehand. This could include developing and implementing turnaround strategies to avoid retrenchments where possible, incorporate a scaled retrenchment strategy (as opposed to retrenching entire groups of employees at once), as well as investigate transitional employment opportunities in conjunction with local labour unions. The Project will therefore develop and implement strategies to introduce measures that could prevent job loss in the event of circumstances threatening permanent employment. Assistance should be provided to affected employees in finding alternative employment or livelihood opportunities. The focus of this approach is important where workers are not able to be integrated or redeployed to other mining operations, or where they are not of a retirement age.

In accordance with legislative requirements a Mine Closure Plan (which will include socio-economic measures), will be developed at the start of mining operations and will include a SIA and stakeholder consultation process. The Mine Closure Plan will be reviewed every five years starting 15 years before expected mine closure. The Mine Closure Plan should include the following:

- Predicting the likely socio-economic impact of closure on employee households, local communities and the region;
- Identifying critical issues which could affect the on-going sustainability of employees and communities during closure, by means of a detailed consultation process;
- Implementing the recommendations of the abovementioned assessments;
- Identification of alternative livelihood and socio-economic development opportunities for employees, as well community-based development Projects which may become sustainable over the long term; and
- Providing financial and/or technical support for the establishment of sustainable community Projects.

In addition, the mine should make every effort to proactively assess and mitigate/manage the social and economic impacts on individuals, other economic contributors, regions and economies where retrenchment and/or closure of the mine are certain.

The continuation of agriculture in the region is paramount for both local and national growth and maintenance. Concerted efforts should be made to ensure that the region is able to sustain the energy requirements of the country (through mining) as well as the food production (though commercial agriculture).

As is required by law, the mine will in partnership with the relevant government departments, jointly manage any process of this nature. The integration of the workforce into various LED Projects, if required, will be done in collaboration with the district and local municipalities, and other stakeholders serving on the LED Forum. Where workers cannot be absorbed into LED initiatives, they should be furnished with skills training opportunities, enabling them to find alternative employment after decommissioning or retrenchment. Other initiatives could focus on assessment and counselling services for affected individuals.

6.2.2.2.3 Impact rating

<table>
<tr><th colspan="5">IMPACT DESCRIPTION: Dependency on mine for sustaining local economy</th></tr>
<tr><td>Predicted for project phase:</td><td>Pre-construction</td><td>Construction</td><td>Operation</td><td>Decommissioning</td></tr>
<tr><th>Dimension</th><th>Rating</th><th colspan="3">Motivation</th></tr>
<tr><td colspan="5">PRE-MITIGATION</td></tr>
<tr><td>Duration</td><td>Beyond project life (6)</td><td>Effects of job losses will be long-lasting</td><td rowspan="3">Consequence: Highly detrimental (-16)</td><td rowspan="4">Significance: Moderate - negative (-96)</td></tr>
<tr><td>Extent</td><td>Municipal Area (4)</td><td>Will mainly affect surrounding communities</td></tr>
<tr><td>Intensity x type of impact</td><td>Very high - negative (-6)</td><td>Municipal economy already heavily dependent on mining & power generation. Economic dependency on mining is exacerbated by shrinkage in the local agricultural economy due to loss of arable land to mining</td></tr>
<tr><td>Probability</td><td>Highly probable (6)</td><td colspan="2">Mining is not a permanent activity</td></tr>
<tr><td colspan="5">MITIGATION:
- Effect retrenchments according to procedures stipulated in approved SLP
- Support economic diversification through development of alternative markets
- Proactively and effectively implement mine closure plan
- Collaborate with adjacent mining companies to develop and implement sustainable community projects</td></tr>
<tr><td colspan="5">POST-MITIGATION</td></tr>
<tr><td>Duration</td><td>Beyond project life (6)</td><td>As for pre-mitigation</td><td rowspan="3">Consequence: Highly detrimental (-15)</td><td rowspan="3">Significance: Moderate - negative (-75)</td></tr>
<tr><td>Extent</td><td>Municipal Area (4)</td><td>As for pre-mitigation</td></tr>
<tr><td>Intensity x type of impact</td><td>High - negative (-5)</td><td>Mitigation will reduce the impact of retrenchment and dependency on mine</td></tr>
<tr><td>Probability</td><td>Likely (5)</td><td colspan="2">Mitigation will help to reduce dependency of local economy of mining</td></tr>
</table>

6.3 Effects from Impacts to the Physical Environment

The mine expansion in the KPSX: Weltevreden Project will have numerous effects on the physical environment that will give rise to associated specific social impacts. Impacts identified under this category include:

- A positive effect, involving improved availability of/access to services for local population; and
- Negative effects, including:
  - Physical intrusion impacts (involving disruptions to daily movement patterns and increased risk to community health and safety); and
  - Land acquisition and displacement.

6.3.1 Positive Impacts

6.3.1.1 Improved access to services and increased local development

6.3.1.1.1 Impact description

Mining and development projects often require the improvement of surrounding services and infrastructure to accommodate their operations and workforce. As an example, during construction of the Project, surrounding roads will likely need to be upgraded to provide access to the Project site for construction vehicles and machinery. If this occurs it could have positive spin-offs for neighbouring farms and communities who make use of these roads, as an improvement of these roads will lead to reduced travelling time and better access to services such as schools, shops and other amenities.

In terms of local development, each mining operation is required to have an approved SLP, detailing efforts to benefit local communities through local economic development (LED) projects. Through a consultation process with local authorities and communities, the mine should develop an LED programme aimed at maximising the socio-economic and developmental impact of the proposed Project on the surrounding communities, whilst contributing to the greater vision and mission of the ELM as identified in its IDP and SDF Framework.

This programme (should it be implemented accordingly), combined with the Human Resources Development Programme outlined in the SLP, will have significant positive impacts on surrounding communities, including:

- The establishment and upgrading of services and infrastructure;
- Creating improved economic opportunities through entrepreneurship development (discussed under Section 6.2); and
- The development of skills supporting employment and economic development (Discussed under Section 6.2).

It is recognised that, unless LED projects are designed to be sustainable beyond the life of the mine, they can also have negative long-term impacts by increasing economic dependency on the mine. The mine will continually (annually) assess the current/projected IDP and LED projects/initiatives within the SLP as required by the MPRDA. At the end of each 5-year period, the LED Plan will be reviewed and new plans compiled.

6.3.1.1.2 Recommended enhancement measures

The extent and degree to which local services are improved is largely dependent on the technical requirements of the Project, and to a certain extent on the mine's SLP and LED commitments. It is recommended that the Project client consult other/similar business enterprises in the broader Project area to determine opportunities for collaboration on infrastructure Projects.

It is further recommended that:

- Road delineations be finalised in consultation with local community and landowner representatives in the Project area so that their daily movement patterns are not disrupted;
- The Project collaborates with other mines/developers for the possible upgrading of public amenities (and access to these amenities), that will likely also be used by the employees of these developments; and
- In order to maximise the positive impact of existing infrastructure projects being undertaken by BESCA, it is recommended that the local municipality be consulted in terms of infrastructure needs that could be addressed once the Project reaches the required profit margins.

6.3.1.1.3 Impact rating

IMPACT DESCRIPTION: Improved access to services and increased local development				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Project Life (5)	Upgraded infrastructure will be maintained for the life of the mine	Consequence: Moderately beneficial (11)	Significance: Negligible - positive (33)
Extent	Local (3)	Will benefit neighbouring communities		
Intensity x type of impact	Moderate - positive (3)	Will improve quality of/ access to services/ facilities		
Probability	Unlikely (3)	Depends on whether upgraded infrastructure/ services are sufficiently maintained, and whether these are accessible for public use		
MITIGATION: - Integration with mine and local government plans - Collaboration with other mining companies in terms of infrastructure upgrades - Implement commitments in SLP regarding infrastructure-related LED projects				
POST-MITIGATION				
Duration	Project Life (5)	As for pre-mitigation	Consequence: Moderately beneficial (12)	Significance: Minor - positive (48)
Extent	Local (3)	As for pre-mitigation		
Intensity x type of impact	Moderately high - positive (4)	Mitigation will enhance benefits of infrastructure upgrades for local population		
Probability	Probable (4)	Mitigation will improve the likelihood of these benefits materialising		

6.3.2 Negative Impacts

6.3.2.1 Physical Intrusion impacts

6.3.2.1.1 Impact description

Impact related to physical intrusion can be distinguished into different areas. These impacts are often as a result of the physical activities associated with the construction and operation of the Project.

