TITLE: SOCIAL IMPACT ASSESSMENT STUDY FOR THE PROPOSED 400KV TRANSMISSION LINE LINKING THE AGGENEIS AND PAULPUTS SUBSTATIONS (INCLUDING THE SUBSTATION UPGRADES) IN THE NAMAKWA DISTRICT, NORTHERN CAPE

Version: FINAL

Date: JULY 2017

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EXECUTIVE SUMMARY

Eskom is proposing to undertake the construction of 400kV power line from the Aggeneis substation to the Paulputs substation over a distance of approximately 97km. The project will further entail the necessary upgrades to the Aggeneis and Paulputs substations. The project area is located within the Khai Ma Local Municipality of the Namakwa District in the Northern Cape. The closest towns are Pofadder (approximately 32km southwest of the Paulputs substation) and Aggeneis (approximately 8km southwest of the Aggeneis substation). As required by relevant legislation, a Social Impact Assessment has to be done to determine the social costs and benefits of the proposed project.

Project Motivation. The purpose of the proposed additional transmission line between the Aggeneis and Paulputs substations is to help alleviate current and future network constraints in the Northern Cape. The Province's Khai Ma Local Municipality and surrounding areas are experiencing electricity supply problems as a result of limited capacity of the Aggeneis and Paulputs substations and existing Transmission line. Due to increased demand and increased growth in the areas, Eskom has identified the need for a new Transmission Power-line to assist in minimising pressure on the existing substations and supply.

According to Eskom, the Aggeneis-Paulputs network is designed as a radial distribution system and now poses its own challenges of capacity. The radial electrical power distribution system has one major drawback- that in case of any feeder failure, the associated consumers would not get any power as there would be no alternative path to feed the transformer. In case of transformer failure also, the power supply is interrupted. In other words, the consumer in the radial electrical distribution system would be in darkness until the feeder or transformer has been rectified.

The present radial network does not therefore meet the minimum reliability standards of the South African Grid Code that requires minimum N-1 reliability for the transmission network. The "n-1" criterion says that for multiple transmission lines delivering power to the same point, if one of the lines goes out of service, the remaining lines must be able to carry both the load they were carrying before the event, plus the load carried by the line that is out of Service.

Route Alternatives. Three corridor alternatives with an associated power line alignment are being considered by Eskom Transmission and were evaluated during the SIA process to determine the best socially practicable alignment. The three route alignment corridors are investigated within the same larger study area**. T**he larger study area was determined by demarcating a 5 km buffer around the three alignment alternatives, while each of the three alternatives were buffered by 1 km to demarcate their respective corridors. The three route alternative corridors are located in close proximity to one another and generally follow existing infrastructure, such as the existing 220 kV Eskom transmission line (western and eastern portions of the study area) and the N14 highway (western portion of the study area).

This Social Impact Assessment (SIA) is a study of the direct and indirect benefits and costs of how the proposed transmission line project affects the Khai Ma community and the

municipality; determine, characterize and assess potential impacts therein; as well as develop and propose appropriate mitigation measures. The study provides a strategic analysis of the local social assets envisaged by the construction, operation and decommissioning of the transmission line project. This will become the framework for making recommendations regarding optimization and mitigation of the predicted impacts.

The following procedures were implemented to meet the objectives of the study.

- **Data Collection Methods.** This Aggeneis-Paulputs power line SIA study comprised discussions and consultations with Eskom and stakeholders; initial site reconnaissance, desk study and literature review, preparation of data collection instruments; field visits for consultations, discussions with local administration officials, and observations; data analysis and reporting.

- **Stakeholder Consultation and engagement.** A stakeholder engagement plan (SEP) was developed and comprised stakeholder analysis and planning. Analysis of stakeholders included identifying community members with land parcels and other physical assets in the proposed transmission line route and their neighbours and public institutions and facilities including schools and water points.

Impact Assessment Regime. This study assesses social impacts that are generally associated with five types of change:

- **Demographic change** including the size and composition of the resident population, influx of temporary work force or new recreational users, community facility and social infrastructure requirements;
- **Economic change** including new patterns of employment/income, local economic effects, real estate speculation, crime and public safety, accommodation and housing;
- **Health and well-being changes** including cultural, family, leisure, recreation and community health issues, needs of social groups, heritage & social amenity issues;
- **Environmental change** including alterations to land use, natural habitat and hydrological regime; and
- **Institutional change** including the structure of local government or traditional leadership, zoning by-laws or land tenure, legal issues.

Undertaking the Social Impact Assessment included analysis of:

- **Directionality:** some impacts may be positive for some people, while the same impact may be negative for other people;
- **Certainty**: the likelihood or probability of occurrence of impact;
- **Frequency:** how often the impact will occur;
- **Severity:** the magnitude and/or strength of impact;
- **Chronicity:** over what time period;
- **Locality:** area of impact;
- **Susceptibility and vulnerability:** how susceptible the community/environment is to impact;
- **Mitigatability:** the potential of the impact to be mitigated and;

- **Intractability**: symbiotic and/or catalytic potential with other impacts and cumulative potential.

SIA Specialists developed an assessment matrix for evaluating the socio-economic risks. The matrix provides potentially significant impact assessment with regard to:

a) The nature of the impact (including the status, which may be positive, negative or neutral);

b) The extent and duration of the impact;

c) The probability of the impact occurring;

d) The degree to which the impact can be reversed;

e) The degree to which the impact may cause irreplaceable loss of resources; and

f) The degree to which the impact can be mitigated.

Impacts were assessed using the above parameters and then the significance criteria were calculated based on **RISK = (Extent + Duration + Magnitude) x Probability**.

Table showing the descriptors of various risk elements

Extent		**Magnitude**	
Localized (At localized scale and a few hectares in extent)	**1**	Small and will have no effect on the environment	**0**
Study area (The proposed site and its immediate environs)	**2**	Minor and will not result in an impact on the processes	**2**
Regional Provincial and District level)	**3**	Low and will cause a slight impact on the processes	**4**
National (Country)	4	Moderate and will result in process continuing but in a modified way	**6**
International (Beyond South Africa)	**5**	High (processes are altered to the extent that they temporarily cease)	**8**
		Very high and results in complete destruction of patterns and permanent cessation of the processes	**10**
Duration		**Probability**	
Very short (0 – 1 Years)	1	Highly improbable (<20% chance of occurring)	1

Short (1-5 Years)	2	Improbable (20 – 40% chance of occurring)	2
Medium Term (5-15 Years)	3	Probable (40% - 70% chance of occurring)	3
Long Term (>15 years)	4	Highly probable (>70% - 90% chance of occurring)	4
Permanent	5	Definite (>90% chance of occurring)	5

		CONSEQUENCE (Extent+Duration+Magnitude)																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PROBABILITY	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
	4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

Figure 1: Significance criteria used for the SEIA of the proposed project

Table 1: Table showing impact significance rating

Low	<30	Where this impact would not have a direct influence on the decision to develop in the area
Medium	30-60	Where the impact could influence the decision to develop in the area unless it is effectively mitigated
High	>60	Where the impact must have an influence on the decision process to develop in the area

Table 2: Confidence of assessment

The degree of confidence in predictions based on available information, Mokgope judgment and/or specialist knowledge	**High**

Description of project area. The study area is located in the Northern Cape (NC) Province in the north-western portion of what is commonly known as Bushmanland. The project affected area is located within the Khai Ma Local Municipality of the Namakwa District in the Northern Cape Province. Apart from its western border that is bounded by the Atlantic Ocean, the province is mostly landlocked: Namibia lies to the north-west; Botswana to the north; and the Western Cape to the south. At 362,591.4km2 the Northern Cape has the biggest land mass of all the provinces and covers approximately 29.7% of South Africa's total land surface Although the NC is spatially the largest province in the country, it has the lowest population and some of the least developed areas in terms of its economic and social development.

The economic development of Khai Ma is thus constrained by limited regional accessibility via road, airport, railway and harbours. Attracting investors is particularly restrained by the lack of airport facilities. Large distances between towns, national ports and major economic centres (Pretoria, Johannesburg, and Cape Town) also reduce the competitiveness of export initiatives. The spatial implication of the remoteness is that people of Khai Ma travel far distances to schools, tertiary institutions, health facilities, shopping centres and markets, which is costly and tedious. The result is that people opt to relocate to high order centres to access these facilities more readily, resulting in rural depopulation (Khai Ma Spatial Development Plan, 2012). The Khai Ma municipality is sparsely populated (+/- 1 person/km^2) with most people are settled in its five (5) towns. The municipality is characterized by vast tracts of land, pristine natural environment, unique mountains and its limited cell phone reception.

Khai Ma is characterised by semi-arid conditions with warm summers and cold winters, extreme temperature fluctuations that vary from maximums of 42^0C during summers to 12^0C during winter months, with sub-zero temperatures are often experienced (Khai Ma Integrated Development Plan (2012-2017). The average annual precipitation for Khai Ma is 105mm per year, which is decreasing every year. This makes it a fairly dry area, showing more characteristics of a desert. ±75% of Khai Ma has an average annual rainfall of between 0-100mm; ±25% of the area has an average annual rainfall of between 100-200mm.

Topographically, the greater extent of the Municipality presents fairly flat areas with mountainous areas occurring in the northern part along the Orange River and around Aggeneis town. Numerous non-perennial streams traverse the Municipality flowing in a northerly direction towards the Orange River; and Runoff is generally high after heavy rainfalls due to the hard soil conditions.

The climatic restrictions mean that this part of the Northern Cape is suited at best for grazing and here the grazing capacity is very low, around 40-50 ha/large stock unit (ARC-ISCW, 2004). Agricultural production in Khai Ma consists of livestock and game farming (80%); and irrigation farming on the banks of the Orange River, including dates, export grapes, mangoes, cotton, hoodia, geranium, and other crops.

There are currently no statutory protected areas in Khai Ma. However, the Anglo Base Metals Black Mountain mine has a conservation agreement covering approximately 23 000ha of mine holdings around Aggeneis (Namakwa Biodiversity Sector Plan, 2008). This is an important conservation initiative due to the significant biodiversity in the area. Khai Ma Municipality contains virtually the entire extent of the Bushmanland Inselberg priority area, one of the nine zones identified as important conservation areas in the Succulent Karoo (Namakwa Biodiversity Sector Plan, 2008).

Khai Ma Municipality is mainly covered by shrubland/fynbos, followed by grassland. The "built up land: residential" only constitutes 0.06% of the Municipality. The three towns closest to the proposed transmission line are Pofadder, Aggeneis and Pella. Pofadder, the main town of Khai Ma, was developed around the N14 main road and its intersection with the R358 road to Onseepkans. Pofadder is surrounded by extensive municipal townlands mainly used for commonage farming.

Aggeneis (place of water) is a mining town providing residence to mainly the mine workers. Aggeneis accommodates a primary and secondary school, police station, clinic, golf course and tarred airstrip. Aggeneis is divided by a road into a northern and southern section, clustered around mixed land uses (i.e., business, clinic, police station, sports grounds and offices, etc.). Pella is a small town that lies 30km west of Pofadder. Pella has limited infrastructure consisting of a primary school, police station, library, clinic, restaurants/taverns and the old cathedral, which is quite an important tourist attraction.

The Vedanta Group, through its Black Mountain Mine is the largest employer in Khai Ma after farming. The Vendata Resources Plc's Gamsberg project consists of an open pit zinc mine (with a defined ore resource of 186 Million Tons and more than 250 Million Tons of potential ore resources), hydrometallurgical processing (concentrator) and associated infrastructure. The proposed Gamsberg mine is located just south of the N14 National Road linking Upington to Springbok, and 20 km east of the existing Black Mountain Mine and the town of Aggeneis in the Northern Cape Province of South Africa.

The Khai Ma environment is characterised by vast open land, unique topographical features (i.e., mountain ranges, Bushmanland, Inselberg, wilderness areas along the Orange River, etc.) and rich heritage of the Khoi San/Nama people as well as the cathedral at Pella. These provide the area with ample opportunity for eco-tourism, adventure tourism and cultural tourism.

Demographic and Socio-Economic Profile of the Project Affected Area. The total number of households in Namakwa District Municipality is 36 437(**Khai Ma IDP 2012-2017)**.

- 10.4% of the Namakwa households are located in Khai Ma Local Municipality.
- Households are mainly located in the towns of Pofadder, Aggeneis, Onseepkans, Pella, and Witbank.

- The gender ratios are almost equal, at 51% males and 49% females.
- The younger age structure implies a population explosion resulting in additional strain on social and engineering infrastructure (i.e. health care facilities, schools, water, sanitation, electricity etc.).
- A fairly young population requires skills development programmes matched with appropriate jobs to ensure that this group do not emigrate to other parts of the country in search of a) tertiary education and employment or b) rely on grants to survive.
- 30.8% of the population has some secondary education, while 10% have a Grade 12 certificate.
- Only 2.4% of the Khai Ma population has received tertiary education, this can be ascribed to the fact that Namakwa District and the Province as a whole has no university and students who move to attend universities around the country tend not return to Namakwa after gaining their qualification.

The majority of people in Khai Ma are involved in the agricultural sector, followed by mining and quarrying, wholesale and retail trade and then social and personal services As stated in the Khai Ma IDP (2012-2017) document, the high unemployment and low income levels frustrate the service delivery programme of the Municipality in that the Municipality does not generate sufficient funds for the provision and maintenance of these services. This implies that the planning for the provision of services should be cost-effective and based on optimal usage of these services

Currently 77% of households are considered indigent and received subsidies for basic services. Commercial farmers depend on income generated from their farms, whilst others make a living by rendering services to the agricultural sector. Many residents depend on government grants, whilst others earn a living by providing housekeeping or gardening services.

In terms of health, HIV/AIDS poses a great threat. Other challenging health issues include tuberculosis and substance abuse. Statistics on mining related illnesses, i.e. asbestos poisoning, exposure to radio activity from nuclear waste deposits etc. are not readily available, but investigations are currently being done.

According to the Khai Ma IDP (2012-2017) all communities rely on the Orange River for water. Water is purified near Pella and then pumped to Pella, Pofadder and Aggeneis. However, only Pofadder and Aggeneis have internal water reticulation networks. Electricity is provided by Eskom (Pella & Onseepkans), Khai Municipality (Pofadder) and Black Mountain Mine (Aggeneis) and 75% of households have electricity.

Stakeholder consultation and public participation. Considering the requirements of **Free Prior Informed Consent (FPIC)** and in tandem with IFC Performance Standard 7, stakeholder consultation and consent were key to the SIA process. The following two-stage process informed consultation and participation:

i) **Informing:** this phase included general ground-truthing walk through the project transmission line route to have a physical characterization of the socio-economic aspects and informal introductory meetings with various households within the proposed way leave route.

ii) **Project consenting** provided forums through which, after discussing the risks, impacts and opportunities the project provides, the community provided its own consent or objections.

In line with the key principle of FPIC, all interested and Affected Parties (I&AP's), stakeholders, landowners, Authorities and governmental institutions were notified of the proposed project by using the following mediums:

- Direct letters to the landowners, stakeholders and the local Authorities
- Direct emails to stakeholders and other concerned or possibly affected parties
- A newspaper advertisement in a local publication for the local public during the Notification and Public Comment Phase.
- Site notice boards at the substations and along the proposed routes (some of the notice boards was placed on the boundary of the site, in a clearly visible area, but not close to the alignment)
- Background Information Document were given to owners of local stores and garages for distribution among the local community
- Briefing papers were hand delivered to the landowners adjacent to the proposed development

Outcome of the Stakeholder Consultation Process. Most of the stakeholders consulted concur in the view that the proposed power line project will improve power supplies, stabilize the quality of the electricity and provide diverse source of power in the region. Stakeholders were of the view that in the long term, the District and Local Municipalities will benefit in terms of improved industrial development, and reduced power cut problems, particularly in agro processing, which has been identified in the District IDP a key activity for future economic development in the area. Responding to this overwhelming view, Eskom pointed out that, in fact, the primary aim of the proposed project is to comply with NERSA N-1 criteria even though it would benefit the region at large with an added electricity infrastructure that can attract future IPPs in the area.

Some stakeholders are concerned that the proposed power line may negatively affect local biodiversity particularly the natural habitat. However, the intensity of damage potentially caused by the proposed development is going to be minor, given the nature of the project and the span between successive pylons. The mine officials were concerned about one of the

alternatives, corridor 3, which traverses a conservation area and that Eskom should also be aware of the sand dunes around the area.

Community members wanted to find out if there would be any job opportunities during the construction. Eskom officials have pointed out to them that the construction needed highly technically skilled workers who would be employed by Eskom. However, the officials did also point out that if Eskom needed low skilled workers at any point during work progress, they would inform the surrounding communities.

The farmers/landowners who attended the forums were all opposed to corridor 3. They were in support of corridor 1 which was along the existing 220kV powerline and has minimal impact on the farms. They were also concerned about compensation and wanted to know if they would be compensated for their land that would be used by Eskom. Eskom responded that they would be compensated for the area that Eskom is going to use

Legislative Setting for SIA in South Africa. A comprehensive legal framework for environmental governance and management has been established in South Africa. Indeed, Social Impact Assessment is often incorporated in South Africa into environmental impact assessment (EIA). Both the public consultation and reporting procedures of the typical EIA process leave room for attention to cultural and socio-economic impacts.

The need to assess social issues as part of the EIA process is underpinned by two key pieces of legislation, namely the Constitution of the Republic of South Africa (Act No. 108 of 1996) and the National Environmental Management Act (NEMA), No. 107 of 1998, as amended and Environment Conservation Act, No. 73 of 1989, as amended. Each contains rights, principles and objectives that inform the SIA Guidelines and provides an understanding of what constitutes social sustainability. Other relevant pieces of legislation include the Occupational Health and Safety Act (Act No. 85 of 1993); the Extension of Security of Tenure Act (Act 62 of 1997) (ESTA). Relevant international performance standards also apply.

The Social sustainability of the project is characterized by, among others, assessing the project against the performance standards developed by the IFC's Sustainability Framework. For an example, Performance Standard 1 is the platform that requires that a project be undertaken in accordance within a recognized environment and social management system (ESMS). Such systems are designed to help identify, avoid, mitigate and manage risks and impacts as a way of planning the project in a business in a sustainable way. This includes stakeholder engagement and disclosure obligations of project-level activities. The other IFC standards include Performance Standards 2 on Labour and Work conditions; Performance Standard 4 on Community Health, Safety and Security; Performance Standard 5 on Land Acquisition and Involuntary Resettlement (this is relevant to the acquisition of the necessary servitude or additional servitudinal areas for this project); Performance Standard 7 Indigenous People and 8 on Cultural Heritage are considered in this Social Impacts' Assessment study. For this project, requirements of legislation and international standards have been included in the Social Management Plan that includes project monitoring and evaluation.

Conclusions. The purpose of this SIA's was to identify and assess the changes that are likely to occur in Khai Ma communities or to individuals in Khai Ma as a result of the construction of the proposed Aggeneis-Paulputs power line. The study thus intended to assess the consequences to Khai Ma human populations of the power line and look at the ways in which it would possibly alter the ways in which Khai Ma people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of the Khai Ma community. The likely impacts assessed also included cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society. It is important to emphasize that social impacts are both positive and negative. Consultations were also undertaken as part of the SIA in order to obtain the views of immediate community, interested groups and affected groups within the project's immediate area of influence. The consultation was done with the immediate neighbourhood of the proposed site and involved use of a semi-structured public participation form and direct face to face discussions with key stakeholder influencers. In general, the project is acceptable and no objections were raised concerning the proposed 400kV electrical transmission line and the upgrading of the two substations.

The proposed project is in line with Eskom's need to have the line meet the minimum reliability standards of the South African Grid Code that requires minimum N-1 reliability for the transmission network. This needs to be resolved as it is a mandatory requirement. The SA Grid Code thus requires adherence to this "n-1" criterion. The criterion says that for multiple transmission lines delivering power to the same point, if one of the lines goes out of service, the remaining lines must be able to carry both the load they were carrying before the event, plus the load carried by the line that is out of Service. This is true even if the line with the highest capacity is the one that goes out of service but this only holds true for major transmission lines.

The proposed line also helps meet the development and socio-economic needs of the Northern Cape province especially those of Namakwa District municipality.as a whole Indeed, in the medium to long term, the project has many positive socio-economic impacts both locally and regionally.

In view of positive and negative impacts identified, as well as public consultation conducted in the project areas, it is unlikely that the proposed projects will have significant adverse social impacts. Most adverse impacts will be of a temporary nature during the construction phase and can be managed to acceptable levels with implementation of the recommended mitigation measures for the project such that the overall benefits from the projects will greatly outweigh the few adverse impacts.

The main social issues for the projects will revolve around the displacement and relocation of people along the transmission line corridor and the acquisition of the way leave. The proponent will compensate the PAPs with respect to adverse impacts associated with displacement and disturbance

Recommendations. It is quite evident from this study that the construction and operation of the proposed Aggeneis-Paulputs electrical transmission line and the upgrade of the two substations will bring positive effects in the project area including improved supply of electricity, and potential creation of employment opportunities, and gains in the local and

regional economy, However, although the project will come with various positive impacts, negative impacts will also be experienced hence the need to also look at them. Considering the proposed location, construction, management, mitigation and monitoring plan that will be put in place, the project is considered important, strategic and beneficial and may be allowed to proceed

The three alternatives fall within the same study area and there are no significant social impact differences between the three proposed alternatives. However, alternative two is recommended. Although the SIA showed that the impacts of the three alternatives are not significantly different, alternative 2 is the most recommended. It ensures the health and safety of people in the area, as it does not pass through heavily settled areas. Most of the line passes over grazing land and animals can still freely move around towers and underneath the transmission power line, which implies minimal razing pasture loss; Where the sub-transmission power line cannot avoid crossing over cultivated land, the cultivated land is minimal.

Alternative 2 is also the furthest alignment from the Aggeneis Airport[1] and the town itself. Following on the alignment of the N14, this alternative does not affect any scattered households. Where the alternative intersects with Alternatives 1 and 3, it should follow on with Alternative 1 following the alignment of the existing line as the area is already disturbed.

This assessment recommends that transmission line Project Committee should provide a locally based **community liaison officer** to continuously engage the community with factual information and promptly responding to their concern. He will work with the Social Monitoring Officer who will be a member of the Project Management team. The CLO will be a member of the community employed by Eskom who will act as a go between the proponent and the community. She/he will articulate issues from the community to the Proponent and vice versa.

Eskom will have a stakeholder management and communication plan to enable it to learn community expectations and concerns and work out a negotiated middle point that motivates the land owners to participate in the transmission line project.

- Eskom will ensure that heritage assets are fully recognized and compensated for.
- All project activities will be managed with minimal impact to the local livelihood resources both for domestic and medicinal values (where it is still practiced).
  A community safety plan should be integrated into both the construction and operations phase project management plans.
- The project should respect human rights of the local community in all aspects and should promote culture and identity as much as practically possible.

Summary of Potential Impacts and Mitigation Measures. The following provides a summary of the main positive and negative social impacts of the proposed project as well as recommended mitigation and enhancement measures.

[1] According to farmers comments during the October 2016 public meeting held in Pofadder: The airport at Aggeneys is no longer in operation.

Impact		Commentary/ Mitigation/Enhancement Measures
Potential Positive Impacts		
1	Improved electrical capacity in the Aggeneis-Paulputs grid and reliability of supply	Conforming to NERSA N-1 standards, meeting power demands, reducing power outages, improved efficiency and productivity in businesses, growth of regional agro-processing industry, more connectivity.
2	Job creation	Job opportunities for local community member during project life cycle in relation to provision of labour for site works and provision of goods and services
3	Increased economic activity	Short term increase in economic activity during construction phase from potential purchase of construction materials and other goods and services bought by construction workers
4	Improved road infrastructure	Roads installed/improved to serve the project could also be of long term benefit to the area.
5	Gender Issues	Opportunities for women small businesses to provide catering and other services to construction workers and also to be recruited to work during project life cycle.
6	Capacity building	Opportunities for skills training for local workers recruited to work on the line and also in health and safety issues
Potential Negative Impacts		
1	Displacement of persons	Potential displacement of people to make way for the Wayleave. This will be extremely minimal because the routes follow sparsely populated areas and any displacement will be compensated for.
2	Restriction of land use and land rights	Limitation of choice for land owners on choice and rights over the land. Sensitisation as to the suitable future land uses as well as health and safety related to the transmission line and upgraded substation sites.
3	Change in land ownership	Need to register land for compensation leading to changing in local land holding patterns.
4	Impacts on land use	There will be some loss of farmland especially grazing areas, however compensation will be made for loss of crop and awareness campaigns will implemented regarding grazing land on wayleave during project life cycle.
5	Visual Impact	Route alternatives do not pass through concentrated settlement area and tourist spots. Awareness campaigns on energy transmission to be launched to sensitive community to lessen adverse effects of the OHTL .Roads /worker camps to be removed after construction where these will not serve any purpose for the community after the works.
6	Impact on archaeological sites and cultural heritage	Proposed project routes do not pass or affect any world or local heritage sites, Contractor to report any chance findings during construction works.
7	Traffic and Road infrastructure	Project related traffic movements likely to be minimal. Occasional requirements for movements of abnormal loads may result in need for temporary diversions. Location of access roads to be undertaken in consultation with local communities.

8	Noise and Vibrations	Temporary increase in noise during construction works from site machinery. Use of silencers/mufflers, provision of hearing protection devices for workers and careful selection and use of plant in sensitive settled areas.
9	Air Quality	Dust generated by excavations/earthmoving and exhaust emissions from construction vehicles, plant and equipment. Minimise by covering stockpiles, limiting speed limits in dusty areas avoid idling of motor vehicles and damping down.
10	Solid waste	Increase in pressure on local landfill facilities as well as the potential for unauthorised disposal/littering. Recycle and reuse of construction materials. Managed disposal at designated sights.
11	Electric and magnetic fields	OHTL considered a source of electronic and magnetic fields which may have adverse health effects. Internationally accepted of servitude ROW width along transmission line to be adopted

ACRONYMS

Acronyms	Description
AfDB	African Development Bank
CLO	Community Liaison Officer
CS	Community Survey
DEA	Department of Environmental Affairs
EMF	Electro Magnetic Field
EIA	Environmental Impact Assessment
FPIC	Free Prior Informed Consent
GDP	Gross Domestic Product
I & IP	Interested and Affected Persons
IDP	Integrated Development Plan
IFC	International Finance Corporation Policy
IPPs	Independent Power Providers
KM	Khai Ma Municipality
KZN	KwaZulu Natal
MW	Megawatt
NC	Northern Cape
Nersa	National Energy Regulator of South Africa
NEMA	National Environmental Management Act
RAP	Relocation Action Plan
RDP	Reconstruction and Development Program
SDF	Spatial Development Plan
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SP	Significance Points
StatsSA	Statistics South Africa

GLOSSARY OF TERMS

This glossary provides some key concepts that are central to understanding the issues involved in the management of social. The following are explanations of terms used in this report, and will have the meanings outlined below unless stated otherwise. Other important concepts, as used, have been defined inside the report text where they apply. The explanation of terms follows the explanations of the terms as given in the following two documents: International Finance Corporation's ***IFC Operational Directive OD 4.30 on Involuntary Resettlement*** and Eskom's ***Procedure for Management of Involuntary Resettlement and Relocation of Legal Occupiers on affected Eskom Land and the*** *International Association of Impact Assessment's* ***(2015) Guidance for Assessing and Managing the social impacts of projects.***

Social Licence to Operate: refers to the level of acceptance or approval of the activities of an organization by its stakeholders, especially local impacted communities. Leading corporations now realize that they need to meet more than just the regulatory requirements, they also need to consider, if not meet, the expectations of a wide range of stakeholders, including international NGOs and local communities. If they don't, they risk not only reputational harm and the reduced opportunities that might bring, they also risk being subject to strikes, protests, blockades, sabotage, legal action and the financial consequences of those actions. In some countries, 'social licence' has become an established element of the language of business, actively influencing, if not driving, the business strategy of many companies, and is part of the governance landscape.

Free, Prior and Informed Consent (FPIC): is a procedural mechanism developed to assist in ensuring the right of Indigenous peoples to self-determination. It is a concept that gained status by its inclusion in the 2007 United Nations Declaration on the Rights of Indigenous Peoples and the 1989 International Labour Organization's Convention 169. Its legal status varies depending on whether a country has signed one or the other of these instruments and has effectively incorporated it into domestic law. 'Free' means that there must be no coercion, harassment, intimidation or manipulation by companies or governments in order to obtain stakeholder consent, and should a community say 'no' there must be no retaliation. 'Prior' means that consent should be sought and received before any activity on community land is commenced and that sufficient time is provided for adequate consideration by any affected communities. 'Informed' means that there is full disclosure by project developers of their plans in a language and format that is acceptable to the affected communities, and that each community has enough information and capacity to have a reasonable understanding of what those plans will likely mean for them, including of the social impacts they will experience. Although 'consent' would normally imply that communities should have a real choice, that they can say yes if there is a good flow of benefits and development opportunities to them, or they can say no if they are not satisfied with the deal, and that there is a workable mechanism for determining whether there is broad-based support in the community as a whole, in reality the implementation of FPIC often remains flawed. FPIC, to varying extents, has been adopted as a requirement by the IFC and many other international organisations. There is an increasing discussion about whether the spirit of FPIC should be used to demonstrate respect for all communities and to earn a social licence to operate.

A human rights-based approach: refers to a conceptual and procedural framework directed towards ensuring the promotion and protection of human rights in policies, programs, plans and projects. It is the basis of all human rights relevant instruments and actions and has been applied in a wide range of contexts (notably in health and development cooperation). It seeks to: (1) position human rights and its principles as the core element of actions; (2) demand accountability and transparency by duty-bearers towards rights-holders; (3) foster empowerment and capacity building of rights-holders to, inter alia, hold duty-bearers to account; (4) ensure that the meaningful participation of rights-holders in development processes and planned interventions is recognised as an intrinsic right, not simply as best practice; and (5) ensure the non discriminatory engagement of rights-holders and the prioritization of especially-vulnerable or marginalized individuals or groups (e.g. women, elderly, children and youth, minorities and Indigenous peoples).

Human rights due diligence: refers to the expectation in the United Nations Guiding Principles on Business and Human Rights that companies must carry out a due diligence process in order to ensure that a proposed business action, transaction or acquisition has no hidden human rights risks (in other words, risks to people and communities, not only risks to the company). Since many social impacts are also human rights impacts, affected stakeholders are rights-holders with legal rights. This increases the significance of social impacts and the importance of social impact assessment. Social impacts are therefore serious matters that companies must address.

Non-technical risks: relate to the managerial, legal, social and political issues faced by a project, in contrast to the technical risks (i.e. the physical, structural, engineering and environmental risks). The technical and technocratic focus of many project staff (and their societal mentality) means that the technical risks are usually fully considered whereas the non-technical risks are under-considered or ignored altogether. Nevertheless, because of the protest actions local communities can take, non-technical risks are potentially serious financial risks to a project and therefore should be fully considered and addressed.

Social risk: Have different meanings in different discourses. In the SIA/corporate project discourse, 'social risk' is a largely similar concept to 'non-technical risk' and is the preferred term. The World Bank defines social risk as "the possibility that the intervention would create, reinforce or deepen inequity and/or social conflict, or that the attitudes and actions of key stakeholders may subvert the achievement of the development objective, or that the development objective, or means to achieve it, lack ownership among key stakeholders". For the Bank, social risk is considered to be both risk (threats) to the success of the project, but also risk (social issues) created by the project, which in turn become threats to the project. In a corporate setting, social risk can be regarded as the business risks (e.g. extra costs) to the company that arise from any social impacts or social issues created by the project, such as through unforeseen costs of mitigation, future litigation and/or compensation payouts, worker strikes, retaliatory acts of sabotage, and reputational harm.

Impacts & Benefits Agreements (or Community Development Agreements): negotiated agreements between project developers and affected peoples. Although sometimes including governments, these agreements typically are between a project developer and the impacted stakeholders, although the impetus and content may be influenced by government policy. Agreements normally include statements about the likely residual impacts, provisions about

how these impacts are to be addressed, the benefits that have been promised, and the governance processes that will be used to manage the relationship between the parties.

Sustainable Livelihoods: refers to a way of thinking about communities and people in terms of their capabilities, and the livelihood resources (assets, capitals) and the livelihood strategies (activities) they undertake to make their living and conduct their way of life. A livelihood refers to the way of life of a person or household and how they make a living, in particular, how they secure the basic necessities of life, e.g. their food, water, shelter and clothing, and live in the community. Livelihoods are interdependent on each other and on the biophysical environment. A livelihood is sustainable when it can cope with and recover from stresses and shocks (i.e. is resilient) and maintain or enhance its capabilities and assets both now and into the future while not undermining the natural resource base. People need a sustainable livelihood in order to survive, and therefore all interventions need to consider the impacts on people's livelihoods.

Shared value: a way of thinking about the role of a company that recognizes that societal needs, not just conventional economic needs, define markets, and that the purpose of the corporation must be redefined as creating shared value, rather than just profit for its shareholders, so society benefits as well as the company. This view also acknowledges that social harms frequently create costs for firms in the form of social risks and therefore need to be carefully managed.

The Equator Principles (EP): a corporate social responsibility and sustainability framework for the global finance industry. More specifically, it is a risk management framework adopted by financial institutions (i.e. banks) for determining, assessing and managing environmental and social risk in projects anywhere in the world and for all industry sectors. It is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. Banks that adopt the EP commit to implementing the principles in their internal environmental and social policies, procedures, and standards for financing projects and agree to "not provide Project Finance or Project-Related Corporate Loans to projects where the client will not, or is unable to, comply with the EP". Essentially the EP are a set of high level principles; for operational guidelines, the EP requires compliance with the IFC Performance Standards.

Socio-economic Impact Assessment An examination of how a proposed development will change the lives of current and future residents of a community and a useful tool to help understand the potential range of impacts of a proposed change, and the likely responses of those impacted on if the change occurs.

Social Impact Assessment The processes 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 these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

Environment The definition of the environment is very broad. According to the National Environmental Management Act (Act No 107 of 1998), the environment can be defined as "the surroundings within which humans exist and are made up of:

(i) the land, water and atmosphere of the earth; (ii) micro-organisms, plant and animal life; (iii) any part or combination of (i) and (ii) and the interrelationship among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being."

Integrated Environmental Management Integrated Environmental Management (IEM) is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning process. The term environmental is used in its broadest sense, encompassing biophysical and socio-economic components.

Sustainable development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Social Science Social science is the branch of science that deal with a particular phase or aspect of human society. It involves the study of people, their beliefs, behaviour, interaction and institutions.

Social capital Social capital comprises the abilities, traditions and attitudes that help ensure that a group of people will support each other, respond to challenges in a constructive manner, and innovate

Types of capital or asset:

Note: There are multiple forms of capital (assets, resources) and many different ways of grouping and defining them. What is included should depend on the context of application. The individual capitals are meant to be metaphors and used generically rather than being strictly defined and interpreted narrowly. The concept of the capitals can be applied at different levels of analysis – it can be used to apply to an individual, to a household, a local community, or region. The capitals approach was originally developed in terms of understanding the livelihood strategies of individuals living in impoverished rural communities in developing countries. It has now been applied in a wide range of situations.

Natural capital: includes the stocks and flows of environmentally-provided assets (i.e. ecosystem services) such as food and agricultural resources, forest resources, mineral reserves, soil, water, wetlands and fish stocks.

Physical capital (also known as produced, manufactured or built capital): comprises the stock of equipment, physical plant (e.g. factories), infrastructure (e.g. roads, airports, hospitals, schools), and other productive resources owned by individuals, the business sector, or the country itself, as well as the management systems needed to make them work.

Financial capital: the financial resources available to people, such as their savings and access to credit. It also notes any debts or mortgage they may have. Human capital: includes the levels of knowledge and skill, formal education, health and nutrition of individuals, as well as their motivation and aptitude. Social capital: sometimes simply defined as only social networks and trust, it also includes the social rules, norms, obligations, and reciprocity arrangements embedded in social

relations, social structures, and the society's institutional arrangements.

Political or Institutional capital: refers to the existence and effective functioning (i.e. capacity) of the society's governance mechanisms – to the governance institutions themselves and to the standards, rules, regulations they apply and their enforcement.