Disruption in movement patterns

Pre-construction and construction activities will likely disrupt normal vehicle and pedestrian traffic and restrict the movement of people reliant on surrounding roads that are likely to be used during construction (and later during operation).

While farm access roads are also likely to be impacted, this impact may be particularly pronounced on the public road network. The proposed relocation of the dragline from the current Klipspruit mine to the Weltevreden Project area will require several roads to be

blocked and diverted in order to make way for the movement. Although this will be a temporary disturbance, it may have the potential to influence the movement of the general public, as well as surrounding mining and agricultural operations reliant on the use of the surrounding roads.

This disruption in movement patterns may continue throughout the operational phases of the Project, thus it is important to consider that this impact could also affect long distance travellers and tourists visiting the area. However, once the mines construction phase is complete the only disturbance will be related to the operation and movement of mine machinery and trucks.\

Increased risk to community health and safety

The KPSX: Weltevreden Project will be required to adhere to BECSA's safety and health management standards. The scope of these standards covers all operational activities that have the potential to affect the safety and health of employees and contractors.

An assessment of socially-related safety and health impacts (e.g. noise and air quality impacts) is provided in separate specialist studies, with the findings utilised in the compilation of this SIA. It is important that these impacts are mentioned in the context of this social impact study, as increased risks of these occurring could pose safety issues to surrounding communities, as well as generating increased opposition to the Project.

The increased traffic volumes associated with the Project could pose increased safety risks to surrounding communities. Insofar as traffic impacts affect the lives and well-being of people, it thus also qualifies as a social impact.

Construction and operational activities are likely to result in an increase in traffic volumes on certain roads in the vicinity. This could lead to (further) damage to existing roads. If unmonitored, excessive speeding of employees and contractors may occur within residential areas. This will further impact on the safety of residents in surrounding communities. In particular, traffic could pose a risk to the safety of people using and/or crossing primary roads to be used during construction and operation of the Project.

Other safety and health-related risks associated with the proposed Project include the following:

- *Air quality and dust:* The mining activities will increase the amount of dust and coal dust in the environment which could negatively affect respiratory health to those who inhale this dust. Due to the extensive livestock grazing in the area, livestock may consume vegetation contaminated with coal dust increasing the risk of animal health;
- *Surface water quality:* Leakage of contaminants (i.e. hydrocarbons) associated with mining facilities. This was identified in the surface water report as being an impact, with potential risk to community health, particularly if communities make use of surrounding streams. Existing impacts from surrounding mining may be worsened through the development of the KPSX: Weltevreden Project;

- *Noise impacts:* Those living in the vicinity of the Project may be affected by noise levels associated with traffic and the mining activities;
- *Unauthorised access:* If members of surrounding communities gain unauthorised access to the Project site, they could be at risk of injury;
- *Hazardous material:* If hazardous material is stored on site there is a risk of this being stolen and could be exposed to the greater community. Similarly, should slurry pipelines be damaged and rupture, this could result in localised impacts to adjacent residents; and
- *Damage to infrastructure:* The increased risk of vandalism to the pipelines may result in the damage to these pipelines. This may pose a health and safety risk to community members and construction workers by exposing them to hazardous slurry, should these pipelines leak or rupture.

6.3.2.1.2 Recommended mitigation measures

The following measures are recommended to mitigate potential impacts described above:

Disruption in movement patterns

- Optimise the mine plan to minimise disruption of movement patterns. Ensure that diversions and major disturbances to national and provincial roads occurs during low peak times;
- Road upgrading measures should be investigated and implemented in conjunction with the relevant government department; and
- The mine CLO should ensure that local residents are kept informed on an on-going basis of construction progress and when access will be blocked in certain areas. The establishment of a community forum could be considered to serve as a dedicated communication channel with the local population. It is also recommended that the CLO assist in circulating a printed timetable of the construction schedule.

Increased risk to community health and safety

Air quality, dust and noise: the measures presented by the relevant specialist studies should be implemented in order to avoid the creation of induced social impacts.

- *Traffic:*
  - Safe travelling speeds must be determined for access routes close to populated areas, and measures implemented to ensure that these restrictions are enforced. Such measures may include monitoring vehicle speeds, erecting speed limit signs and installing speed humps;
  - Roads must be adequately maintained to prevent deterioration of roads surfaces due to heavy vehicle traffic. When damage to roads is noticed this should be fixed as soon as possible to prevent further damage; and

- The mine's Health and Safety Management Plan should include exact measures to manage/promote road safety and traffic control, taking into account the cumulative effects of traffic generated by multiple development Projects.

- *Unauthorised access:* Unauthorised access to the mine site should be prevented through appropriate fencing and security.
- *Veld fires:* It is recommended that the making of fires by construction workers is restricted to areas where tight control can be exerted, or that the making of fires be prohibited.
- Community education:
  - It is recommended that a community awareness campaign be implemented in the surrounding communities to sensitise community members to traffic safety risks and the need to prevent children and animals from wandering into the mine site;
  - Increase awareness of the mine's complaints and grievance procedures;
  - Activities undertaken as part of awareness campaigns and mine communication programme should be recorded and reflected in a formal progress report compiled on a quarterly basis;
  - Mechanisms must be established to ensure that problems are dealt with promptly. In this regard, it is proposed that a community liaison officer be the primary resource; and
  - Regular feedback sessions should be arranged with community forums to assess the impact of this programme in terms of knowledge, attitudes and behaviour.

In accordance with best practice requirements, the Project should ensure that a formal grievance mechanism is established (or continue to maintain the existing mechanism) to address community concerns and build/improve community relations. It is recommended that this grievance mechanism also record and address traffic and safety related concerns/claims.

6.3.2.1.3 Impact rating

IMPACT DESCRIPTION: Physical intrusion impacts				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Project Life (5)	Will continue throughout operational phase	Consequence: Moderately detrimental (-13)	Significance: Moderate - negative (-78)
Extent	Local (3)	Will affect nearby communities		
Intensity x type of impact	High - negative (-5)	Could place the lives of community members at risk, or negatively impact their quality of life. Limited alternative route options available. Other mining activities already causing increased traffic		
Probability	Highly probable (6)	Very likely without appropriate mitigation		
MITIGATION:				
- Traffic control and signage to prevent speeding - Appropriate training for drivers/operators - Implementing continuous maintenance programme. - Possibly form a joint fund with other companies/local government to pay for road maintenance. - Fencing of mine site - Prevention of fires - Community awareness raising/education - Establishment of Project Grievance Mechanism - Optimise mine plan to limit disruption of movement patterns - Inform communities of planned construction activities that would affect vehicle/pedestrian traffic				
POST-MITIGATION				
Duration	Project Life (5)	As for pre-mitigation	Consequence: Moderately detrimental (-11)	Significance: Minor - negative (-66)
Extent	Limited (2)	As for pre-mitigation		
Intensity x type of impact	Moderately high - negative (-4)	Mitigation will reduce severity of these impacts to some extent		
Probability	Highly probable (6)	Mitigation will reduce risk of incidents & impacts		

6.3.2.2 Land Acquisition and Displacement

6.3.2.2.1 Impact description

This section deals with the acquisition and clearing of land to make way for mining activities and surface infrastructure. From a social perspective, the most pertinent consequence of land acquisition and clearing will be the displacement of farming activities and occupants.

Several farm houses, dwellings and farmworker homesteads were identified within the Project boundary. The Project area is utilised primarily as commercial agricultural and grazing land. There are several landowners and tenants who stand to be affected by the Project though the potential acquisition of the land.

Development of the KPSX: Weltevreden Project will require the acquisition of 7 353.9 ha of land. The acquisition process will likely take the form of a formal purchase arrangement between landowner and BECSA. The progression of the Project will be subject to successful negotiations with the affected landowners in terms of the purchase of the surface rights, as well as the relocation of any other people resident on the land (i.e. tenants or informal settlers). It is anticipated that directly affected property owners will be compensated at market-related prices if these farms are purchased by the mine. Fair compensation does not however mean that current landowners and occupants will not experience any impact when the farms are acquired by the mine.

The Project area comprises what is deemed to be high potential and high crop yield agricultural land. The acquisition of the land to make way for mining will result in the loss of the agricultural land (discussed under Section 6.2.2.2).

As a related component of the acquisition of the land and the subsequent transformation from agricultural land use to that of mining, it is possible that the proposed Project could have a negative effect on surrounding property values. This is as a result of negative perceptions associated with the proposed Project (and mining in general) and the likely influx associated with mining. This impact will, however, have a greater cumulative impact when taking into consideration with surrounding mining operations.

The displacement associated with the Project is largely a pre-construction-related impact, as the land will need to be acquired in order for construction activities to take place. In addition to the impacts associated with Project-induced displacement, there are impacts that arise long before construction takes place (during the Project's announcement phase). These pre-application impacts relate to a disruption in the normal operations of business and agricultural operations occurring on land required by the Project. The early intensions made by BECSA to expand the Klipspruit operations into the Weltevreden Project have placed uncertainty on the future of business within the Project area. The long waiting periods associated with the application of the mining (and associated) permits, combined with the often long waiting period in receiving a record of decision (RoD) on these applications, results in businesses not being able to sufficiently plan their futures. This pertains to the business unwilling to invest significant capital expenditure, only to sell the land shortly thereafter. This economic planning is disrupted by the applications associated with the proposed Project.

6.3.2.2.2 Recommended mitigation measures

Measures to control the impacts associated with displacement (voluntary or involuntary) are an essential factor in ensuring that the affected landowners and occupiers are not left worse-off as a result of the Project. The following measures are recommended:

- Optimise Project design to avoid/limit displacement where feasible;
- Ensure adequate compensation and negotiations with affected landowners. Agreements should aim to be mutually beneficial and allow sufficient time for the landowners to make alternative arrangements should the purchase be finalised;

- Meet with landowners to discuss the displacement of farmworkers, and the legislative requirements as outlined in ESTA;
- Hold discussion with farm workers (those resident within the Project area) to determine the best approach in the relocation;
- Liaise with the ELM on future of farmworkers and possible integration into housing projects;
- Consider including evicted farmworkers and legal tenants in local skills development/training under SLP;
- Where occupant farmworkers and legal tenants are to be resettled, this should include the development of a Resettlement Action Plan (RAP);
- Establish a community grievances forum (in conjunction with the project grievance mechanism), aimed at managing resettlement-related grievances, such as the loss of, or disturbance to, land and income producing assets; and
- Cases where unplanned displacement occurs (not identified during EIA process) should be considered on a case-by-case basis and follow the same set of resettlement principles agreed upon during earlier resettlement. Within these principles, the proponent should negotiate a favourable solution with each affected household/person.

Mitigating the disruption of local business is not a straightforward approach and will likely be a private agreement with the landowner and BECSA; however, the following is suggested in addressing this impact:

- Assess the business plans of the business operators who stand to be directly affected by the Project. these plans should take into account a reasonable timeframe associated with the expectant granting of the mining permits;
- Where significant loss of potential revenue is likely (with appropriate evidence in place), options should be considered in terms of compensation. This can take the form of compensating for the cost of any capital expenditure (in the form of infrastructure) at the time of the purchase of the land. Appropriate valuations of the infrastructure should be carried out and included in the purchase agreed purchase price of the land; and
- Where the continuation and growth of the business is essential to the sustained operation of said business during the waiting period before a mining permit is granted, these should be allowed to continue. Allowing businesses to continue with normal operations will ensure that no blame is placed on BECSA for the decline in revenue, should it occur.

6.3.2.2.3 Impact rating

IMPACT DESCRIPTION: Land acquistion and displacement				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Permanent (7)	Displacement from project area will be permanent	Consequence: Highly detrimental (-16)	Significance: Major - negative (-112)
Extent	Limited (2)	Will impact on directly-affected landowners and occupants		
Intensity x type of impact	Extremely high - negative (-7)	Loss of a material/ physical, social and emotional investment, lifestyle and social networks		
Probability	Certain (7)	Some displacement of people will be unavoidable		
MITIGATION: - Optimise project design to avoid/limit displacement - Adequate compensation to displaced farmers - Meet with land owners to discuss the displacement of farmers and workers, and the legislative requirements as outlined in ESTA. - Consider including resettled farm workers in local skills development/training under SLP				
POST-MITIGATION				
Duration	Permanent (7)	As for pre-mitigation	Consequence: Highly detrimental (-16)	Significance: Moderate - negative (-96)
Extent	Limited (2)	As for pre-mitigation		
Intensity x type of impact	Extremely high - negative (-7)	Mitigation may reduce severity of impact		
Probability	Highly probable (6)	Mitigation will reduce the probability of displacement resulting in negative socio-economic impacts		

6.4 Effects of Population Influx

As news regarding the proposed Project spreads or when mining-related activities increase, expectations regarding possible employment opportunities at the mine (and power plant) will increase. Consequently, the area surrounding the site and neighbouring settlements will experience an influx of job seekers and opportunists. The magnitude of this impact will, amongst others, be influenced by the severity of poverty and unemployment in surrounding areas, coupled with the history of observable influx that has occurred over the last number of years.

Poverty and unemployment are major challenges for communities such as Phola. The regional social profile indicates that poverty and unemployment are widespread throughout the primary and secondary zones of influence. It can be expected that many job seekers (and sometimes whole families), as well as entrepreneurs and opportunists, will move to the broader Project area. This impact may commence prior to construction, and is likely to continue after construction has been completed.

In the event that a portion of the workforce is recruited from outside the local area, their presence will constitute an additional influx of people. This impact will likely be limited to the

construction phase as the Project will not provide permanent housing on site. However, unsuccessful job seekers from outside the Project area may decide to settle in the Project area.

The influx of construction workers, job-seekers and others is expected to have a range of social consequences.

The following impacts have been identified and are described below:

- Negative Impacts:
  - Community resistance – conflict and competition;
  - Increased social pathologies; and
  - Increased pressure on local services/resources.

6.4.1 Negative Impacts

6.4.1.1 Community resistance – Conflict and competition

6.4.1.1.1 Impact description

Resistance from communities against mining projects is an increasingly challenging aspect facing mining companies in South Africa. Community perceptions and unmet expectations are at the centre of this resistance and conflict. These expectations relate largely to the receipt of project benefits through direct employment on the mine, or through indirect economic benefit and development. This impact highlights the potential resistance and conflict that can arise as the result of the Project.

The issue of host communities sharing in project benefits, including local employment creation, was emphasised by community respondents, as well as municipal managers and ward councillors during the public participation meetings and key informant discussions. As was mentioned, it is anticipated that due to the limited scale of construction; the number of additional employment opportunities for the Project is expected to be limited. Where employment opportunities are available (or become available throughout the operation) they will be sourced from different labour sending areas. Where local employment is not prioritised (or believed to not be prioritised) this can lead to anger and resentment towards the project. Similarly, conflict could arise between newcomers and locals, especially when newcomers are believed to see project benefits over local populations.

As a related source of conflict, it was noted during key informant interviews that local communities from labour sending areas have developed high expectations in terms of receiving employment on the current Klipspruit Colliery. According to the local informants, community members received full training on the mine but were not employed. Additionally, the lack of performance of the SLP requirements may further lead to anger and frustration amongst the community. These and other sources of community expectations can result in further grievances leading to (often violent) conflict. It is understood that these acts provided

by the mine are in good faith and with the aim of empowering local communities, however, it is important to note the potential challenges that this brings where commitments are not met.

Apart from conflict relating to Project benefits, the influx of newcomers to the area may also lead to tensions due perception amongst locals that the newcomers are taking up other employment positions and business operations that could have gone to members of the local community. Furthermore if newcomers instigate sexual relationships with the partners of the local population, this would certainly exacerbate the problem.

Political and community demands for sharing in project benefits by local communities are particularly blatant within the mining sector. Similarly, local municipalities often claim that the affected municipality is disproportionally benefiting, or not benefitting at all, from mining in comparison to district municipalities and provinces at large. It is not unrealistic to expect that these demands will appeal to sections of affected local communities, which could become the battlefields for community- and labour unrest, political electioneering and community upheaval.