Cultural and Spiritual capital: includes the way people know the world and their place within the world, as well as how they act within it. It also refers to the extent to which the local culture, traditions and language, etc promote or hinder wellbeing, social inclusion and social development. Spiritual capital assists in maintaining a balance across the different capitals and in remaining in touch with deeply-held values and the things that give meaning to life. Cultural capital influences what voices are heard and listened to, which voices have influence in what areas, and how creativity, innovation and influence emerge and are nurtured

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1. INTRODUCTION

In order to adequately provide for the growing electricity demand and to ensure compliance to regulatory standards, Eskom is proposing to undertake the construction of 400kV power line from the Aggeneis substation to the Paulputs substation over a distance of approximately 97km. The project will further entail the necessary upgrades to the Aggeneis and Paulputs substations. The project area is located within the Khai Ma Local Municipality of the Namakwa District in the Northern Cape. The closest towns are Pofadder (approximately 32km southwest of the Paulputs substation) and Aggeneis (approximately 8km southwest of the Aggeneis substation). As required by relevant legislation, a Social Impact Assessment has to be done to determine the social costs and benefits of the proposed project.

The Inter-Organisational Committee on Guidelines and Principles for Social Assessment (1994) defines social impacts as 'the consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society'. Social impacts are the 'people impacts' of development actions. Barrow (2000: 2) defines social impact(s) as "a significant or lasting change in people's lives brought about by a given action or actions". There are many categories of social impact, e.g. demographic, institutional, relocation, community cohesion, lifestyle, well-being and beliefs. Social impact assessments thus focus on the human dimension of environments, and seek to identify the impacts on people in terms of who benefits and who loses.

This Social Impact Assessment (SIA) is a study of the direct and indirect benefits and costs of how the proposed Aggeneis-Paulputs transmission line project affects the Khai Ma community and the municipality; determine, characterize and assess potential impacts therein; as well as develop and propose appropriate mitigation measures. The study provides a strategic analysis of the local social assets envisaged by the construction, operation and decommissioning of the transmission line project. This will become the framework for making recommendations regarding optimization and mitigation of the predicted impacts.

The proposed project's potential impacts on the social environment include: (i) Impacts on Existing Residential areas and Estates; (ii) Impacts on Towns and Dense settlement; (iii) Impacts on Schools and Colleges; (iv) Impacts on Tourism; (v) Impact on Land Value; (vi) Inflow of workers; (vii) Impacts on health and social well-being; (viii) Impacts on the economy and material well-being; (ix) Impacts on cultural aspects; (x) Impacts on family and community aspects.

This specialist study report therefore includes the following:

- Overview, motivation, feasibility, and alternatives of the project;
- Study approach and methodology;

- Description of the socio-economic baseline conditions and;
- Impact prediction, rating and mitigation, management and monitoring measures.

1.1. Study Goals and Objectives

The key aims and objectives of this study included:

- To provide an accurate representation of the social, cultural and economic conditions of the population surrounding Aggeneis-Paulputs power line project;

- To identify the potential socio-economic positive and negative impacts of the construction, operations and decommissioning and closure phases of the proposed project;

- To develop attainable mitigation measures to enhance positive impacts and reduce or avoid negative impacts; and

- To develop management and monitoring measures to be implemented throughout the life of the project.

1.2. Approach and Methodology

The following procedures were implemented to meet the objectives of the study.

1.2.1. Data Collection Methods

This SIA study comprised discussions and consultations with Eskom and stakeholders; site reconnaissance, desk study and literature review, preparation of data collection instruments; field visits for consultations, discussions with local administration officials, and observations; data analysis and reporting. Information that was relevant to the project from the following sources was identified and assessed, and within the context of the pre-construction, construction, operational, and decommissioning phases of the proposed project.

- A desktop study of Census 2011 and Community Survey 2012 data to determine any significant social trends in the area;
- A desktop study of the Integrated Development Plan (IDP) (2012-2017) of the affected Khai Ma Local Municipality; and
- Relevant sections from the Khai Ma Spatial Development Frameworks (SDF).
- Verification site visits were done
- Interviews with stakeholders

1.2.2. Stakeholder Consultation and engagement

A stakeholder engagement plan (SEP) was developed and comprised stakeholder analysis and planning. This stakeholder engagement was planned to be continuous through the pre-construction, construction and operations phase of the project. Analysis of stakeholders included identifying community members with land parcels and other physical assets in the proposed transmission line routes and their neighbours and public institutions and facilities including schools and water points.

1.3. Impact Assessment Regime

Impact assessment in general refers to the process of identifying the future consequences of a current or proposed action (Becker, 1997: 2). Social impact Assessment (SIA), as a major sub-field of impact assessment, focuses on demographic, social and in some cases also economic aspects, as distinct from biophysical aspects, in order to give social impacts proper attention in impact assessment. SIA mainly involves the processes 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. These assessments can enable the project implementing authorities to not only identify social and environmental impacts, but also to put in place suitable institutional, organizational, and project-specific mechanisms to mitigate the adverse effects.

This study assesses social impacts that are generally associated with five types of change:

- **Demographic change** including the size and composition of the resident population, influx of temporary work force or new recreational users, community facility and social infrastructure requirements;
- **Economic change** including new patterns of employment/income, local economic effects, real estate speculation, crime and public safety, accommodation and housing;
- **Health and well-being changes** including cultural, family, leisure, recreation and community health issues, needs of social groups, heritage & social amenity issues;
- **Environmental change** including alterations to land use, natural habitat and hydrological regime; and
- **Institutional change** including the structure of local government or traditional leadership, zoning by-laws or land tenure, legal issues.

Undertaking the Social Impact Assessment included analysis of:

- **Directionality:** some impacts may be positive for some people, while the same impact may be negative for other people;
- **Certainty**: the likelihood or probability of occurrence of impact;
- **Frequency:** how often the impact will occur;
- **Severity:** the magnitude and/or strength of impact;
- **Chronicity:** over what time period;
- **Locality:** area of impact;
- **Susceptibility and vulnerability:** how susceptible the community/environment is to impact;
- **Mitigatability:** the potential of the impact to be mitigated and;
- **Intractability**: symbiotic and/or catalytic potential with other impacts and cumulative potential.

The main objective of this study is to determine the social risks and opportunities, positive and adverse impacts, of the Aggeneis-Paulputs transmission line project. This includes the identification of both the technical view and stakeholder understanding and valuation of their socio-cultural assets that will be directly affected by the project footprint.

SIA Specialists developed an assessment matrix for evaluating the socio-economic risks. The matrix provides potentially significant impact assessment with regard to:

a) The nature of the impact (including the status, which may be positive, negative or neutral);

b) The extent and duration of the impact;

c) The probability of the impact occurring;

d) The degree to which the impact can be reversed;

e) The degree to which the impact may cause irreplaceable loss of resources; and

f) The degree to which the impact can be mitigated.

Impacts were assessed using the above parameters and then the significance criteria were calculated based on **RISK = (Extent + Duration + Magnitude) x Probability**.

Table 3: Descriptors of various risk elements

Extent		**Magnitude**	
Localized (At localized scale and a few hectares in extent)	**1**	**Small and will have no effect on the environment**	**0**
Study area (The proposed site and its immediate environs)	**2**	**Minor and will not result in an impact on the processes**	**2**
Regional Provincial and District level)	**3**	**Low and will cause a slight impact on the processes**	**4**
National (Country)	**4**	**Moderate and will result in process continuing but in a modified way**	**6**
International (Beyond South Africa)	**5**	**High (processes are altered to the extent that they temporarily cease)**	**8**

		Very high and results in complete destruction of patterns and permanent cessation of the processes	**10**
Duration		**Probability**	
Very short (0 – 1 Years)	**1**	Highly improbable (<20% chance of occurring)	**1**
Short (1-5 Years)	**2**	**Improbable (20 – 40% chance of occurring)**	**2**
Medium Term (5-15 Years)	**3**	**Probable (40% - 70% chance of occurring)**	**3**
Long Term (>15 years)	**4**	Highly probable (>70% - 90% chance of occurring)	**4**
Permanent	**5**	Definite (>90% chance of occurring)	**5**

Table 4: Significance criteria used for the SIA of the proposed project

		CONSEQUENCE (Extent+Duration+Magnitude)																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PROBABILITY	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
	4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

Table 5: Table showing impact significance rating

Low	<30	Where this impact would not have a direct influence on the decision to develop in the area
Medium	**30-60**	Where the impact could influence the decision to develop in the area unless it is effectively mitigated
High	>60	Where the impact must have an influence on the decision process to develop in the area

Table 6: Confidence of assessment

The degree of confidence in predictions based on available information, Mokgope judgment and/or specialist knowledge	**High**

1.4. Limitations and Assumptions

In any SIA study, there will always be gaps in knowledge or uncertainties encountered. For the proposed project, the following assumptions were made in undertaking the Study:

- The SIA team utilized secondary data, including reports from other related studies. It was assumed that the information about the demographics and social status of communities living along the Transmission line easement from these sources is accurate;

- This study was carried out with the information available to the specialist at the time of executing the study, within the available time frames and budget. The sources consulted are not exhaustive and additional information that might strengthen arguments or contradict information in this report might exist.

- The specialists did endeavor to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment.

- It was assumed that the motivation for, and the ensuing planning and feasibility studies of the project were done with integrity, and that the information provided to date by the project proponent, the independent environmental assessment practitioner and the public participation consultant was accurate

- Social sensitive areas have been identified through a desktop study making use of Google Earth. The areas that have been marked are the social sensitive areas visible to the social specialists at the time of the study, which are in proximity to the substation expansion site and the loop-in/-out power line route alternatives.

2. PROJECT DESCRIPTION, MOTIVATION, AND ALTERNATIVES

2.1. Project Description

Eskom Holdings SOC Ltd is currently proposing to construct a 400kV transmission power line from Aggeneis substation, approximately 8km south west of the town of Aggeneis, to Paulputs substation, approximately 35km north east of the town of Pofadder within the Khai-Ma Local Municipality, which falls under the jurisdiction of Namakwa District Municipality in South Africa's Northern Cape Province. Both Aggeneis and Paulputs are existing substations that would require technical upgrades to accommodate the new power line.

Table 7: Generated coordinates of the Aggeneis to Paulputs Substations that form the north eastern and western extremities of the investigated route alternatives

Boundary position	Source	Coordinates (decimal degrees)
Start point: North-eastern Extremity (± 2 km north west of Paulputs Substation)	The co-ordinates of the north-eastern extremity of the three alignment alternatives were obtained from a GIS shape file (received from SSI).	-28.8611°S 19.575°E
End point: Western Extremity (Aggeneis Substation)	The co-ordinates of the western extremity of the three alignment alternative were obtained from a GIS shape file (received from SSI).	-29.2967°S 18.8047°E

Source: Eskom, 2015

Figure 2: Paulputs substation

Source: Google maps, 2016

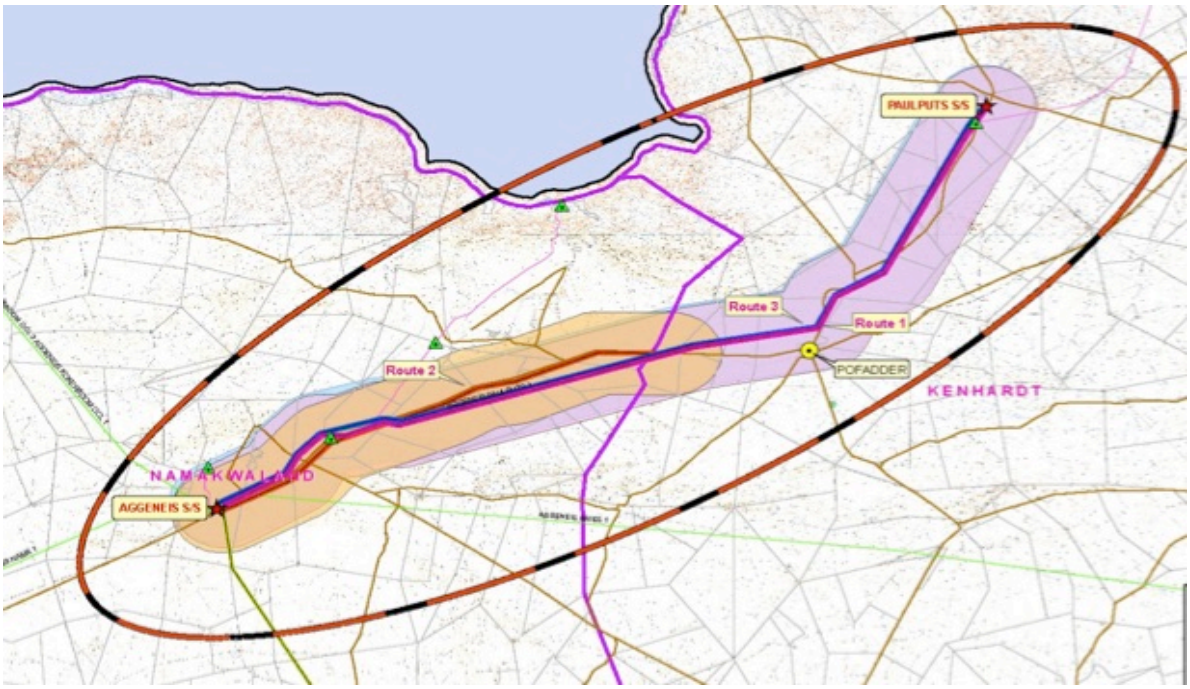


Figure 3: Aggeneis-Paulputs locality map

Source: Eskom 2016

2.2. Project Motivation

The purpose of the proposed additional transmission line between the Aggeneis and Paulputs substations is to help alleviate current and future network constraints in the Northern Cape. The Province's Khai Ma Local Municipality and surrounding areas are experiencing electricity supply problems as a result of limited capacity of the Aggeneis and Paulputs substations and existing Transmission line. Due to increased demand and increased growth in the areas, Eskom has identified the need for a new Transmission Power-line to assist in minimising pressure on the existing substations and supply.

According to Eskom, the Aggeneis-Paulputs network is designed as a radial distribution system and now poses its own challenges of capacity. The Radial distribution system is the cheapest to build, and is widely used in sparsely populated areas. A radial system has only one power source for a group of customers. A power failure, short-circuit, or a downed power line would interrupt power in the entire line which must be fixed before power can be restored. Thus the radial electrical power distribution system has one major drawback- that in case of any feeder failure, the associated consumers would not get any power as there would be no alternative path to feed the transformer. In case of transformer failure also, the power supply is interrupted. In other words, the consumer in the radial electrical distribution system would be in darkness until the feeder or transformer has been rectified.

The present radial network does not therefore meet the minimum reliability standards of the South African Grid Code that requires minimum N-1 reliability for the transmission network. This needs to be resolved as it is a mandatory requirement. The N-1 criterion requires that all loads can be restored if any single component fails (i.e. N-1 components still available). However, this does not mean no short-term outage should occur, only that the load be quickly (definitions vary on how quick) restorable. The SA Grid Code thus requires adherence to this "n-1" criterion. The criterion says that for multiple transmission lines delivering power to the same point, if one of the lines goes out of service, the remaining lines must be able to carry both the load they were carrying before the event, plus the load carried by the line that is out of Service. This is true even if the line with the highest capacity is the one that goes out of service but this only holds true for major transmission lines.

Another transmission capacity problem, Eskom says, is that the current transmission capacity will soon be exhausted at Paulputs if development of solar farms by IPPs continues at present levels. To address the line capacity issue, the construction of the 2nd Aggeneis-Paulputs built at 400kV is the preferred solution. It ensures the network is firm for N-1 contingency, and will also ensure that there is sufficient line capacity to evacuate potential additional IPPs in the area.

Population and economic growth in the Springbok, Pofadder and Aggeneis areas of Northern Cape Province means that the existing power reticulation networks have become inadequate to provide the required supply to Eskom's customers. The existing line is currently being operated at its maximum capacity, which poses the risk of the line being overloaded with consequential failures and power shortages. The new line will thus alleviate the usage of the existing line, create additional supply capacity and lastly provide a stable and reliable source

of power to the region. This is considered to be the most feasible solution proposed by Eskom Transmission, to supply electricity to the surrounding communities.

The reliable electricity supply has the potential to open the door to new industries and improve the sustainability of existing industries within the general area, in turn contributing to an increase in investment and the local GDP.

2.3. Route Alternatives

Three corridor alternatives with an associated power line alignment are being considered by Eskom Transmission and were evaluated during the SIA process to determine the best socially practicable alignment. The three route alignment corridors are investigated within the same larger study area**. T**he larger study area was determined by demarcating a 5 km buffer around the three alignment alternatives, while each of the three alternatives were buffered by 1 km to demarcate their respective corridors. The three route alternative corridors are located in close proximity to one another and generally follow existing infrastructure, such as the existing 220 kV Eskom transmission line (western and eastern portions of the study area) and the N14 highway (western portion of the study area).

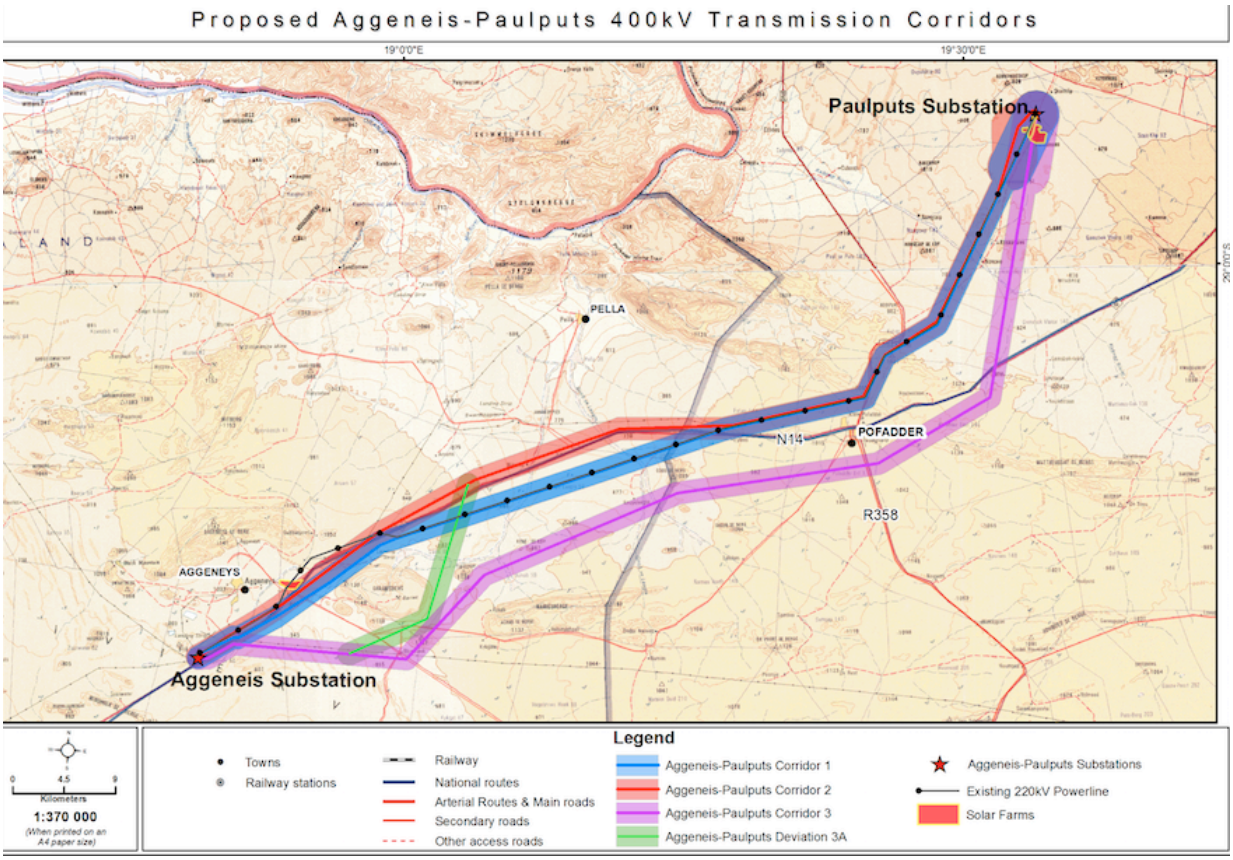


Figure 4:The proposed Aggeneis-Paulputs Power line alternatives

Source: Eskom, 2016

2.3.1. Alternative 1 (pink line)

Runs parallel to the existing 220V line. The Alternative is approximately 96.41 km long, while its corridor occupies an area of ± 19 571.24 ha. This alternative was going to add to the visual impact for the motorist travelling in that area as it was very close to the N14. This alternative is a cost effective option in terms of construction as it has very few bending points. In terms of people and their assets, the line does not pass through ant densely populated area. Neither does it pass through infrastructure that might whose location may be threatened by the construction of the power line along thgis alternative. The route does not affect farmlands and there would therefore be little if any negative impacts on land ownership and farming activities.

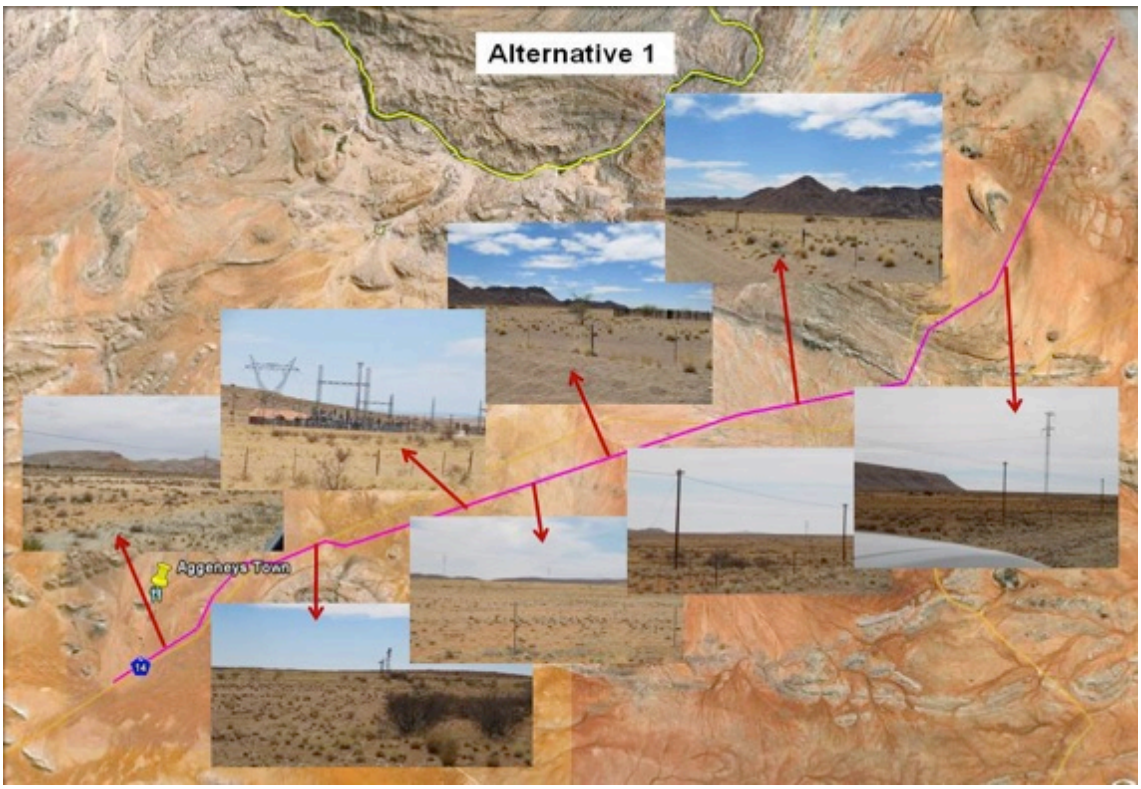


Figure 5: Alternative 1

Source: Eskom, 2016

2.3.2. Alternative 2 (yellow line)

Runs on the South-Eastern side of the existing 400kV line from Aggeneis. At about 20km it then crosses the existing line towards the North-Western side. Further north there are mountains which prevents this alternative from proceeding up. The route is then forced to link up with Alternative 3. Alternative 2: (Agg – Paul N 14 2) is approximately 96.60 km long, while its corridor occupies an area of ± 19 615.59 ha. Although it does affect some farms, it has little impact on settled areas or places of archaeological and cultural significance.

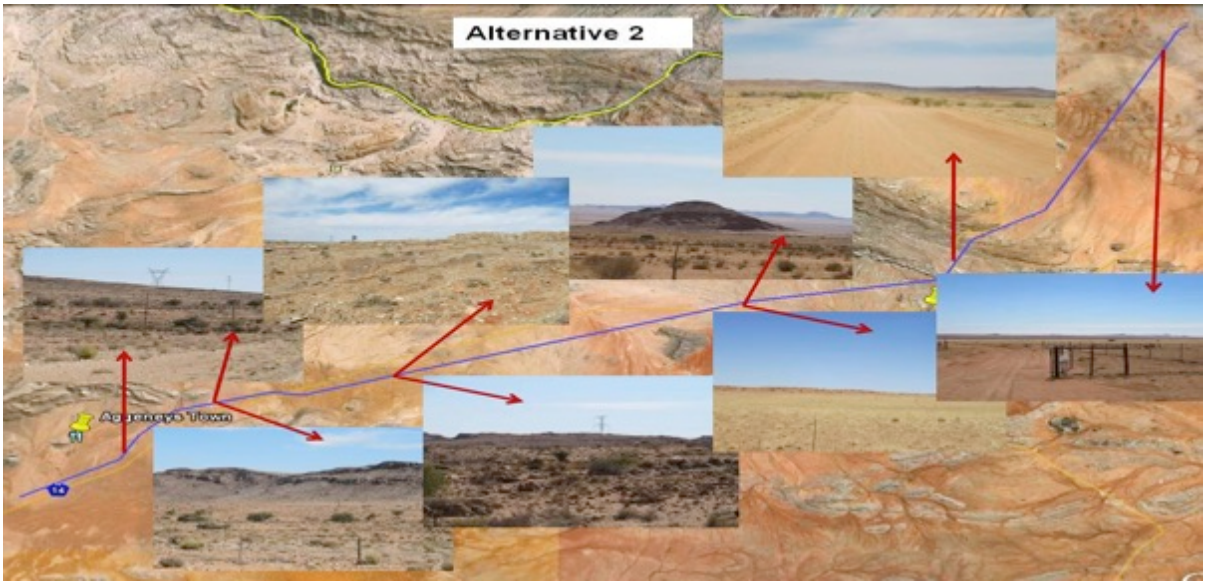


Figure 6: Alternative 2

Source: Eskom, 2016

2.3.3. Alternative 3 (blue line)

Runs parallel to the existing 220 kV line with some slight deviations and bends. This Alternative 3: (Agg – Paul Ex 1) is approximately 96.25 km long, while its corridor occupies an area of ± 19 545.16 ha. This alternative is also going to add to the visual impact for the motorist travelling in that area as it is very close to the N14. This alternative may be the most cost effective in terms of construction as it has almost similar bending points as Alternative 1. However, it does impact the designated Conservation area and affects more farm portions and built infrastructure than any of the other alternatives.

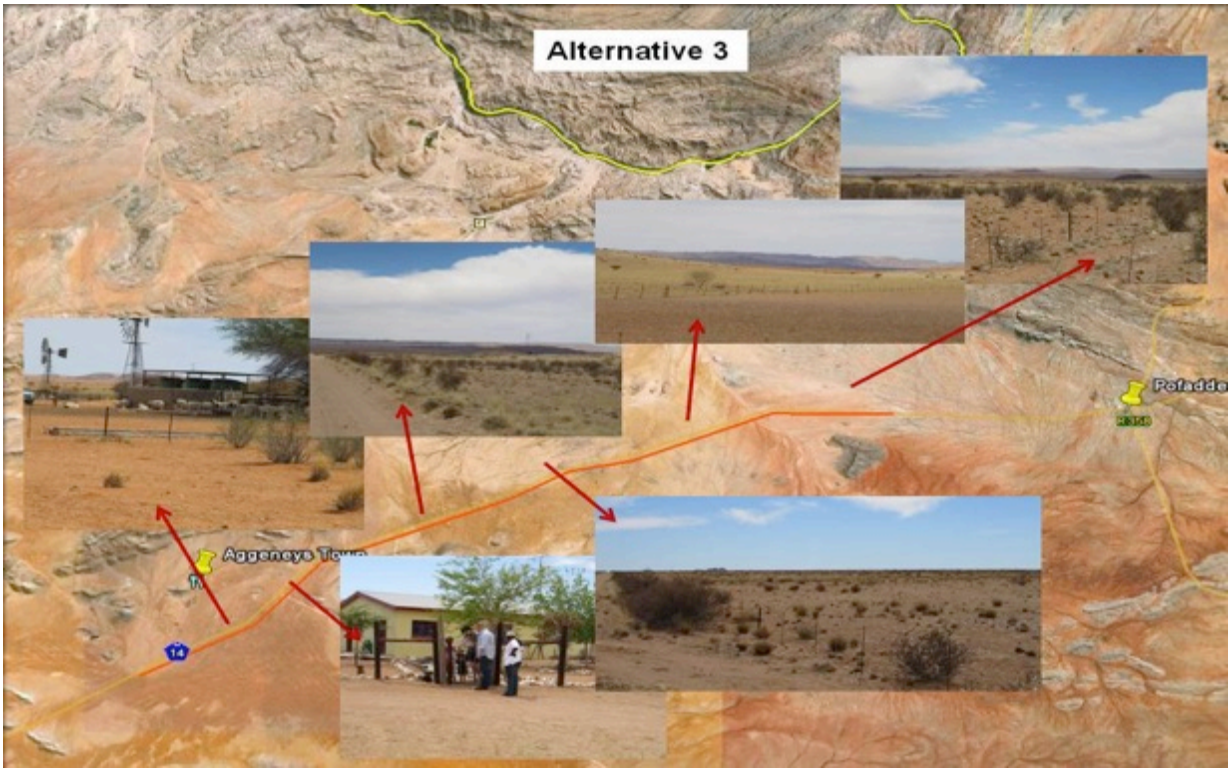


Figure 7: Alternative 3

Source: Eskom, 2016

2.4. Technical Details regarding the 400 kV transmission line

The proposed power line corridor will commence at the Paulputs substation to the Aggeneis substation. The proposed length is approximately 97km. It is proposed that a 400kV400kV monopole structure be used for the transmission line. This Single Mast Suspension structure was developed as an alternative to self-supporting structures available at the 220kV voltage level. This configuration is designed to be highly flexible during broken conductor conditions, resulting in a very light structure

2.4.1. Servitude Requirements and Clearances.

The servitude width for a 400 kV Sub-transmission line is 55m. The minimum vertical clearance to buildings, poles and structures not forming part of the power line must be 3,8 m, while the minimum vertical clearance between the conductors and the ground is 6,7 m.

The minimum distance of a 400 kV Sub-transmission line running parallel to proclaimed public roads is 95 m from the centre of the sub-transmission line servitude to the centre of the road servitude. The minimum distance between any part of a tree or shrub and any bare phase conductor of a 400 kV -transmission line must be 3,8 m, allowing for the possible sideways movement and swing of both the Sub-transmission line and the tree or shrub

On receipt of an approval of the final corridor by the environmental authorities and after negotiations with landowners, the final definition of the centre line for the sub-transmission line and coordinates of each bend in the line will be determined. Optimal tower sizes and positions will be identified and verified using a ground survey (in terms of the Environmental Management Plan (EMP) requirements).

A minimum 8 m (4 m either side of the centre line of the power line) wide strip is to be cleared of all trees and for stringing purposes only. If any tree or shrub in other areas will interfere with the operation and/or reliability of the sub-transmission line it will be trimmed or completely cleared. The clearing of vegetation will take place, with the aid of a surveyor, along approved profiles and in accordance with the approved EMP, and in accordance with the minimum standards to be used for vegetation clearing for the construction of the proposed new sub-transmission power line.

2.4.2. Foundations.

The type of terrain encountered, as well as the underlying geotechnical conditions determines the choice of foundation. The actual size and type of foundation to be installed will depend on the soil bearing capacity (actual sub-soil conditions). Strain structures require more extensive foundations for support than in-line suspension structures, which contribute to the cost of the construction of the line. The minimum working area required around a structure position is 20 m × 20 m

Foundations will be mechanically excavated where access to the pole position is readily available. The same applies to the pouring of concrete required for the setting of the foundations. Prior to erecting the poles and filling of the foundations, the excavated foundations will be covered in order to safeguard unsuspecting animals and people from injury. All foundations are back-filled, stabilised through compaction, and capped with concrete at ground level.

2.4.3. Insulators.

Composite insulators are used to connect the conductors to the towers. Glass and porcelain have previously been used to connect the conductors for many years, and are the most common. They are, however, heavy and susceptible to breakage by vandals, as well as contamination by pollution. Composite insulators have a glass-fibre core with silicon sheds for insulation. Composite insulators are lightweight and resistant to both vandalism and pollution. Composite (Long rod type) insulators with silicone based weather shed material will be used for strain assemblies. Composite horizontal line post insulators will be used for the intermediate structures and on the jumper supports.

2.4.4. Access.

Most of each of the proposed corridor alternatives are situated along existing access routes, and therefore access to the sites are readily available. A vehicle access road is usually required to be established to allow access along the entire length of the servitude. Access is

required during both the construction and operation/maintenance phases of the Sub-transmission line life cycle. Areas without access points and roads will be negotiated with landowners, and are to be established during the construction phase. The access roads will be considered for the various alternative routes being evaluated for the proposed project. Should a new access road be required to be constructed for the final route, it will need to be negotiated with the individual landowner/s concerned.

2. 5. Servitude Negotiation Process

As per Eskom's standard operating procedure, a 400kV transmission power line is operated within 55 m wide servitude. The servitude basically entails a restriction on a property by registering the servitude at the Deeds Office, which permits Eskom to access that part of the property to ensure the safe operation of the power line. Important to note is the fact that the servitude conditions are transferable in the event that an affected property is sold on the open market.

Eskom's policy is to compensate the landowner for the strip of land that is required for the servitude. In order to do so, Eskom enters into a negotiation process with the affected landowner, with the aim to reach a servitude agreement. The compensation amount is calculated based on the value that the property would have reached if it was sold on an open market by a willing seller to a willing buyer (property valuations are done by independent valuators and property owners have the right to verify such valuations). In addition to the actual property value, Eskom also compensates the landowner for any actual financial loss (the value of which will be determined by the independent land valuator) caused by the acquisition of the servitude. It is important to note that Eskom undertakes the negotiation process directly once authorisation has been granted by the competent authority (i.e. the process does not form part of the EIA process nor is it undertaken by consultants).

The negotiation process is as follows:

1. Once the route of the transmission power line has been finalised and environmental authorisation received, Eskom negotiators will identify the affected properties and verify the information with the Survey-General, after which they will obtain the detail of the legal landowner(s) from the Deeds Office. At this stage Eskom will commission independent strip valuations on the affected properties, including pre- and post-valuations if required. As soon as Eskom has acquired all the necessary information, an Eskom negotiator will meet with the affected landowner to commence the negotiation process by presenting the landowner with a formal offer. Landowners have the right, within reason, to negotiate special conditions that, once accepted by both parties, will form part of the formal servitude agreement.

   If both parties are satisfied with the terms and conditions set out in the servitude agreement (which includes aspects such as the compensation amount, the special conditions for the operation of the servitude, etc.), they sign the agreement. Once the servitude agreement has been signed, the terms and conditions thereof cannot be re-negotiated – landowners should thus ensure that they take cognisance of the project's

pre-construction, construction, and operational phases during the negotiation process. Landowners are expected to sign a *Final Release Certificate* if they are satisfied with the condition of their land upon completion of the construction process, and until such time Eskom remains responsible for the rehabilitation of the land.

If the negotiation process reaches a deadlock, or if the parties failed to reach an agreement within 90 days after commencement of the negotiation process, Eskom may apply for the expropriation of the land required for the servitude, in accordance with the following legislation:

The Electricity Regulation Act (Act 4 of 2006), section 27(1): (If Eskom is unable to reach an agreement with a landowner) *the State may, in order to facilitate the achievement of the objectives of this Act, expropriate land, or any right in, over or in respect of land, on behalf of a licensee in accordance with section 25 of the Constitution and section 2 of the Expropriation Act, 1975 (Act No. 63 of 1975)*.