6.4.1.1.2 Recommended mitigation measures

In order to mitigate this impact, the following measures are recommended:

- The mine's recruitment policy must be fair and transparent;
- Ensure that the intention of giving preferential employment to locals is clearly communicated, so as to discourage an influx of job-seekers from other areas;
- Involve local community structures (e.g. ward councillors and/or ward committees and local leadership structures) to assist in communicating the intention of the mine to give preference to local labour, and also to assist in identifying the local labour pool;
- Maintain regular and open communication with the community, ensuring that any expectations are voiced, so as to manage these appropriately and realistically;
- Ensure that labour- and living conditions at the mine is in line with industry standards and responsive to reasonable labour demands;
- Establish a refreshed/renewed grievance mechanism that is accessible to aggrieved members of the surrounding communities. The existing Klipspruit community grievance redress procedures must be used and expanded where appropriate;
- Mine security should be empowered in terms of resources and facilities to effectively manage security issues relating to incidents of community unrest at/near the mine site);
- Develop standby procedures with the local police service to assist with crowd control;
- Ensure that skills development and training for potential employees includes aspects that will empower beneficiaries to gain employment in other sectors (i.e. manufacturing or as an artisan); and

- Comply with the international 'Voluntary Principles on Security and Human Rights', for extractive industry, which emphasises the need for, and value of, effective risks assessment to address human rights issues, and establish appropriate relations with public and private security structures.

6.4.1.1.3 Impact rating

IMPACT DESCRIPTION: Conflict and competition				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Medium term (3)	Most pronounced during construction, but may continue into operational phase	Consequence: Moderately detrimental (-10)	Significance: Minor - negative (-50)
Extent	Local (3)	Will affect surrounding communities		
Intensity x type of impact	Moderately high - negative (-4)	High unemployment is likely to engender competition for jobs		
Probability	Likely (5)	Will depend on magnitude of population influx (incl. job-seekers and non-local employees)		
MITIGATION: - Maximise local employment - Clearly communicate preferential local employment policy to discourage influx - Collaborate with local law enforcement structures to help control instances of violence - Enforce code of conduct for contractors & employees in terms of interaction with local communities				
POST-MITIGATION				
Duration	Medium term (3)	As for pre-mitigation	Consequence: Moderately detrimental (-10)	Significance: Minor - negative (-40)
Extent	Local (3)	As for pre-mitigation		
Intensity x type of impact	Moderately high - negative (-4)	Mitigation will reduce severity of impact to some extent		
Probability	Probable (4)	Mitigation will reduce risk of conflict/ competition		

6.4.1.2 Increased social pathologies

6.4.1.2.1 Impact description

In addition to inducing community conflict and competition, Project-induced population influx may also cause an increase in social pathologies to an already strained community. Such pathologies may include increased substance abuse, prostitution, domestic violence, teenage pregnancies, crime (including violent crime) and the incidence of sexually transmitted diseases (STDs). Many of these pathologies are already present in these communities; however, uncontrolled population influx is likely to worsen the situation, which is a particular concern in settlements (including farmworker households) where community services and facilities are limited or under pressure.

According to community representatives, the Ogies SAPS and local landowners, there has been a dramatic increase in opportunistic job seekers migrating to the Phola area. This has

brought with it a subsequent increase in crime, HIV/AIDS and substance abuse. Even if particular instances of crime are not as a result of newcomers (including the mine workforce), they may still be attributed to them by local communities. It is, therefore, reasonable to expect that an increase in social pathologies will also impact on the social fabric/social cohesion of affected communities. This impact could be aggravated in situations where community leaders and structures no longer play a unifying or controlling role.

The regular influx of people into the area and the associated increase in social ills also place strain on the operational status of local business and agricultural operations. Due to the increase in crime, local business are having to increase their running costs through the replacement of stolen/damaged goods (on a more regular basis), increase their capital expenditure on safety and security measures as well as ensuring human resources are safe and secure.

6.4.1.2.2 Recommended mitigation measures

The following measures are recommended to address the aforementioned impacts related to population influx and related social ills:

- Measures to combat substance abuse and the spread of STDs:
  - Implement HIV/AIDS and alcohol abuse campaigns in the communities;
  - The mine owner and contractor should make HIV/AIDS and STD awareness and prevention programmes a condition of contract for suppliers and sub-contractors;
  - Align awareness campaigns with those of other organisations in the area (i.e. the Local Municipality, Department of Health, and Eskom). These campaigns should use common-practice methodologies to ensure social and cultural sensitivity;
  - The mine owner and/or contractors should provide an adequate supply of free condoms to workers;
  - A voluntary counselling and testing (VCT) programme must be introduced during construction and continued during operation;
  - It is recommended that contractors undertake a HIV/AIDS and STD prevalence survey amongst its workers on a regular basis. This will involve a voluntary test which is available to 100% of the workforce. The results of the survey will help to determine a HIV/AIDS and STD strategy;
  - When, and if, statistically representative, the results of the survey should be made available to both management and workers at the same time. Results should be presented in statistical terms so as to ensure confidentiality;
  - Access at the construction site(s) must be controlled to prevent sex workers and petty traders from visiting and/or loitering at, or near, the construction camp/mine site; and

- Financially support the appropriate government agencies, local clinics and NGOs involved in raising community awareness and education with regard to STDs and substance abuse.

- Measures to address crime in the Project site area:
  - The mine should strictly enforce rules and regulations for access to the mine site, and mine offices to control loitering and unauthorised access;
  - Formal liaison structures must be established with the local police to monitor local social dynamics during both construction and eventually operation;
  - Continued liaison should be maintained with existing crime control organisations, such as bona fide Community Policing Forums and Farm Watch organisations. The Ogies SAPS noted that there is good collaboration with security officials employed on the Klipspruit mine; and
  - Through the abovementioned forums, identify if recorded criminal activities (e.g. rape, housebreaking and stock theft) involved members of the mine's workforce, and act accordingly.

6.4.1.2.3 Impact rating

IMPACT DESCRIPTION: Increased social pathologies				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Beyond project life (6)	Would be most pronounced during construction but could continue into operational phase and beyond	Consequence: Highly detrimental (-17)	Significance: Moderate - negative (-102)
Extent	Municipal Area (4)	Will affect surrounding communities and even family members not present in the area		
Intensity x type of impact	Extremely high - negative (-7)	Could severely affect well-being of communities, especially as cumulative impact combining with existing effects of other mining operations in the area		
Probability	Highly probable (6)	Evidence from other projects indicates the likelihood of this impact		
MITIGATION:				
- Implement HIV/AIDS and substance abuse awareness and voluntary testing and provide contraceptives - Make HIV/AIDS/STD prevention programmes a condition of contract for suppliers/sub-contractors - Control access at site to prevent the presence of sex workers - Establish clear rules and regulations for access to the mine site - Work with local health service providers to provide services and health surveys also on substance abuse - Establish liaison structures with local police and local community policing forums				
POST-MITIGATION				
Duration	Beyond project life (6)	As for pre-mitigation	Consequence: Highly detrimental (-14)	Significance: Minor - negative (-70)
Extent	Local (3)	As for pre-mitigation		
Intensity x type of impact	High - negative (-5)	Mitigation measures will raise health awareness, limit contact with communities and may discourage criminals		
Probability	Likely (5)	Probability remains high as the mine cannot all aspects of contractor/ employee/ community behaviour		

6.4.1.3 Increased pressure on local services/resources

6.4.1.3.1 Impact description

An influx of job-seekers into the area, combined with the presence of an existing workforce, will place significant pressure on local infrastructure and services, such as housing, schools, police, clinics, sewage systems, electricity etc. This impact will be compounded by the fact that the municipality is already experiencing backlogs in the provision of services due to the growing population. As an example of this pressure, local community members noted the large number of illegal electrical connections by informal settlers, causing severe stain on the limited grid/system.

The shortage of public services and infrastructure described above includes a shortage of housing both in Ogies, Phola and other surrounding settlements. This issue deserves special

mention, as it underlies one of the most pressing social problems in the area, namely the establishment and growth of informal settlements (especially at Phola and surrounds). Unless properly managed, the influx of job-seekers and from elsewhere is expected to contribute to the continued growth of informal settlements, and possibly also the establishment of new ones, especially in areas with housing backlogs. This anticipated effect of the Project qualifies as a cumulative impact, since it will combine with the effects of surrounding mining operations.

It should be clear that it is not the responsibility of the Project proponent to control informal settlement or provide public services and facilities in these areas. However, the existence of informal settlements in close proximity to the mine may pose a risk to the Project in terms of political stability and community relations/support.