Constitution of South Africa (Act 108 of 1996), section 25: (A property may be expropriated if such an expropriation is) for the greater good of the public at large; and subject to compensation. In this instance, compensation should be fair and should create a balance between public interest and that of the affected landowner in respect of: The current use of the property; the history of the property in terms of acquirement and use; and the current market *value of the property.*

The Expropriation Act (Act 63 of 1975), subsection 12, stipulates that the compensation amount on any property, excluding properties with registered mineral rights, should be calculated as follows:

The amount that the property would have sold for if it was sold on an open market to a willing buyer from a willing seller;

An amount to compensate for any actual financial loss as a direct result of the expropriation; and the case of a registered right on or to a property, excluding registered mineral rights, an amount to compensate for the actual financial loss as a direct result of the expropriation or the obtaining of the right.

However, Eskom aims to avoid expropriation as far as possible, as this process is not only time consuming and tedious, but also damaging to Eskom's relationship with landowners

Access agreement to be negotiated and agreed on commencement of construction to confirm landowners' requirements for notification of entry of construction teams, location of gates/fences, and confirm servitude conditions. As mentioned above, the proposed linear activity is located in the Khai-Ma Local Municipality, within the jurisdiction of Namakwa District Municipality in the Northern Cape Province. The proposed transmission power line alternatives run through various farms and / or private properties, of which most of them have been identified through a deeds search. A map showing properties crossed by the proposed alternative corridors is shown below:

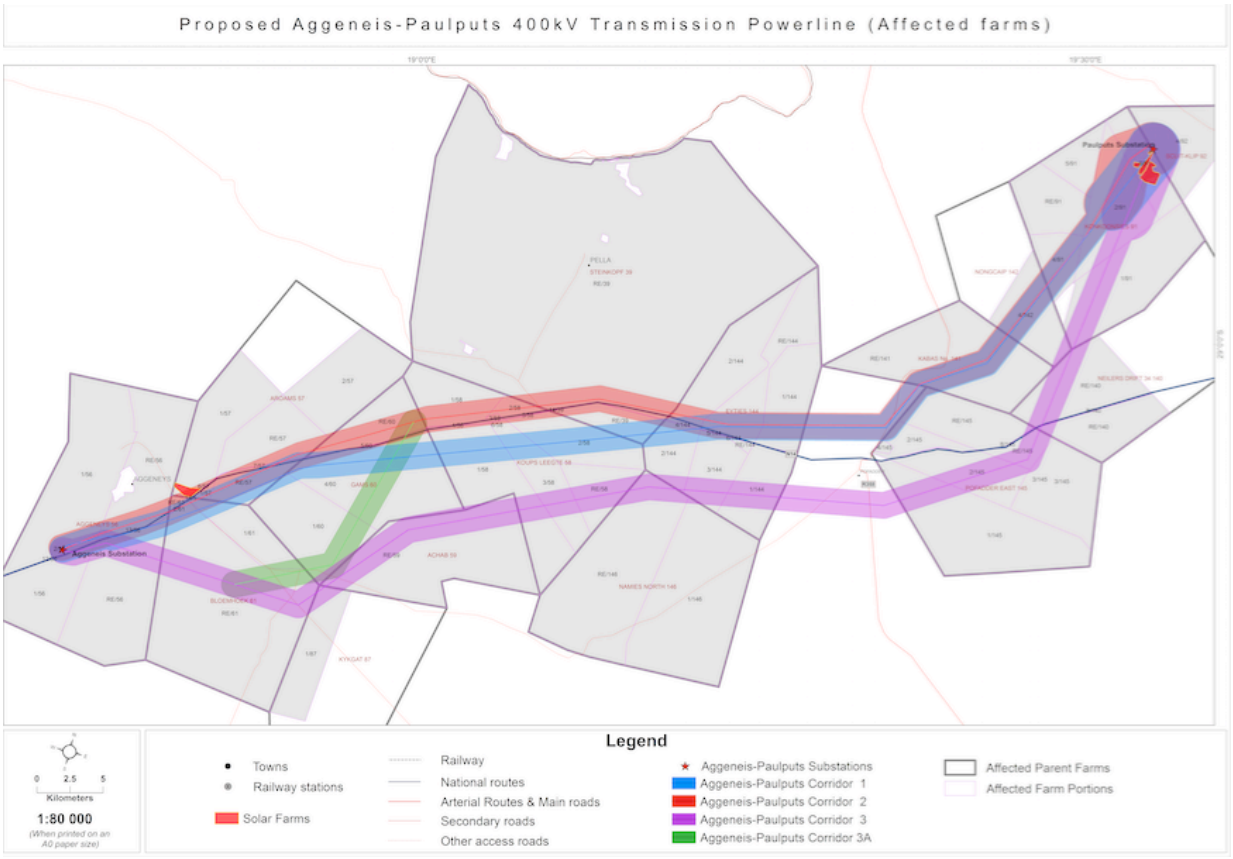


Figure 8: Proposed power line corridors (affected farms)

Source: Eskom and Mokgope Consulting, 2016

Farming is the biggest employer after mining in the study area and many farms are affected by the proposed power line project. In terms of the alternatives, all the alternatives do affect and cut through farms as follows

Table 8: Number of Affected (parent) Farms

Alternative	No of farms affected by alternative
1 only	0
1 & 2	2
3	4
1,2, & 3	10

3. STAKEHOLDER CONSULTATION AND PUBLIC PARTICIPATION

3.1. Stakeholder Awareness and Consent

As indicated in Chapter 1 of this study, the main objective of this SIA is to determine the social risks, opportunities, and positive and adverse impacts of the Aggeneis-Paulputs transmission line project. This includes the identification of both the technical view and stakeholder understanding and valuation of their socio-cultural assets that will be directly affected by the project footprint through a process of consultation with affected stakeholders. The first step in developing plans for consultation and participation was to identify stakeholders to be involved in the consultative processes. The basic questions considered in identifying stakeholders included:

- Who will be directly or indirectly and positively and negatively affected?
- Who are the most vulnerable groups?
- Who might have an interest or feel that they are affected?
- Who supports or opposes the changes that the project will produce?
- Whose opposition could be detrimental to the success of the project?
- Whose cooperation, expertise, or influence would be helpful to the success of the project?

In the SIA process, input from public consultation provides the authorities and Eskom an opportunity to ensure that consideration is given to concerns and comments raised by communities and stakeholders on the proposed development. The overall goal of the consultation process is to disseminate project information and to incorporate the views of stakeholders and communities in the project so as to ensure that proper mitigation measures and management plan are incorporated in the SIA.

The specific objectives of the consultation process are: to improve project design and, thereby, minimize conflicts and delays in implementation; facilitate the development of appropriate and acceptable entitlement options; increase long term project sustainability and ownership, and reduce problems of institutional coordination.

Considering the requirements of **Free Prior Informed Consent (FPIC)** and in tandem with IFC Performance Standard 7, the following two-stage process informed consultation and participation:

i) **Informing:** this phase included general ground-truthing walk through the project transmission line route to have a physical characterization of the socio-economic aspects and informal introductory meetings with various households within the proposed way leave route.

ii) **Project consenting** provided forums through which, after discussing the risks, impacts and opportunities the project provides, the community provided its own consent or objections.

In line with the key principle of FPIC, all interested and Affected Parties (I&AP's), stakeholders, landowners, Authorities and governmental institutions were notified of the proposed project by using the following mediums:

- Direct letters to the landowners, stakeholders and the local Authorities
- Direct emails to stakeholders and other concerned or possibly affected parties
- A newspaper advertisement in a local publication for the local public during the Notification and Public Comment Phase.
- Site notice boards at the substations and along the proposed routes (some of the notice boards was placed on the boundary of the site, in a clearly visible area, but not close to the alignment)
- Background Information Document were given to owners of local stores and garages for distribution among the local community
- Briefing papers were hand delivered to the landowners adjacent to the proposed development

3.2. Public Participation

In the SIA process, public participation process aims to promote the project in a socially acceptable manner. All parties must feel free to discuss any and all matters with the Public Participation contact. In terms of Public Participation, the following objectives were applicable:

• Informing Interested and Affected Persons (I & APs) of the proposed development;
• Providing I& APs with an understanding of the project and its consequences;
• Providing the I&APs an opportunity to comment on the proposed development;
• Providing a structure for communication of project*, and i*nformation and any comments associated with the project; and
• Providing a channel to gather information relevant to the project.

Interested and Affected Parties (I&APs) were invited to provide written comments regarding this project. They were asked to provide their name, contact details (preferred method of notification) and an indication of any direct business, financial, personal or other interest which they may have in the application to the Specialist within 30 days from 26 July to 26 August 2016. Furthermore, completed Scoping Reports will be available for review. Interested and Affected Parties identified included local farmers, community members, municipalities, local businesses and mining houses in the area.

A project disclosure information package was developed during planning meetings with Eskom and a background information and invitation to register and comment document was distributed to and discussed with the different stakeholders (e.g. Black Mountain Copper Mine, Municipality, Councilors) and community members. The document provides an overview of the proposed project, and indicates how interested and affected parties can become involved in contributing to the Impact Assessment process **(See Annexure 1 - Public Notice).** The disseminated information also included:

i) General information about characteristics of transmission lines.
ii) Images of transmission line pylons to be constructed and the power lines.

iii) Process of construction of pylons and its actual construction needs.

The specialists contacted relevant stakeholders and authorities to discuss the most appropriate places to host public forums with community members and then went on to host the forums.

In order to enhance and deepen public participation, Social Impact Specialists also visited the project-affected area from the 12th to the 15th of July 2016. The Social Impact Assessment Specialists held discussions with various stakeholders to get their reactions to the project. The stakeholders identified included all those who have an interest in the project or those affected by the project. This site visit was important so that Specialists and Eskom could confirm stakeholder understanding of and concern on key issues. On-site appreciation of impacts is indispensable for projects that may cause displacement. The visit also enhanced specialists and Eskom's local knowledge that can be invaluable in finding alternatives that help avoid or at least reduce the magnitude and severity of adverse impacts. Other Consultative forums were held between Eskom, Mokgope Environmental Specialists and stakeholder on the 25th of October, 2016 at at Aggeneis Recreational Club (at 10h00),.at Pella Library hall (at 14h00): and at Pofadder Hotel on 26 Oct at 10h00:

3.3. Outcome of the Stakeholder Consultation Process

Most of the stakeholders consulted concur with the proposed development in the view that the proposed power line project will improve power supplies, stabilize the quality of the electricity and provide diverse source of power in the region. Stakeholders were of the view that in the long term, the District and Local Municipalities will benefit in terms of improved industrial development, and reduced power cut problems, particularly in agro processing, which has been identified in the District IDP a key activity for future economic development in the area. Responding to this overwhelming view, Eskom pointed out that, in fact, the primary aim of the proposed project is to comply with NERSA N-1 criteria even though it would benefit the region at large with an added electricity infrastructure that can attract future IPPs in the area.

3.3.1. Perceived advantages of the project identified by diverse stakeholders were as follows (see also Annexures 2, 3, and 4 - Stakeholder interviews):

i) Project is a manifestation of government commitment to development in the project area
ii) Supply of electricity will unlock economic development in the targeted areas
iii) The locals will be employed in the construction work
iv) People will sell land for proposed wayleave and thus generate money for investment
v) People will be compensated for lost utility and assets (trees, crops, etc.) within the way leave
vi) Electricity will be available for rural supply
vii) Security enhancement in the area due to enhanced electricity supply resulting in enhanced distribution.

viii) Local power distribution to support and boost growth of the District Municipality's infant agro processing industry and other cottage industries.

3.3.2. Perceived disadvantages of the project were identified as follows; -

i) The project will displace people and their property and fail to pay adequate compensation,
ii) Presence of electric lines will expose people to accidents and health hazards
i11) Fear of transmission lines interfering with communication
v) Increase in social vices due to influx of population in the project area as a result of emergence of new industries as well as general development in the area
vi) Possibility of occurrence of accidents on the sites during construction.

3.3.3. Specific concerns: Way Leave Acquisition and concerns over adequacy of compensation for acquired land

Some stakeholders, more-so those farmers whose properties risk being affected by the project expressed the need for clear mechanisms for way leave acquisition and compensation. The Eskom team confirmed that indeed some people are likely to lose property in order to create a 55 metre way leave for the 400kV power transmission line. The team further emphasised that comprehensive consultations will continue to take place with all stakeholders

Matters pertaining to land acquisition and compensation were a major concern to the Farmers and hence considered to be very critical. The farmers requested that in the event that land acquisition has to be done, then, adequate compensation for land and property that are likely to be taken up by the ROW be adequate. The major concern from the farmers is whether Eskom would provide fair compensation. Some stakeholders are concerned that the proposed power line may negatively affect local biodiversity particularly the natural habitat. However, the intensity of damage potentially caused by the proposed development is going to be minor, given the nature of the project and the span between successive pylons. The mine officials were concerned about one of the alternatives, corridor 3, which traverses a conservation area and that Eskom should also be aware of the sand dunes around the area.

Community members wanted to find out if there would be any job opportunities during the construction. The Eskom Project Manager responded to them that the construction needed highly technically skilled workers who would be employed by Eskom. However, the Project manager did also point out that if Eskom needed low skilled workers at any point during work progress, they would inform the surrounding communities.

The farmers/landowners who attended the forums were all opposed corridor 3. They were in support of corridor 1 which was along the existing 220kV powerline and has minimal impact on the farms. They were also concerned about compensation and wanted to know if they would be compensated for their land that would be used by Eskom. Eskom responded that they would be compensated for the area that Eskom is going to use, and this process would take place after the Environmental Authorisation has been granted**.**

3.4. Overall picture from the stakeholder consultations

The overall picture emergent from the stakeholder consultations is that the project is seen as being strategic to stabilising rural power supply which is crucial to sustained economic growth. In order to sustain this overwhelming public support, project development should proceed simultaneously with resolution of stakeholder concerns.

4. LEGISLATIVE AND PERFORMANCE STANDARDS FRAMEWORK

4.1. Legislative Setting for SIA in South Africa

A comprehensive legal framework for environmental governance and management has been established in South Africa. Indeed, Social Impact Assessment is often incorporated in South Africa into environmental impact assessment (EIA). Both the public consultation and reporting procedures of the typical EIA process leave room for attention to cultural and socio-economic impacts.

The need to assess social issues as part of the EIA process is underpinned by two key pieces of legislation, namely the Constitution of the Republic of South Africa and the National Environmental Management Act. Each contains rights, principles and objectives that inform the SIA Guidelines and provides an understanding of what constitutes social sustainability.

4.1.1. Constitution of the Republic of South Africa (Act No. 108 of 1996).

The Constitution is the supreme law of the Republic. The Constitution mostly relates to human rights with the intention of establishing "a society based on democratic values, social justice and fundamental human rights", which should be achieved through the promotion of human dignity, equality and the advancement of human rights and freedoms. Some of the human rights that are explicitly stated in the Constitution are a person's right to equality, freedom of expression and association, political and property rights, housing, healthcare, education, access to information, and access to courts. Chapter 2, the Bill of Rights, enshrines the rights of all people in the country and affirms the democratic values of human dignity, equality and freedom. These rights represent the cornerstone of democracy in South Africa. The Bill of Rights applies to all law, and binds the Legislature, the Executive, the Judiciary and all organs of state and is mostly applicable to the implementation and management of social mitigation measures.

4.1.2. National Environmental Management Act (NEMA), No. 107 of 1998, as amended and Environment Conservation Act, No. 73 of 1989, as amended

The National Environmental Management Act (NEMA) provides for cooperative environmental governance by establishing a set of principles for decision-making on matters affecting the environment. The preamble to NEMA and the principles contained therein have a significant bearing on the social environment. In this regard the preamble refers to a number of the basic rights set out in Chapter 2 (Bill of Rights) of the Constitution.

Both the National Environmental Management Act (NEMA) as well as its predecessor, the Environment Conservation Act (ECA), promotes citizens` right to an environment that is not harmful to their health and well- being. This right is closely linked to the Constitution where section 24 of the Bill of Rights stipulates that current and future generations have a right to a healthy environment. NEMA defines the environment as the natural environment as well as

the physical, chemical, aesthetic and cultural properties that influences a person's health and well-being.

In NEMA, the social component of environmental management is given equal status with the economic and environmental components and it is emphasised that people and their needs must be the first priority of environmental management. It is stated clearly that the social impacts of activities must also be considered, assessed and evaluated. According to the NEMA impact assessments should focus on three aspects: (1) the environment, (2) socio-economic conditions and (3) cultural heritage. Potential impacts in these three spheres must be assessed in accordance with prescribed procedures set out in regulations and meeting the minimum requirements specified.

In addition to these key Acts, South Africa has the National Water Act, Promotion of Administrative Justice Act and the Spatial Planning and Land Use Management Act (SPLUMA) – all of which also have an important bearing on social issues. The significance of the SPLUMA is linked to the fact that a significant number of EIAs are linked to the transformation of land uses. In this regard the SPLUMA contains a number of important planning principles that have a bearing on assessing the fit with planning requirements.

4.1.3. The Occupational Health and Safety Act (Act No. 85 of 1993)

The construction of this power line will entail the employment of many people on the project. It is likely that many local people may also find themselves an opportunity for employment on the project during the construction phase or during the maintenance phase of the power line. The Occupational Health and Safety Act outlines the clear responsibilities of employers and employees alike in ensuring that a safe work environment is created and maintained at all times. The creation of a safe work environment also applies to any and all work equipment that is required in carrying out assigned duties.

The Act will have a direct implication on the Human Resources management of the Contractors. Noteworthy to consider is the fact that this act stipulates that a health and safety representative has to be appointed where a workforce consists of 20 or more people. A health and safety representative has to be a fulltime employee and there should be at least one such a representative per every 50 employees or part thereof, either per workplace of per section of the workplace. Where a workplace has more than one health and safety representative, a health and safety committee should be formed that meets at least once every 3 months. Health and safety representatives should carry out the following functions in terms of this act:

- ✓ Review the effectiveness of health and safety measures;
- ✓ Identify potential hazards at the workplace that could lead to potential major incidents;
- ✓ Examine the causes of incidents at the workplace, in collaboration with the employer;
- ✓ Investigate any complaints made by employees in terms of health and safety aspects at the workplace;
- ✓ Provide feedback to the health and safety committee on the aspects mentioned above;
- ✓ Provide feedback to the employer on matters relating to the health and safety of employees at the workplace; and

- ✓ Inspect all aspects relating to the safety of the workplace, including the workplace itself, any plants, machinery, articles, health and safety equipment, etc. at intervals agreed upon with the employer.

4.1.4. Extension of Security of Tenure Act (Act 62 of 1997) (ESTA)

This act provides for measures to facilitate the long-term security of land tenure, and also regulates the conditions of residence on certain land, the circumstances under which a person's right to reside on a particular piece of land may be terminated, and to provide for regulatory matters where persons have been evicted from a particular piece of land or land portion.

Chapter 4 of this act is particularly relevant to this SIA in that it relates to the measures that have to be implemented when right of tenure is terminated on any lawful ground (e.g. in the case of relocation), provided that such a termination is just and has regarded the following factors:

- ✓ The fairness of the agreement on which the owner relies;
- ✓ The conduct of the parties giving rise to the termination;
- ✓ The interests of the parties involved in relation to the comparative hardship of the owner and/or occupier of the land;
- ✓ The existence of a reasonable expectation for the renewal of an agreement; and
- ✓ The fairness of the procedure leading to termination, including whether or not the owner/occupier had been granted a reasonable opportunity to make representations before termination became effective.

Section 14 under Chapter 4 outlines the procedures for the restoration of residence, the use of land, and compensation for damages. A person who was the rightful owner of the land may institute proceedings in a court of law, where after the court may make the following orders:

- ✓ The restoration of residence and land use;
- ✓ The repair, reconstruction or replacement of any building, structure or any other installations that the owner/occupier have enjoyed on his land prior to the removal and/or eviction;
- ✓ The restoration of any services that the owner/occupier has a right to;
- ✓ The payment of compensation;
- ✓ The payment of damages, including but not limited to, damages inflicted by the removal process; or
- ✓ Any other compensation the court may see fit.

4. 2. International Performance Standards.

The Social sustainability of the project is characterized by, among others, assessing the project against the performance standards developed by the IFC's Sustainability Framework. For an example, Performance Standard 1 is the platform that requires that a project be undertaken in accordance within a recognized environment and social management system (ESMS). Such systems are designed to help identify, avoid, mitigate and manage risks and impacts as a way of planning the project in a business in a sustainable way. This includes stakeholder engagement and disclosure obligations of project-level activities. The other IFC standards include Performance Standards 2 on Labour and Work conditions; Performance Standard 4 on Community Health, Safety and Security; Performance Standard 5 on Land Acquisition and Involuntary Resettlement (this is relevant to the acquisition of the necessary servitude or additional servitude areas for this project); Performance Standard 7 Indigenous People and 8 on Cultural Heritage are considered in this Social Impacts' Assessment study. For this project, requirements of legislation and international standards have been included in the Social Management Plan that includes project monitoring and evaluation.

5. DESCRIPTION OF PROJECT AREA

5.1. Spatial Profile

The study area is located in the Northern Cape (NC) Province in the north-western portion of what is commonly known as Bushmanland. The project affected area is located within the Khai Ma Local Municipality of the Namakwa District in the Northern Cape Province. Apart from its western border that is bounded by the Atlantic Ocean, the province is mostly landlocked: Namibia lies to the north-west; Botswana to the north; and the Western Cape to the south. At 362,591.4km2 the Northern Cape has the biggest land mass of all the provinces and covers approximately 29.7% of South Africa's total land surface Although the NC is spatially the largest province in the country, it has the lowest population and some of the least developed areas in terms of its economic and social development.

Figure 9: Khai Ma Municipality (KM) in the Northern Cape

Source: Khai Ma Municipality IDP 2011-2017

From a regional perspective Khai Ma, as Figure 5.1 above shows, is relatively isolated from the major economic centres of South Africa. It is bordered by Namibia, restricting access to

the north and traversed by only one main road, the N14. It is relatively far removed from large economic centres and metropoles. The towns of Khai Ma Municipality are fairly isolated from other major centres that offer a larger variety of functions and services such as Upington and Springbok. Kimberley is the capital and government seat of the Northern Cape Province, located approximately 620 km from Pofadder. Accessibility to the area is a significant challenge, with no major airport (only light aircraft facilities at Pofadder and Aggeneis).

- The nearest International Airport is Upington International and the nearest national airport is Kimberley.
- The closest major port is Saldanha Bay in the Western Cape; other small-scale harbours include Port Nolloth, Alexander Bay and Hondeklipbaai.
- The N7 National Road is the most important north-south corridor and the N14 is the major east-west route.
- There are no operational commuter or freight rail networks in Khai Ma Municipality. The railway lines terminate at Kakamas. Proposals were made to extend the railway to Port Nolloth, however nothing has been developed as yet.

The economic development of Khai Ma is thus constrained by limited regional accessibility via road, airport, railway and harbours. Attracting investors is particularly restrained by the lack of airport facilities. Large distances between towns, national ports and major economic centres (Pretoria, Johannesburg, and Cape Town) also reduce the competitiveness of export initiatives. The spatial implication of the remoteness is that people of Khai Ma travel far distances to schools, tertiary institutions, health facilities, shopping centres and markets, which is costly and tedious. The result is that people opt to relocate to high order centres to access these facilities more readily, resulting in rural depopulation (Khai Ma Spatial Development Plan, 2012). The Khai Ma municipality is sparsely populated (+/- 1 person/km^2) with most people are settled in its five (5) towns. The municipality is characterized by vast tracts of land, pristine natural environment, unique mountains and its limited cell phone reception.
The table below gives a snapshot of Khai Ma Municipality's population status:

Table 9: Khai Ma population

Population	12 465
Age Structure	
Population under 15	25.90%
Population 15 to 64	68.60%
Population over 65	5.50%

Source: Census 2011 Municipal Fact Sheet, published by Statistics South Africa.

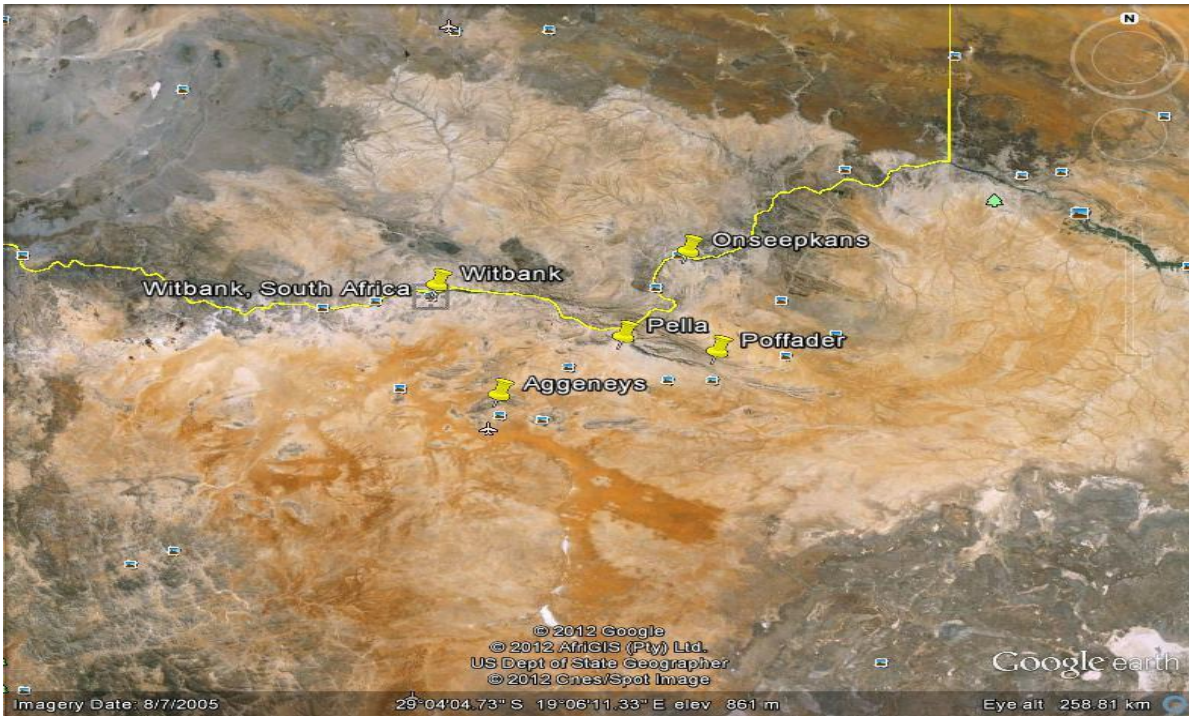


Figure 10: Satellite map of Khai Ma showing the significant towns closest to the power line

Source: Khai Ma Municipality IDP 2011-2017

The towns closest to the project affected area are Pofadder and Aggeneis, and Pella

5.2. Climate

Khai Ma is characterised by semi-arid conditions with warm summers and cold winters, extreme temperature fluctuations that vary from maximums of 42^{0}C during summers to 12^{0}C during winter months, with sub-zero temperatures are often experienced (Khai Ma Integrated Development Plan, (2012-2017).

The average annual precipitation for Khai Ma is 105mm per year, which is decreasing every year. This makes it a fairly dry area, showing more characteristics of a desert. ±75% of Khai Ma has an average annual rainfall of between 0-100mm; ±25% of the area has an average annual rainfall of between 100-200mm.

Table 10: Average annual precipitation for Khai Ma

Average Rainfall (mm)	Area (ha)
%	
0-100	649148
75	
100-200	208305
25	
200-300	0
0	
300-400	0
0	
400-600	0
0	
TOTAL	**857453**
100%	

Source: Khai Ma Rural Spatial Development Framework/Land Development Plan, 2012-2017)

5.3. Topography

Table 11: Slope analysis

Slopes (%)	Area (ha)
%	
0-9	831 929
97.07	
9-15	19 028
2.25	
15-25	5833
0.68	
TOTAL	**856790**
100%	

Source: ENPAT, 2001

Topographical Features are as follows:

- The greater extent of the Municipality presents fairly flat areas;
- Mountainous areas occur in the northern part along the Orange River and around Aggeneis town including Dabenoris Mountain, Elsberg, Groote Pellaberg, Namiesberg, Gamsberg, Aggeneis se Berg and Black Mountain, presenting steeper slopes varying between 9%-25%.;
- Numerous non-perennial streams traverse the Municipality flowing in a northerly direction towards the Orange River; and
- Runoff is generally high after heavy rainfalls due to the hard soil conditions.

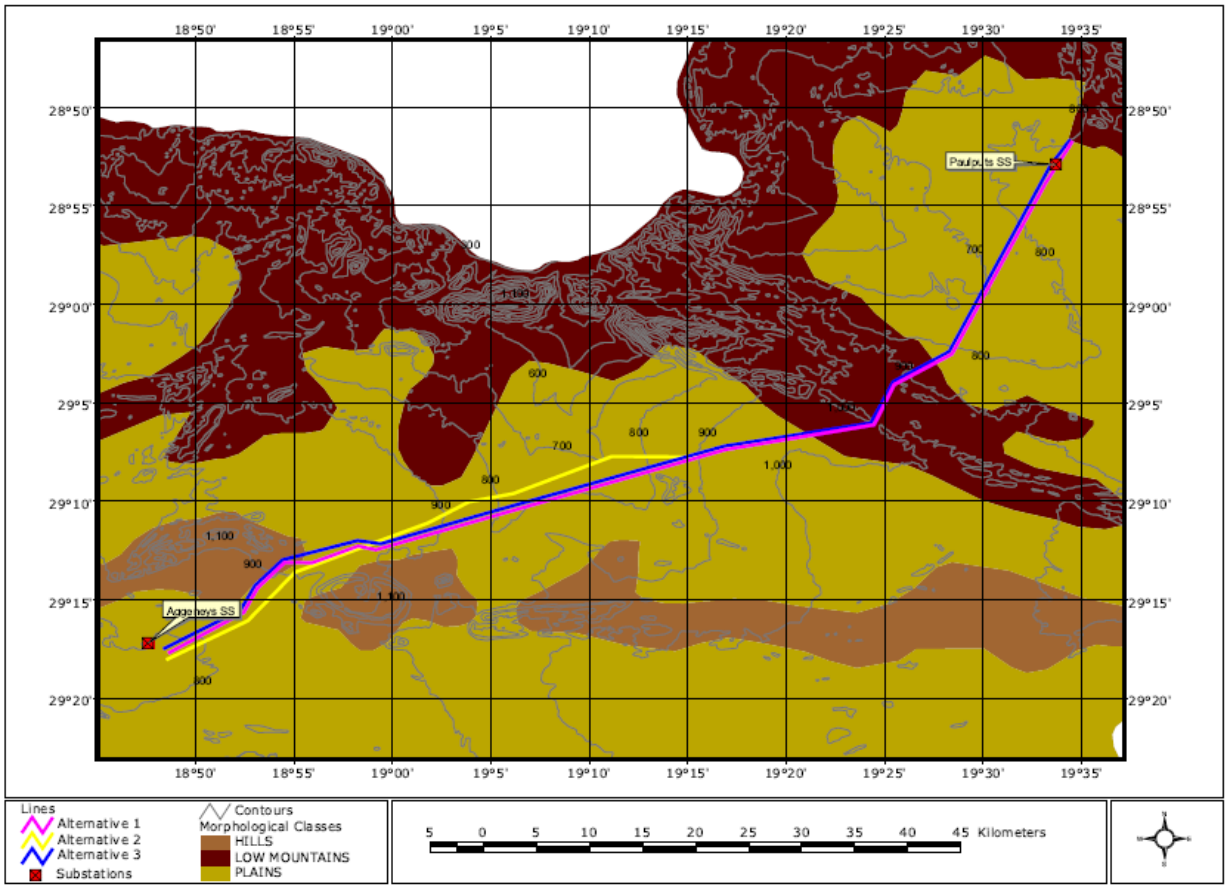


Figure 11: Khai Ma topography

Source: ENPAT, 2001

In terms of spatial development, these features have the following implications;

- Land where the gradient is steeper than 20% is not suitable for development in terms of environmental and agricultural regulations and guidelines;
- The provision of engineering services is expensive in areas with steep slopes;
- Areas presenting topographical constraints should be carefully assessed in any land-use management decision;
- Environmental legislation requires the protection of granite or rocky outcrops due to the diverse and sensitive vegetation types associated with these features; and
- Areas regarded not suitable for development due to topographical constraints should form part of a municipal open space system.

5.4. Geology

Table 12: Geology Types

Geology	Area (ha)	%
DWYKA	31 126	3.64
ECCA	3 636	0.42
Kalahari	419 336	48.93
Okiep, Bushmanland, Korannaland, Geelvloer	311 483	36.34
Waterberg, Soutpansberg, Orange River	91 457	10.67
TOTAL	**857 038**	**100%**

Source: Council for Geoscience 2011

In terms of geological types, a large portion (±50%) of Khai Ma is underlain with the Kalahari Group. The Kalahari basin is a flat, sand-covered, semi-desert region which contains some large pans north of Upington, dry river beds and dunes. Rock outcrops are scarce in this region.

Okiep, Bushmanland, Korannaland and Geelvloer are the second most dominant geology type. Khai Mai's geology offers opportunities for economic development. The geological composition provides numerous mining opportunities. Khai Ma is rich in minerals and metals such as sillimanite, zinc, copper, lead, granite, quartz and aventurine originating from the geological groups above. Lead-zinc-copper-silver ore is exploited at Aggeneis. Of the four ore bodies, only one is presently being mined, whilst a second is being prepared for future mining. The ore is concentrated on site and then transported first by road to the Sishen-Saldanha rail, then by rail to Saldanha from where the concentrates are either exported or distributed to local refineries. (Council for Geoscience, 2010). Barite is produced from Gamsberg near Aggeneis. The Gamsberg zinc deposit near Aggeneis and the Black Mountain deposit at Aggeneis have yet to be mined.

5.5. Agricultural potential

Table 13: Agricultural land capability categories

Category %	Area (ha)	%
Non-arable, low potential grazing land	646 877	75.17
Non-arable, low to moderate potential grazing land	0	0
Non-arable, Wilderness	213 702	24.83
TOTAL	**860 579**	100

Source: Enpat 2001

As indicated in table 5.5 above, Khai Ma basically consists of two land capability categories namely, non-arable, low potential grazing land occupying ±75% and wilderness areas constituting approximately 25%. The wilderness category includes the mountainous areas along the Orange River, north-west of Pofadder, north of Aggeneis and the mountains of Gamsberg and Namiesberg. Diep-in-Dier- Kloof behind Pella Mountain, and along the banks of the Orange River is a spectacular wilderness area that can only be accessed by foot.

Accordingly, 0% of the municipal area is regarded as high potential agricultural soils. The banks of the Orange River, presumed to have high agricultural potential, consist of soils not suitable for agriculture or commercial forestry, however, suitable for conservation, recreation or water catchments.

An Agricultural Research Council (ARC) report (2010) notes that in a dry, hot part of South Africa like Khai Ma, the limiting factor to agriculture is not soil, but climate. The report says that unless there is a source of water for irrigation, it will not make a significant difference which soils are occurring within a specific area. It goes further to claim that the very low rainfall in the area means that the only means of cultivation would be by irrigation and the Google Earth image **(Figure 12 below**) of the area shows absolutely no signs of any agricultural infrastructure and certainly none of irrigation.