6.4.1.3.2 Recommended mitigation measures

In order to address this impact, it is recommended that:

- The proportion of job opportunities allocated to locals be maximised – thus reducing the need for outsiders. In this regard, emphasis should be placed on residents of the ELM, and preferably from the primary and secondary zones of influence. Employment requirements should be broadly publicised so that job-seekers do not arrive in the project area with unrealistic job expectations;
- Measures are implemented to ensure that construction contractors likewise prioritise employment of local community members, for example by including employment targets in a Project Labour Agreement, or similar contract;
- It is strongly recommended that the mine liaise with the local municipality to ensure that expected population influx is taken into account in infrastructure development planning of the ELM; and
- The project proponent should, in consultation with ELM and its development forums, investigate if the mine SLP and LED initiatives can contribute to the relevant infrastructure and delivery priorities of the ELM.

Measures to mitigate and/or control the expansion of informal settlements will have to be implemented with considerable sensitivity so as not to infringe on people's constitutionally guaranteed right to freedom of movement. It will be the responsibility of local government to control illegal settlement, but the mine could assist with monitoring and reporting such activities by means of:

- Frequent monitoring of the broader area to detect the establishment of new informal settlements or rapid expansion of existing settlements. This function could be carried out by the Community Relations Department in cooperation with the local Community Policing Forum (or SAPS), as well as other mines in the area.

6.4.1.3.3 Impact rating

IMPACT DESCRIPTION: Increased pressure on local infrastructure and services				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	**Rating**	**Motivation**		
PRE-MITIGATION				
Duration	Long term (4)	Will most likely continue after construction is complete	Consequence: Moderately detrimental (-13)	Significance: Moderate - negative (-78)
Extent	Municipal Area (4)	Will affect nearby settlements and local municipality		
Intensity x type of impact	High - negative (-5)	Municipality already experiences housing backlogs and insufficient services/infrastructure provision		
Probability	Highly probable (6)	Will add to the existing pressure on services and infrastructure (roads, water, sanitation, housing, etc.)		

MITIGATION:
- Discourage influx of job-seekers by:
  - Prioritising employment of unemployed members of local communities.
  - Enforcing local employment targets for contractors
- Liaise with local municipality to ensure that expected population influx is taken into account in infrastructure development planning.
- Include reasonable support for service provision in mine SLP/LED
- Create synergies with local government IDP and other companies' SLP/CSR projects				

POST-MITIGATION				
Duration	Long term (4)	As for pre-mitigation	Consequence: Moderately detrimental (-13)	Significance: Minor - negative (-65)
Extent	Municipal Area (4)	As for pre-mitigation		
Intensity x type of impact	High - negative (-5)	Mitigation measures may assist in providing improved local service provision		
Probability	Likely (5)	Mitigation will reduce the likelihood of this impact to some extent		

6.5 Cumulative Impacts

Cumulative impacts are defined as impacts arising from the combined effects of two or more Projects or actions. The importance of identifying and assessing cumulative impacts stems from the fact that, in social as well as natural systems, the whole is often more than the sum of its parts – implying that the total effect of multiple stressors or change processes acting simultaneously on a system may be greater than the sum of their effects when acting in isolation. Cumulative impacts usually relate to large-scale and more extensive rather than primary concentrated impacts and have a tendency to increase the intensity of impacts already predicted for the proposed Project.

The aim of this section is to highlight the nature of the cumulative socio-economic impacts that are expected to occur as result of the combined effect of the proposed Project and other current or planned operations in the. Several possible cumulative impacts were identified:

- Job creation and the cumulative multiplier effect;
- Impacts related to population influx;

- Decrease in land availability; and
- Dependency on mining to sustain the local economy.

6.5.1 Job creation and multiplier effects on the local economy

Several nearby mining and industrial operations employ substantial numbers of people; other mines planned for the area will also potentially add to the number of people employed in the mining sector. The contribution of mining and coal related industries (e.g. Eskom power plants) to job creation will therefore be enhanced through the proposed Project.

Secondly the proposed Project, together with other existing and planned coal mining related operations, will result in several economic benefits for local communities through direct and multiplier effects. These effects are usually stimulated by wage bills, local and regional procurement spend, and investment into LED and skills development. The proposed Project will add to the existing positive effect of mining on local economic development by applying national principles in terms of local employment and procurement, as well as LED.

6.5.2 Impacts related to population influx

The area has already experienced a significant influx of people in search of work at nearby industrial and coal mining operations. It is likely that this existing impact will be exacerbated once recruitment for the BECSA KPSX: Weltevreden Project has started (even if recruitment is limited). Population influx is also likely to exacerbate pressure on existing infrastructure and services, the growth or establishment of informal settlements and changes in property value.

The capacity of service delivery infrastructure is under threat in the region, particularly in Ogies, Phola, Kendal, and eMalahleni. The influx of job-seekers into these areas, combined with the presence of an operational workforce and the influx already caused by coal mining and related industries will place substantial pressure on local infrastructure such as roads, water supply and energy.

The combination of the permanent workforce of mining operations and residual employees/work-seekers the other operations in the area may have a significant impact on service delivery, especially housing.

This impact also addresses the availability of schooling and healthcare in the area. The current and planned mining operations are contributing to increased rate of in-migration and the resultant pressure on schools. This influx and large-scale settlement in the area is also causing healthcare services to become strained, with further influx from surrounding development creating further stain on the provision of services.

Influx will continue to place pressure on the already limited and expensive housing and land in the area. The main concerns are that:

- The low-income market is already too highly priced for the lower socio-economic groups, their spending power is limited and this combined with influx of people due to

the combination of the proposed Project, existing coal mines, and the flourishing industrial sector will result in increased housing demand and pricing. Escalating prices will lead to an increase in the number of informal housing developments; as a larger proportion of communities might find formal accommodation options too expensive, which may force them to revert to informal settlements; and

- Those who cannot buy a house will seek rental options, also exacerbating the existing shortage of houses for rent. High rental prices will be unaffordable for employees within the lower income brackets, thus there is likely to be an increase in demand for housing or informal stands in Ogies and Phola.

The following recommendations are made to ensure that a sufficient number of houses are available for purchase and rent respectively:

- Town planning (i.e. integrated development planning) - Integrated and spatial development planning is a key principle that should be used to ensure that town planning pro-actively makes available serviced stands for property development, such developments should strongly consider low-cost housing;
- Zoning plans need to be drawn up to ensure that development is planned in an orderly fashion and that conflicting land uses are avoided or arbitrated with a mutually beneficial solution between developers and the mining proponent; and
- Private-public development partnerships – could be launched by government, developers, other influx contributors and BECSA as part of LED or CSI initiatives to provide or subsidise affordable housing for particularly the low-income group who will not able to afford housing

6.5.3 Reduction in land availability

Considerable economic growth and population influx have been triggered by the coal mining sector and related industries in this area, which has resulted in a considerable demand of housing and housing development. As a result the local municipality is under severe pressure to allocate land for more housing developments, despite the fact that they have limited land options due to the fact that mining activities in the surrounding area have significantly decreased land suitable for residential development throughout the eMalahleni area. Similarly, as mentioned earlier, the loss of land to mining reduces the available arable land required to sustain the extensive agricultural operations in the region. This reduction in agricultural land may place serious strain on the production of sufficient agricultural produce for the growing population (locally and nationally).

The proposed Project is likely to exacerbate the current situation if it restricts or prevents development through successful appeals against several township developments, as it would sterilise a significant amount of available land for residential development and agricultural operations. Continued expansion of mining will leave the local municipality with limited land to cater for the existing and growing need for housing. There is therefore a need for a regional land management strategy that takes into consideration national economic

growth (though mining), food production to sustain a growing population, and the increased requirement for appropriate housing.

6.5.4 Dependency on mining to sustain the local economy

As mentioned earlier in this report, economic activities in the area are dominated by coal mining and industrial sector (i.e. Eskom), the latter also being dependant on mining. Because mining creates a much larger number of jobs than the services sector, and because mine workers tend to earn better salaries than those employed in most other sectors, it is fair to deduce that the local economy is heavily dependent on the mines or mining related industry (e.g. Eskom). All mines have a finite lifespan. Inevitably, mining operations in the area will at some point in the future begin to scale down and close, affecting all coal dependant industries (e.g. Eskom). Unless significant investment is made into economic diversification, the area is destined for a considerable economic slump once this process commences.

7 Conclusions

The findings of this report take into consideration the Project's proposed activities, location of the Project, the status of the existing socio-economic environment, and the ultimate effect that the Project will have on this environment.