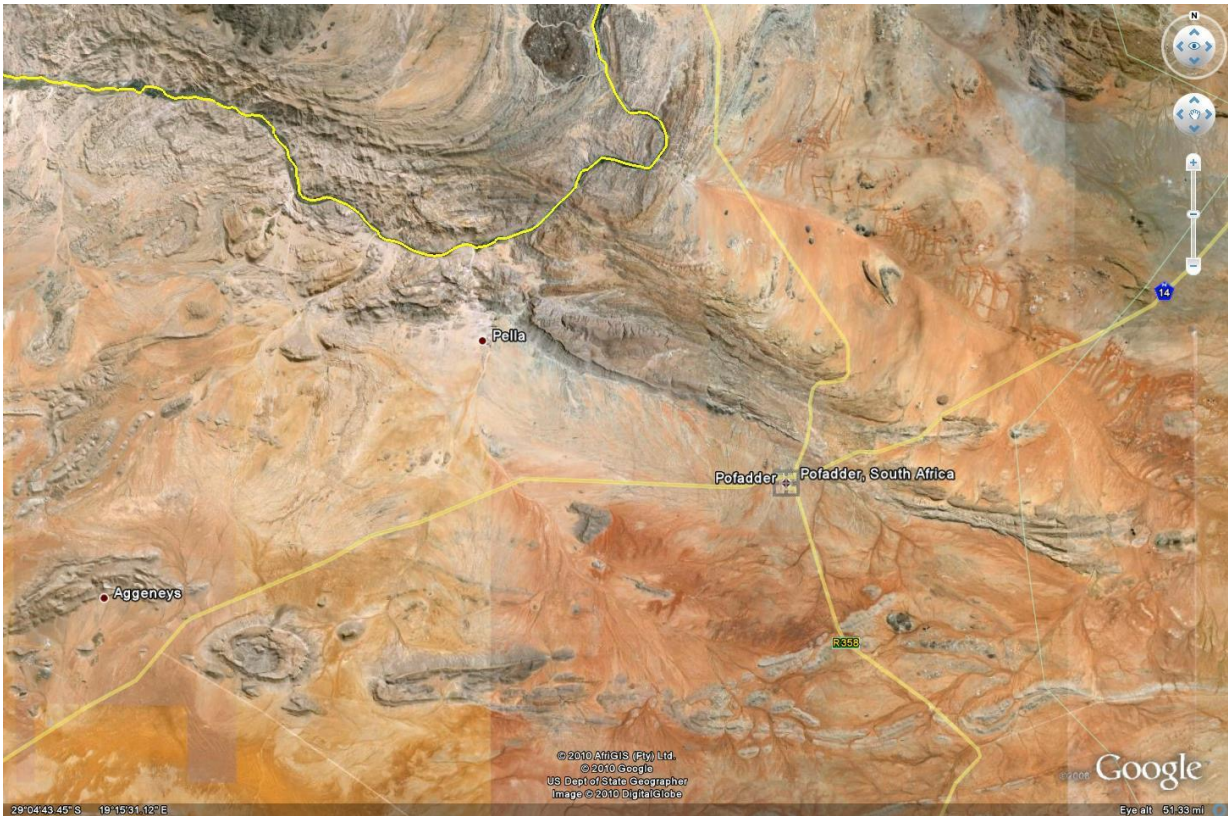


Figure 12: Map indicating apparent absence of agriculture infrastructure in Khai Ma

Google Maps, 2016

The climatic restrictions mean that this part of the Northern Cape is suited at best for grazing and here the grazing capacity is very low, around 40-50 ha/large stock unit (ARC-ISCW, 2004). Agricultural production in Khai Ma consists of:

- livestock and game farming (80%); and
- irrigation farming on the banks of the Orange River, including dates, export grapes, mangoes, cotton, hoodia, geranium, and other crops.

Despite the largely semi-arid environment of Khai Ma, the land that lies along the banks of the Orange River supports the production of some quality agricultural products, i.e., export table grapes, dates (Klein Pella and Pella), hoodia, geranium and other crops at Onseepkans and Pella. Sheep farming is the biggest contributor to Khai Ma's farming activities, with some limited cattle and game farming. Two abattoirs are located in Pofadder. The area is renowned for its quality meat that is marketed locally and in the larger metropoles of Cape Town, Johannesburg and Pretoria. Beneficiation of agricultural products could provide opportunities to emerging farmers and create more job opportunities that could reduce the high unemployment rate in the area. Stakeholders representing the community feel that agriculture is not practiced to the maximum potential that the area offers.

As concluded by the ARC (2010) report referred to above, the major impact on the natural resources of the study area would be the loss of little available arable land due to the construction of the towers for the transmission line and the upgrade of the two substations. However, this impact would in all probability be of limited significance and would be local in extent. The impact can be summarized as follows:

Table 14: Impact of project on the natural resources of the project affected area

Nature of impact	**Loss of agricultural land**	**Land that is no longer able to be utilized due to construction of infrastructure**
Temporal	Long-term	The impacts will last for the life of the project
Spatial	Very localised	Only occurring on-site where pylons are erected
Severity	Slight	The impacts will not have a serious effect
Significance	Low	Due to the limited agricultural potential and very localized nature of pylon construction, the impact is not of major significance
Mitigation Factors	The main mitigation aspects would be: • To ensure that as little pollution or other non-physical disturbance occurs during the construction phase; • To ensure that if disturbance (roads, pylons etc) takes place on steep slopes, appropriate soil conservation measures are put in place beforehand. • As little disturbance as possible (especially removal of vegetation) in areas of dunes, to minimize wind erosion.	

5.7. Conservation areas

There are currently no statutory protected areas in Khai Ma; however, the Anglo Base Metals Black Mountain mine has a conservation agreement covering approximately 23 000ha of mine holdings around Aggeneis (Namakwa Biodiversity Sector Plan, 2008). This is an important conservation initiative due to the significant biodiversity in the area. Khai Ma Municipality contains virtually the entire extent of the Bushmanland Inselberg priority area, one of the nine zones identified as important conservation areas in the Succulent Karoo (Namakwa Biodiversity Sector Plan, 2008).

In terms of Khai Ma's biodiversity the following extracts were taken from the Namakwa District Biodiversity Sector Plan, 2008:

- Khai Ma contains 11 vegetation types of which 3 are entirely endemic to the region, 1 type is classified as endangered;
- 854 plant species, of which 41 species are known to be endemic and a further 20 are potentially endemic;
- the Red Lark is endemic to the Municipality; and
- three major aquatic ecosystem types have been identified in Khai Ma namely: - pans, most common in the Koa River valley, are host to wading birds when filled with water and therefore have high conservation importance; the Gariep or Orange River is the only perennial river in the Municipality and an important water source for all communities; and Washes – consist of different drainage line types and are important for ecological processes in the region

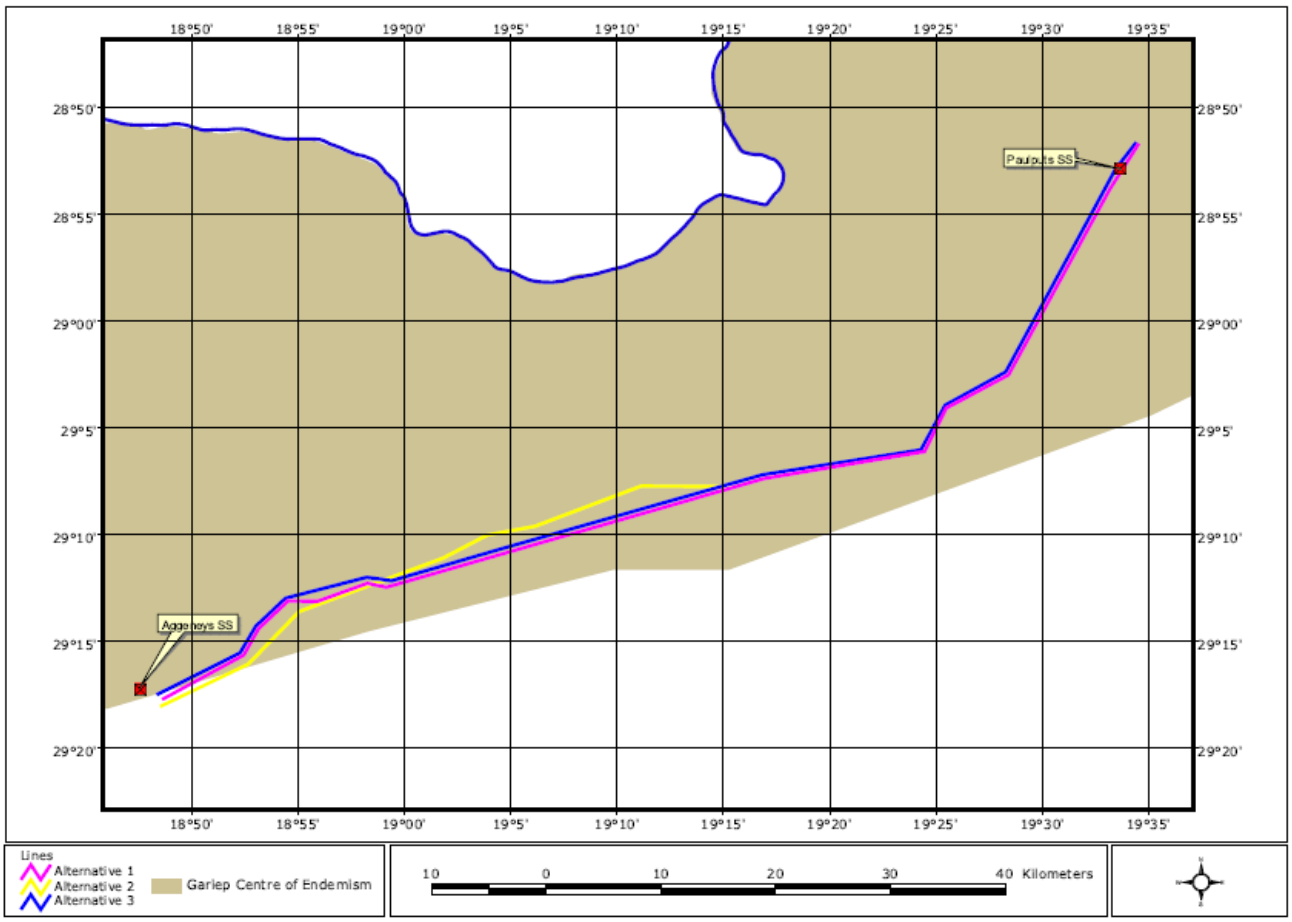


Figure 13: Conservation area and power line alternatives

5.8. Land use and settlement patterns

Khai Ma Municipality is mainly covered by shrubland/fynbos, followed by grassland. The "built up land: residential" only constitutes 0.06% of the Municipality. A brief settlement analysis shows the following about the three towns closest to the proposed transmission line.

Pofadder- Pofadder, the main town of Khai Ma, was developed around the N14 main road and its intersection with the R358 road to Onseepkans. The town is traversed by the N14 alignment separating it in a northern and southern part as dictated by apartheid planning of the past. The southern part accommodates larger residential plots and the central business functions of Pofadder i.e. commercial, institutional uses and sports stadiums. The cemetery is located to the east of Pofadder. The north-western part, known as Blyvooruitsig, accommodates smaller erf sizes, a school, limited business uses (café's, filling station etc.) and a sports stadium (soccer, rugby, cricket). Informal settlement occurs around Blyvooruitsig. Pofadder is surrounded by extensive municipal townlands mainly used for commonage farming.

Aggeneis -Aggeneis (place of water) is a mining town providing residence to mainly the mine workers. Aggeneis accommodates a primary and secondary school, police station, clinic, golf course and tarred airstrip. Aggeneis is divided by a road into a northern and southern section,

clustered around mixed land uses, i.e., business, clinic, police station, sports grounds and offices, etc.

Pella- This is a small town that lies 30km west of Pofadder. The settlement originally functioned as a mission station providing a sanctuary for Khoisan driven out of Namibia. Pella has limited infrastructure consisting of a primary school, police station, library, clinic, restaurants/taverns and the old cathedral, which is quite an important tourist attraction.

Other notable land-use trends in Khai Ma are:

- More farm land is being purchased by government and allocated to emerging farmers, resulting in unsustainable, marginalised agri-villages with little or no improvement in livelihoods.
- This trend is also problematic to Khai Ma as no maintenance is done by emerging farmers and no rent is paid to the Municipality.
- Financially stronger farmers tend to purchase the farms from those who are struggling.
- Currently, Pofadder is experiencing a declining economy, resulting in the closing down of businesses
- There is uncertainty about Aggeneis mine as there are talks that it is in process of closing down. No subsidies are being made available to residents to purchase houses elsewhere.
- Informal settlement is taking place in Pella and Pofadder.

5.9. Mining

The Vedanta Group, through its Black Mountain Mine is the largest employer in Khai Ma apart from farming.

Figure 14: Black Mountain Mine Plant

The Vendata Resources Plc's Gamsberg project consists of an open pit zinc mine (with a defined ore resource of 186 Million Tons and more than 250 Million Tons of potential ore resources), hydrometallurgical processing (concentrator) and associated infrastructure. The proposed Gamsberg mine is located just south of the N14 National Road linking Upington to Springbok, and 20 km east of the existing Black Mountain Mine and the town of Aggeneis in the Northern Cape Province of South Africa.

The following associated infrastructures will be put in place along with mine and concentrator:

- Tailings dam, waste rock dump, stockpiles and a landfill site
- Evaporation dams
- Offices, workshops and construction worker's contractor's camp
- Power lines from the Aggeneis substation to Gamsberg, approximately 15 km
- Pipelines from the Pella pump station to Gamsberg, approximately 60 km
- Access Roads from the N14 to Gamsberg, approximately 10 km of road network
- Sewage treatment facilities

The opening of the Gamsberg mine holds promising economic prospects, creating an estimated 5000 new jobs, a smelter on-site and the provision of housing in Pofadder. Increased access to minerals by small-scale mining companies, affected by new minerals legislation, holds further prospects to the mining industry. Increased levels of local minerals processing remain an ongoing challenge.

It would seem that there may be other companies mining in this area, what about a note on what they are doing or identify all of mining operations up front and then talk about the commonalities and lifespan of the mines

5.10. Tourism

The Khai Ma environment is characterised by vast open land, unique topographical features (i.e., mountain ranges, Bushmanland, Inselberg, wilderness areas along the Orange River, etc.) and rich heritage of the Khoi San/Nama people as well as the cathedral at Pella. These provide the area with ample opportunity for eco-tourism, adventure tourism and cultural tourism.

The municipality is characterised by vast tracts of land, pristine natural environment, unique “koppies” and its bad cell phone reception provides a unique attraction to urban dwellers that need to escape the rat race. This inherent potential for eco-tourism needs to be exploited and managed in a sustainable manner in order to retain this unique setting.

In addition, the Orange River and flowering season in Namaqualand attract tourists from across the country and abroad. Khai Ma offers numerous tourism attractions i.e. 4x4 trails, walking routes, mountain climbing, canoeing, the cathedral at Pella, a “Quiver" forest at Onseepkans and cultural heritage. The unique landscape of Khai Ma lends itself to filmmaking (i.e. Desert Star Studio’s is already active in Namibia) (Source: Municipal Officials).

Figure 15: Scenic Views near Pella

Source: Khai Ma Spatial Development Framework, 2012-2020

Feedback from the IDP Public Participation Initiative suggest that the tourism sector could have an immediate effect on alleviating unemployment, however funds from National Government needs be made available for the initiative/project. Possibilities include: Guided 4X4 routes; upgrading of caravan parks and camping facilities; and Guest Farms.

5. 11. Demographic and Socio-Economic Profile of the Project Affected Area

In this study, the project social description is characterized from several perspectives mainly: socio-geographical; social administrative; socio-cultural; and economic perspectives. Socio-geographical description defines the geographical attributes of the project area and how those attributes define the social character of the population. The administrative set up of the people and how the community relates with formal and informal administrative structures.

5.11.1. Population size

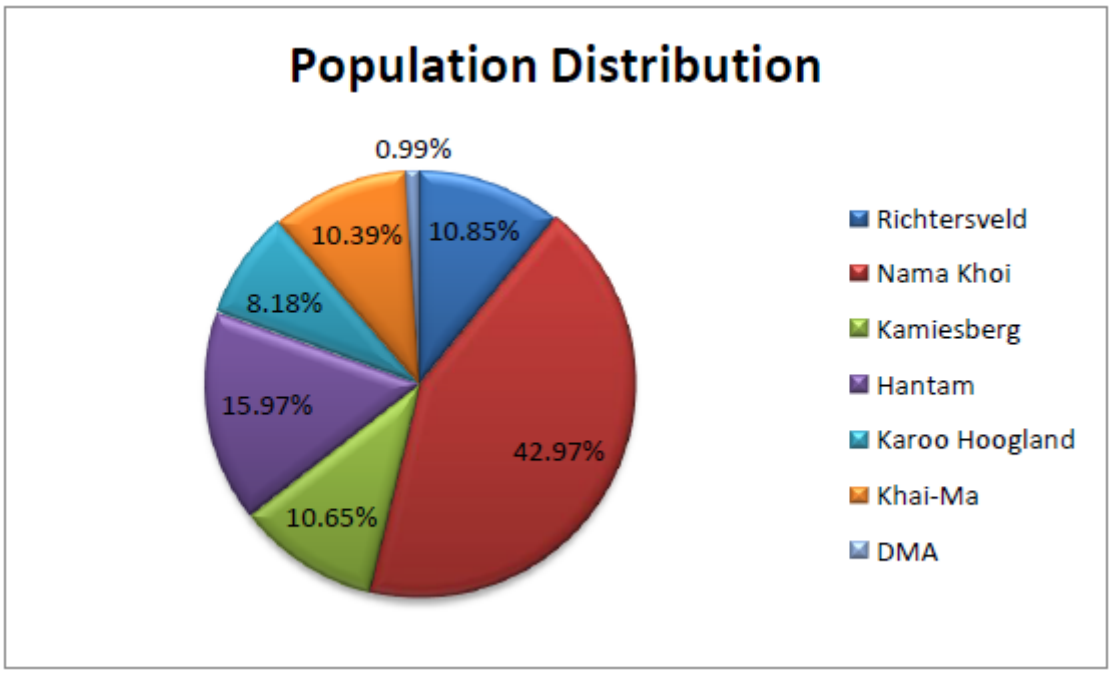


Figure 16: Namakwa District Population distribution by municipality

Source: Khai Ma IDP 2012-2017

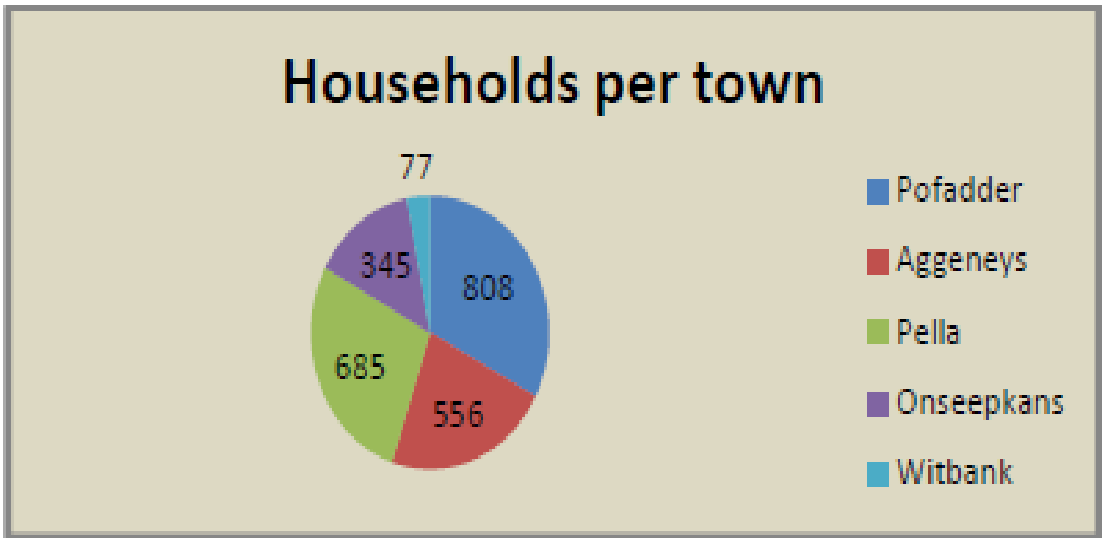


Figure 17: Households per town

Source: Khai Ma IDP 2012-2017

Total number of households in Namakwa District Municipality is 36 437(**Khai Ma IDP 2012-2017**).