The pre- and post-mitigation ratings assigned to the various impacts discussed in the report are summarised in Table 7-1, and graphically represented in Figure 7-1 and Figure 7-2 below. In these Figures, the entries in the various coloured cells correspond to the codes given for impacts in the first column of Table 7-1.

The investigations into the baseline conditions in the local and site-specific study area, and the social impacts related to the proposed project highlight the development needs and priorities of local communities, as well as the positive impact that the proposed project could have on the sustainable development of the local economy. Adequate mitigation measures are expected to reduce the significance of negative impacts to acceptable levels, while positive impacts will be enhanced in order to maximise benefits to surrounding communities.

It is recommended that the mitigation measures described in the report be incorporated into the Environmental Management Programme for the proposed mine and, where relevant, into the contract conditions to be issued to the contractors. Measures should also be put in place to monitor and assess the implementation of these mitigation measures and to take corrective action where necessary.

It is further recommended that the proposed KPSX: Weltevreden project forms part of local forums that are currently working towards addressing the types of social impacts highlighted in this report.

Table 7-1: Summary of socio-economic impacts

Code	Impact	Pre-mitigation:						Post-mitigation:					
		Duration	Extent	Intensity	Conse-quence	Proba-bility	Signifi-cance	Duration	Extent	Intensity	Conse-quence	Proba-bility	Signifi-cance
Effects on the local economy													
Job-con	Job creation during construction	Medium term	Municipal Area	Moderately high - positive	Moderately beneficial	Likely	Minor - positive	Medium term	Municipal Area	High - positive	Moderately beneficial	Highly probable	Minor - positive
Job-op	Job creation during operation	Project Life	Municipal Area	Moderate - positive	Moderately beneficial	Likely	Minor - positive	Project Life	Municipal Area	Moderately high - positive	Moderately beneficial	Highly probable	Moderate - positive
Econ	Multiplier effect on local economy	Project Life	Municipal Area	Moderate - positive	Moderately beneficial	Likely	Minor - positive	Project Life	Municipal Area	Moderately high - positive	Moderately beneficial	Highly probable	Moderate - positive
Loss	Loss of farm/other labour to the mine	Medium term	Local	Moderate - negative	Slightly detrimental	Probable	Minor - negative	Medium term	Local	Low - negative	Slightly detrimental	Unlikely	Negligible - negative
Depend	Dependency on mine for sustaining local economy	Beyond project life	Municipal Area	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	Beyond project life	Municipal Area	High - negative	Highly detrimental	Likely	Moderate - negative
Impacts related to the physical effect of mining activities													
Servic	Improved access to services and increased local development	Project Life	Local	Moderate - positive	Moderately beneficial	Unlikely	Negligible - positive	Project Life	Local	Moderately high - positive	Moderately beneficial	Probable	Minor - positive
Intrus	Physical intrusion impacts	Project Life	Local	High - negative	Moderately detrimental	Highly probable	Moderate - negative	Project Life	Limited	Moderately high - negative	Moderately detrimental	Highly probable	Minor - negative
Displ	Land acquistion and displacement	Permanent	Limited	Extremely high - negative	Highly detrimental	Certain	Major - negative	Permanent	Limited	Extremely high - negative	Highly detrimental	Highly probable	Moderate - negative
Impacts related to population influx													
Confl	Conflict and competition	Medium term	Local	Moderately high - negative	Moderately detrimental	Likely	Minor - negative	Medium term	Local	Moderately high - negative	Moderately detrimental	Probable	Minor - negative
Pathol	Increased social pathologies	Beyond project life	Municipal Area	Extremely high - negative	Highly detrimental	Highly probable	Moderate - negative	Beyond project life	Local	High - negative	Highly detrimental	Likely	Minor - negative
Press	Increased pressure on local infrastructure and services	Long term	Municipal Area	High - negative	Moderately detrimental	Highly probable	Moderate - negative	Long term	Municipal Area	High - negative	Moderately detrimental	Likely	Minor - negative

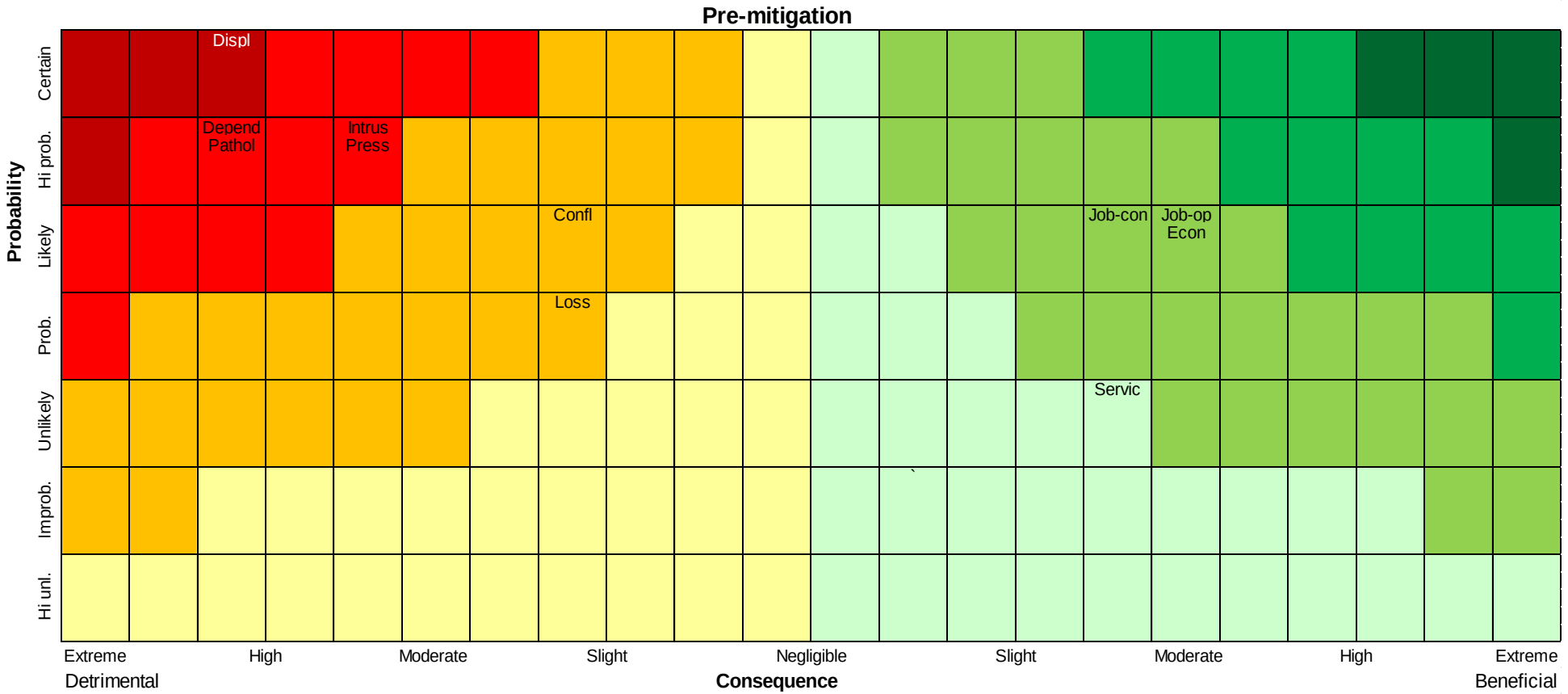

Figure 7-1: Graphical presentation of impacts: pre-mitigation

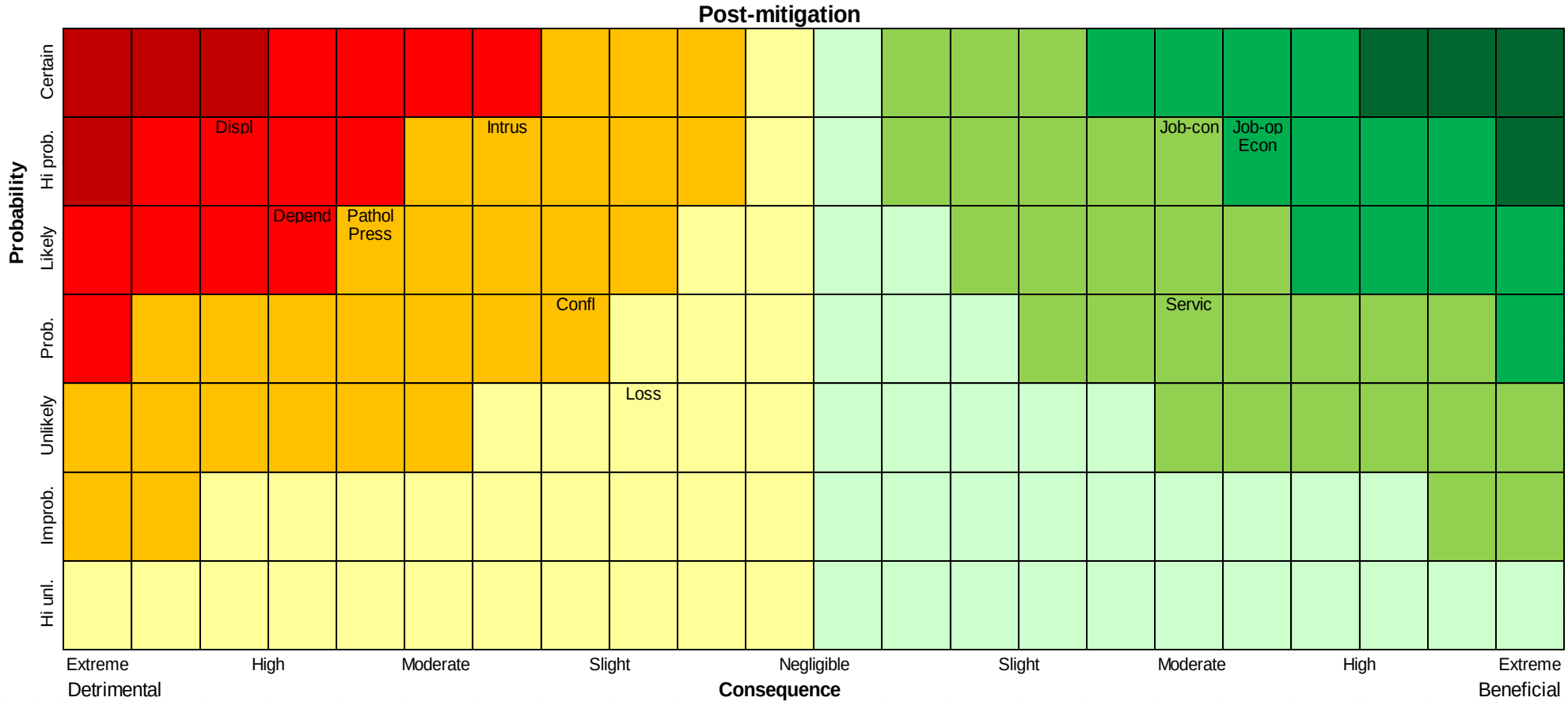

Figure 7-2: Graphical presentation of impacts: post-mitigation

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Appendix A: Focus Group Meeting Notes

Question/Topic	Response and Comments
Local Authorities	
SDF and LED cooperation Development planning and prioritisation	■ Every quarter the municipality have meetings with the mining companies in the local municipality. This includes assistance in the funding of social development and local economic development. ■ Development planning comes primarily from the IDP document. Communities are engaged in order to get input in terms of development projects and community needs. This assists in identifying needs of the community as well as the most vulnerable communities ■ There are challenges in the implementation of such development due to the lack of funding and departmental budget. For instance there is a large percentage of Phola that do not pay for municipal services. ■ Main community needs are roads, water, electricity and the availability of land and housing.
Land development	■ The municipality has recognised that there is a need for more housing however there is competition for land in the area. Klipspruit has donated some of their land to Phola so they can build houses. ■ There are several people living within a wetland area. Mining companies are planning to assist in the development of a housing project to ensure these people do not live in the wetland.
Main development and service needs	■ The main community concerns related to the creation of more jobs, provision of housing and basic services. ■ There is a shortage of electrical distribution, adequate roads and provision of potable water.
LED projects	■ Anlgo has brought in a formal refuse removal service to assist in the domestic waste management in Phola. ■ There is a need for more LED projects although mining companies do assist, they often promise more than they can deliver which causes resentment towards them and tensions amongst the community. ■ The SLP's of mining companies need some revision and they need to be implemented properly to ensure that the community benefits.
Main sources of	■ SMMEs include: "Spaza shops" (small-scale traders), transport,

Question/Topic	Response and Comments
employment	farming and other local services. The sources of employment are relatively diverse. Although the private sector would provide the best source of employment. They believe there are people who would be able to get employment at the mine.
Municipal planning in relation to mine operations	■ The closure of mining in the municipality is part of the municipalities planning. There plans will include opening up of alternative industries and to develop shopping centres. There is a potential to give land back for farming purposes following the closure of the mines.
Social ills	■ The mines have resulted in a lot if population influx, largely comprising job seekers. This influx has created informal settlements within and adjacent to Phola. ■ Temporary employment results in people sitting around once their contract has expired leading to many unemployed people in Phola. ■ Population influx increase risk of social pathologies and unrealistic promises creating expectation. ■ As a result of the extensive population influx and lack of available employment, tensions rise within the region. This tension has the potential to escalate quickly and can result in violence and conflict.
Community investment	■ Some mines have provided investment into the Phola Community Trust, however, BHP do not contribute to this (or similar) trust. ■ Mining companies need to make the LED projects in the SLPs achievable and targeted towards growing the local economy, such as assisting local SMMEs. ■ People from Phola don't only want to be provided with small stakes in a project. There is a need for people to be given an opportunity in the actual mining operations. We have the resources and the expertise to be able to have an active stake in the mining operations.
Landowner/farmer	
Awareness of project	■ Most of the expected project activities have been communicated to the famers. We are well aware of the project; however we would like to know what the timing of the project will be. ■ We would like to find out more about the mines plans and scheduling, as we do not know what alternative arrangements to make in the interim.

Question/Topic	Response and Comments
Agricultural unions	■ There are no local agricultural organisations operating in the area. Each farmer essentially continues with their own operations. ■ Provincially, there is a government-based organisation governing farmer in the region, namely The Mpumalanga Agricultural Union. They represents the greater Witbank farming area. Any aspects that are farming related is handled through this union/department.
Feelings towards increase in mining activity	■ All the farmers in the province are against mining. At the end of the day both framers and the mines want the same land it is difficult to foresee any kind of compromise between the two. ■ Mining and agriculture has grown significantly, with each requiring land. In addition, there are land claims happening daily that will see more land being taken from farming. ■ Although we know that mining needs to happen, companies need to ensure that they treat farmers properly. Some mining companies are not liked at all.
Effects of mining on agriculture	■ Mining activity is reducing arable land, infrastructure is being damaged form blasting and the effects of the airborne coal dust are causing problems for crops and livestock. ■ If we were to move from the land to make way for the project, we would have to move to another province to find alternative farming land as there is no available farms in the area. ■ Will this project affect the farmer's access over the existing bridge linking the faming land near the project area and Ogies? Many people rely on this road
Effects of resettling famers	■ There are two scenarios to look at when assessing the acquisition of land and relocation of the farmers: One- if the area acquired by the mine is the primary property with the majority of the farm infrastructure then the effects are much worse than if it was a secondary farm with only land. Some farmers do have access to alternative farm land, however, there are some who do not. ■ It often happens that when a farm if purchased, the transaction allows that previous farm workers remain on the land and are employed by the new landowner. If the land is lost to the project, there could be an issue in relocating the farmworkers.
Impacts on farmers and farm employees	■ Reduced land, laid off workers with farming skills may find it difficult to get other work ■ There are some farmers who have had good pay-outs in the past

Question/Topic	Response and Comments
	through the sale of land to mining companies. These people have been able to purchase land elsewhere and benefit. ■ Influx creates more crime, stock theft and there is negative impact on the water quality. The workers are aware of the mining projects in the area taking up farm land; they are concerned about their food security. ■ Workers lose jobs and they end up moving to Phola where they don't find employment and remain in poverty.
Local Community	
Demographics	■ There are approximately 64 000 people in Phola, with an average of seven people per household. ■ The population is made up of around 80% South African nationals. The population has grown significantly in the last 2 years due to high levels of population influx. This influx is related to people looking for work at the mines and power stations. Phola is largely a young population.
Social organisations and settlement	■ There are several NGOs active in Phola and there are some civil society groups. ■ These have leadership positions which are based on organisation structures such as chairmen, secretaries and treasurers. ■ Phola settlement dates back to 1955 but was moved from Ogies to where it is now and proclaimed in 1964. Many people were working on surrounding farms and the settlement grew as a result. ■ Newcomers come from various SADC countries such as Mozambique, Zimbabwe, Malawi and further abroad, but most are from the Witbank area. ■ It is difficult for newcomer to get land as most is being bought up by the mines and the rest belongs to farmers. There is a perception that mining is creating larger economic inequality and this could create tensions in the community. This increases the risks of negative social pathologies such as crime, drug abuse and HIV prevalence.
Culture/ethnicity	■ There are a diverse range of cultures, mainly Ndebele and Zulu however there are foreign national as well including Islamic people from Asia and East Africa. There are not too many cultural clashes in the community.
Economic activity and	■ The main forms of employment in the community are mining,

Question/Topic	Response and Comments
development	construction. Many people are engaged in trades related to mining and power stations such as boiler making. There is concern that mines are not contributing enough to increase economic activity. There is a need to develop manufacturing in Phola. Those in transport sector have made a success of their businesses. ■ Local populations in Phola are the directly affected population and we need to see proper economic benefits. There are people experiencing several mining-related impacts and not seeing any benefits from the surrounding mining operations.
Resource availability	■ There are concerns that the water quality in Phola as it is not fit for human consumption. ■ Electricity is expensive for the community and people look for substitutes such as the use of charcoal and wood, however this is much more of a problem during winter. Firewood is also used and this leads to deforestation.
Basic services and infrastructure	■ There is a need for more educational facilities and training in the area. Electricity is often unaffordable with many illegal connections straining the system. ■ Water is not up to standard. ■ Housing and housing maintenance is an issue in the region. There have been cases where people are relocated to Phola from surrounding farm land. Mining companies build them houses that they are not able to maintain. It is not possible to maintain a house with no income.
Social ills	■ Due to the uncontrolled influx there are several social ills. These are mainly related to drug abuse, crime and prostitution. ■ There is tension in the community because of a lack of development and involvement by mining companies operating around us.
Healthcare Service Providers	
Introduction	■ Phola clinic is a Community Health Centre (CHC) facility. It caters for approximately 32 600 people in Phola, Ogies and surrounding farms. The facility operates 24 hours a day. ■ The Ogies Clinic is an 8 hour facility
Services	■ There is a safe and reliable water supply tested by the environmental health and safety unit. Electricity is also reliable, if

Question/Topic	Response and Comments
	there is a power cut a backup generator is available.
Ranking of most common illnesses.	1. HIV affects all people 2. TB affects most people 3. Hypertension affects the elderly 4. Asthma affects most people 5. Trauma affects all ages 6. It is unknown what the leading cause of death is for children.
Staff/resources	■ No full time doctor is available to the health centres, only occasionally on Tuesdays, Wednesdays and Thursdays for 4 hours. The doctor runs a private surgery in the area. ■ There are 15 full time nurses and 2 enrolled nurses. There are no visiting nurses. There are 9 inpatients but patients will only stay for 6 hours. If it is a serious problem then the patients are transferred to Witbank hospital. Currently the facility is in need of a defibrillator. ■ The facility operates a mobile clinic, but does not do home visits (this is done by a PHC team (home-based caregivers)). ■ The closet hospital to the facility is in Witbank (38 Kilometres). The facility doesn't have its own ambulance.
Patients and medication	■ Patients will see the same doctor for a follow up visit but not the same nurses (based on availability). Not all patients return for follow up visits because they default due to personal reasons, some think they will recover on their own. I ■ f the facility cannot care for a specific illness, the patient is referred to Witbank hospital. The facility gets its medication from the pharmacy depot in Middleburg every two weeks. ■ Expired medicines are disposed of appropriately to a secured location. There are generally adequate supplies of medication although they do experience shortages from time to time. ■ Patients don't usually don't receive the correct replacement medication if it runs out. The most common medication prescribed are ARVs and chronic medication. The facility does not store medication for other facilities.
STDs and fertility	■ The facility does stock ARVs and patients can receive HIV/AIDS counselling. The facility does stock birth control tablets. ■ Family planning is practice in the community but they want to

Question/Topic	Response and Comments
	promote this more in the community. Teenage pregnancy is a problem, young people are receiving bad advice and pressure from their peers and therefore education can help with this problem. ■ Condoms are distributed from the taverns and "shebeens". Generally the prominence of STDs has decreased although HIV is still prevalent in the community. ■ The facility does have the ability to diagnose HIV. Patients don't need pay to see a doctor or nurse, or to receive medication. The facility does offer childhood vaccination.
Administration	■ The facility is accredited for training and allows practical visits for students, although the frequency of accreditation or the accreditation number was unknown.
Health awareness and education	■ The facility currently runs health awareness campaigns such as HIV, STDs, TB and cancer awareness campaigns. There are other actors in the community such as NGOs such as SANTA that trace defaulters as well as provide home-based care especially to those affected by HIV and TB. ■ There not many injuries associated with domestic violence. Three out of ten patients that come in show symptoms of alcohol and drug abuse. ■ There are traditional healers in the area they belong to Traditional healer (TH) groups. The facility has begun collaborating with the THs. They are beginning to discuss health problems together and form partnerships that encourage practical collaboration between the facility and the THs such as THs referring patients to the facility when the traditional treatment is not working.
General attitude towards the project	■ The project could potentially influence community health by providing jobs which could reduce crime and improve the quality of life for people in the community. The project could help curb alcohol and drug abuse and therefore reduce the levels of violence. It could improve the lifestyles of people and assist the clinic with equipment that it needs. They could also assist with nutritional awareness to decrease diabetes and hypertension. If the cases of HIV and TB can be greatly reduced it would go a long way towards positive community development.
Education Service Providers	
Educational facilities	■ There are four high schools and seven primary schools in the region (including Phola, Ogies and surrounds)

Question/Topic	Response and Comments
Challenges facing the education services	■ There are a significant number of learners that need to be accommodated in the schools. Often schools take more learners that they are able to accommodate. ■ Security poses a threat to many schools in the areas. There is often theft of equipment affecting the learning and teaching. ■ As a result of the school largely being no-fee schools, they rely on funding from the government, which is often too little to maintain the school and expand it facilities. ■ Luckily there are no challenges in finding teachers in the area if one teacher has to leave.
Security and safety	
Relationship and cooperation's with private sector	■ Very good relationship between the two entities. The mine assists with crime awareness and the police liaise with the security companies the mine employ. ■ He would like it if Klipspruit could help by contributing to the police station, as some of the cells are dilapidated and they are under staffed. If the station could be expanded on or an addition smaller station could be added in Ogies, they could increase their work force.
Safety and security challenges	■ There has been a rise in immigrants resulting in substance abuse that has become a big problem. This is especially prevalent amongst the ages of 16 – 35. This leads to a rise in cases of assault, rape and domestic abuse. ■ Prostitution is an issue. These women come from Witbank, Vereeniging, Nelspruit and even as far as the Eastern Cape. ■ The Phola settlement is a big problem in terms of maintaining safety, as it is tremendously overcrowded. Mostly by unemployed individuals moving to this area to seek job opportunities, which they do not get. This causes frustration and that is when protests break out. ■ Cases of xenophobia broke out as foreign nationals initially moved to Ogies in 2011 (Pakistani and Ethiopian community), since then they have settled in and are accepted as part of the community.
Influence of mining on policing, safety and security	■ Due to the mining and development-related influx, there has been a rise in petty crime. ■ The general feeling in the community is that the mines do not make enough effort to communicate, though there they are doing more

Question/Topic	Response and Comments
	than enough to engage the community. Mining companies do need to be more transparent. ■ Communities are "playing the mines off against one another". The respondent fears that if the mines are not aware of this they may reach a point where they just stop contributing all-together. ■ There are several protests, these are a result of the communities believing that the mines are not doing enough to employ and train them. There are fears that if Klipspruit extension goes ahead that there is another protest lingering.
Local Business Operators	
Introduction	■ Most businesses in the area are aware of the extension projects.
Impact on local businesses	■ We would like to get given accurate timeframes from the development of the mine as this affects their future planning. ■ Most likely that some businesses will move away as the presence of a coal mine could reduce their quality of life. Blasting is causing damage to infrastructure. ■ Water contamination has not been an accepted reality of the mines; they blame each other for this impact.
Local employees	■ Many businesses employ locals and if that business were to move it could put people out of a job.