- 10.4% of the Namakwa households are located in Khai Ma Local Municipality.
- Households are mainly located in the towns of Pofadder, Aggeneis, Onseepkans, Pella, and Witbank.

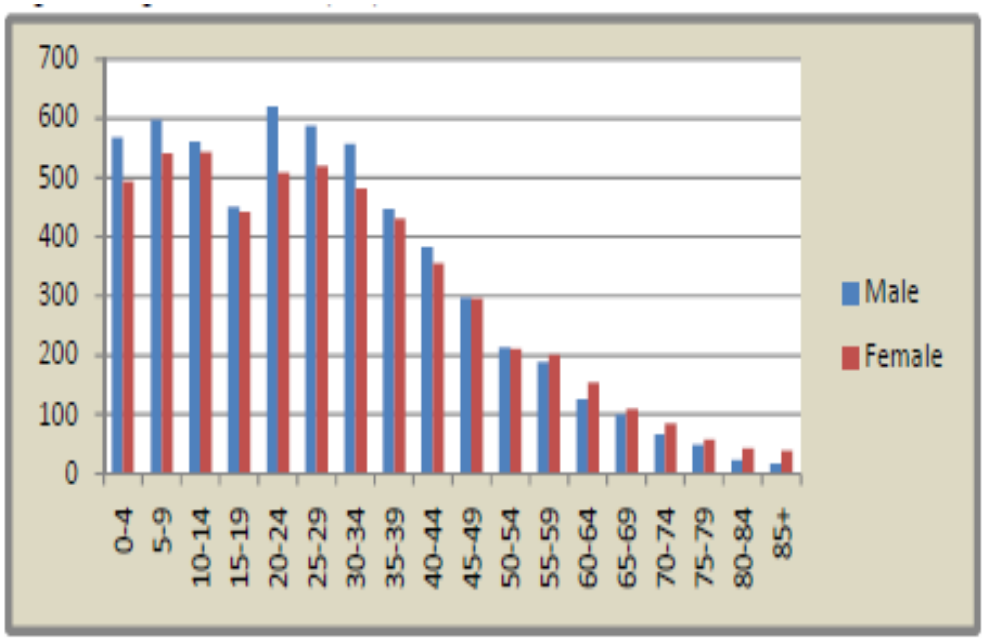


Figure 18: Khai Ma Population by age and gender

Source: Khai Ma IDP 2012-2017

- The gender ratios are almost equal, at 51% males and 49% females.
- The younger age structure implies a population explosion resulting in additional strain on social and engineering infrastructure (i.e. health care facilities, schools, water, sanitation, electricity etc.).
- A fairly young population requires skills development programmes matched with appropriate jobs to ensure that this group do not emigrate to other parts of the country in search of a) tertiary education and employment or b) rely on grants to survive.

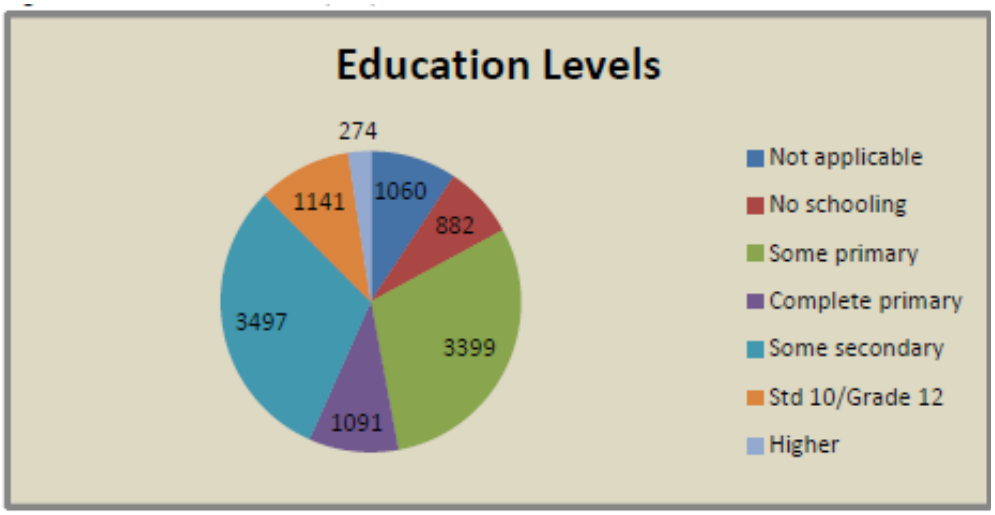


Figure 19: Population by educational level

Source: Khai Ma IDP 2012-2017

- 30.8% of the population has some secondary education, while 10% have a Grade 12 certificate.
- Only 2.4% of the Khai Ma population has received tertiary education, this can be ascribed to the fact that Namakwa District and the Province as a whole has no university and students who move to attend universities around the country tend not return to Namakwa after gaining their qualification.

5.11.2. Employment

TAs shown in figure 5.12 below, unemployment is high in the Khai Ma communities and it is easy to predict that any project implemented in the area is bound to raise the hopes and expectations that employment prospects will be brighter.

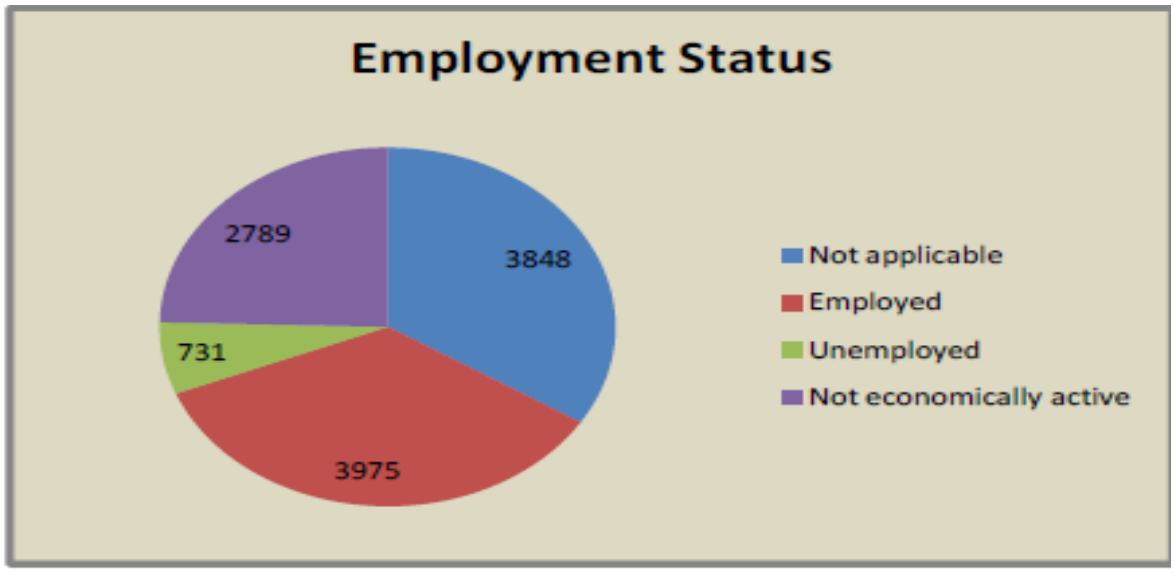


Figure 20: Employment status of Khai Ma population

Source: Khai Ma IDP 2012-2017

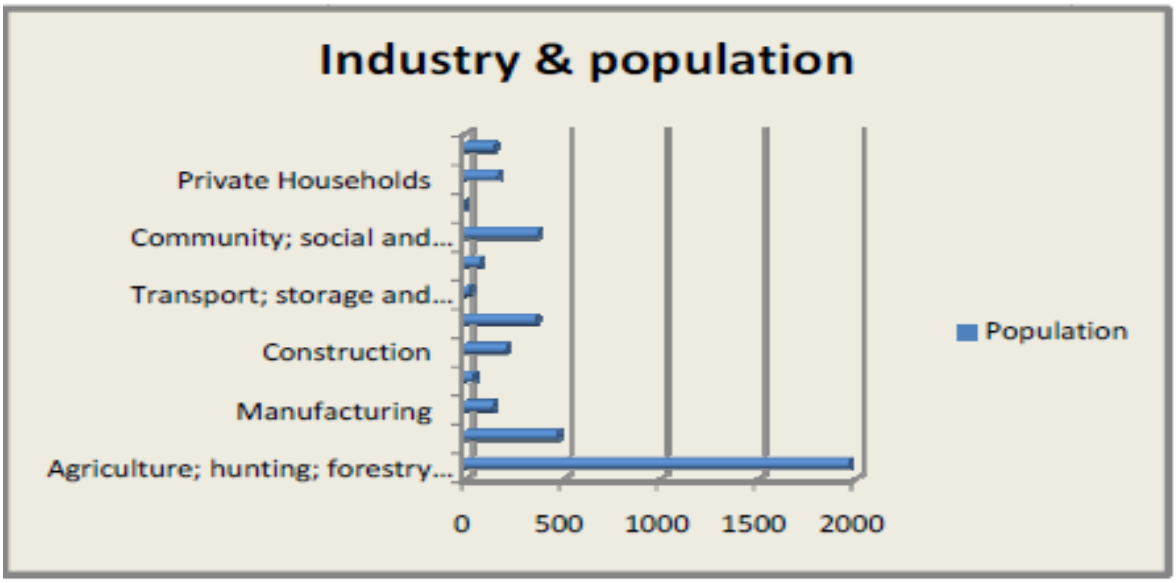


Figure 21: Employment distribution per sector

Source: Khai Ma IDP 2012-2017

The majority of people in Khai Ma are involved in the agricultural sector, followed by mining and quarrying, wholesale and retail trade and then social and personal services. However, over the last two decades, there has been a significant decrease in the agricultural employment sector which has been absorbed, to a large degree, by an increase in mining, manufacturing and the community, social and personal service sectors. The municipality has therefore been seeking a strategy that that will further diversify the economy, reducing dependence on the agricultural and mining sectors.

As stated in the Khai Ma IDP (2012-2017) document, the high unemployment and low income levels frustrate the service delivery programme of the Municipality in that the Municipality does not generate sufficient funds for the provision and maintenance of these services. This implies

that the planning for the provision of services should be cost-effective and based on optimal usage of these services

Economic opportunities need to be identified in close proximity to disadvantaged areas, alternatively, effective public transport systems need to be implemented to reduce travel time between work and home. Community upliftment and skills development programmes, social support structures, food security (soup kitchens) and proper health care facilities need to be prioritized in disadvantaged areas by clustering it in Multi -Purpose Community Centres. The Khai Ma municipal IDP says that there is a need for educational facilities, particularly post-matric training as well as accredited tertiary institutions that offer affordable and appropriate qualifications. There is also a need to attract and retain qualified professionals in Khai Ma.

5.11.3. Household Income

Table 15" Household income

Income Level (monthly)	Population Number
No income	99
R 1 - R 400	747
R 401 - R 800	1567
R 801 - R 1600	480
R 1601 - R 3200	440
R 3201 - R 6400	393
R 6401 - R 12800	201
R 12801 - R 25600	43
R 25601 - R 51200	12
R 51201 - R 102400	0
R 102401 - R 204800	0
R 204801 or more	9

Source: Khai Ma IDP (2012-2017)

- Currently 77% of households are considered indigent and received subsidies for basic services.
- The high poverty level directly affects the Municipality's financial ability to provide and maintain services.
- The main sources of income include Agriculture, the Black Mountain Mine at Aggeneis, government departments (i.e. Department of Education, Health, Safety and Communication) and the local Municipality.
- Commercial farmers depend on income generated from their farms, whilst others make a living by rendering services to the agricultural sector.
- Many residents depend on government grants, whilst others earn a living by providing housekeeping or gardening services.

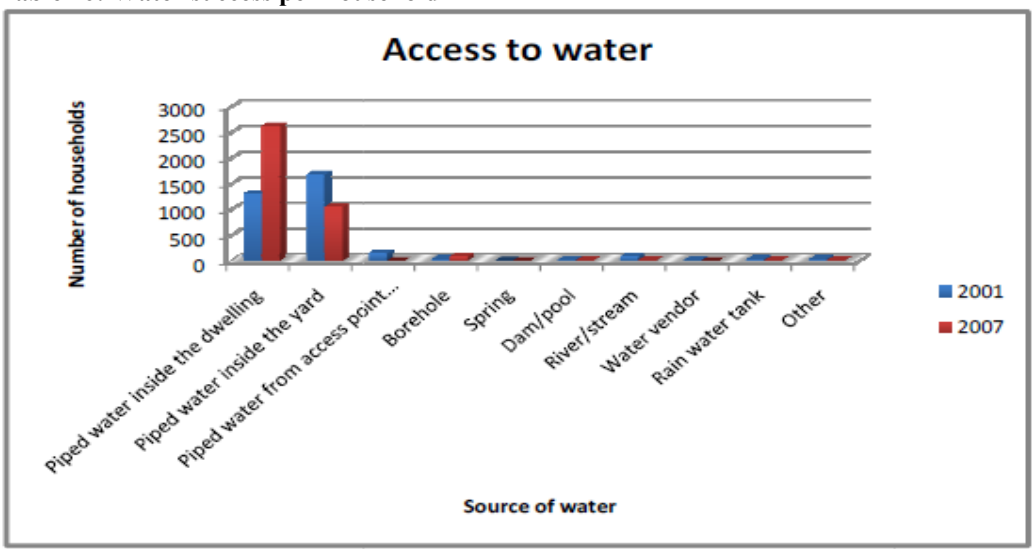
5.11.4. Health

The total population of Namakwa District is estimated at approximately 125 000 people. The HIV/Aids infection rate was about 5% of the total population in (YEAR) and it would seem that the number of infections is growing rapidly - in 2007 5.1% of the population was infected, which is an 8.68% increase from 2006. Khai Ma Municipality has to make provision for the effects of HIV/Aids with regard to lowered productivity, increased need for health services, increasing number of orphans, cemetery sites etc. Other challenging health issues include tuberculosis and substance abuse. Statistics on mining related illnesses, i.e. asbestos poisoning, exposure to radio activity from nuclear waste deposits etc. are not readily available, but investigations are currently being done.

5.11.5. Water Services

According to the Khai Ma IDP (2012-2017) all communities rely on the Orange River for water. Water is purified near Pella and then pumped to Pella, Pofadder and Aggeneis whilst Solar energy is used to abstract water for households in Witbank. However, only Pofadder and Aggeneis have internal water reticulation networks.

Table 16: Water success per household



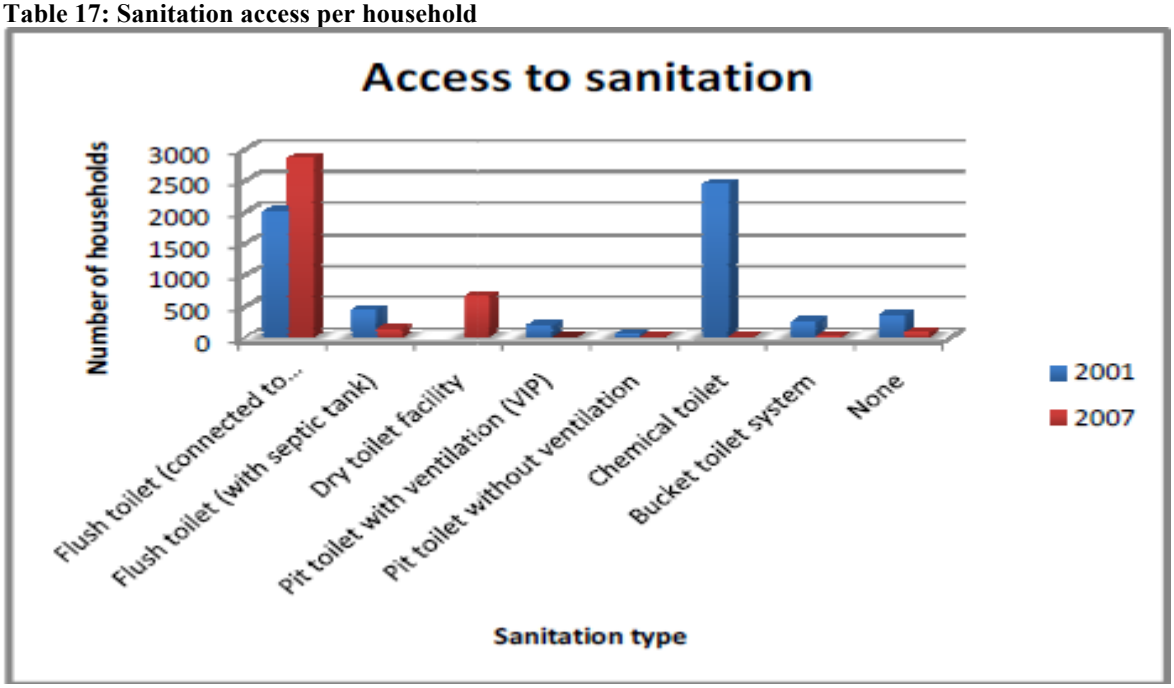
Source: StatsSA 2001 and Community Household Survey 2007

5.11.6 Sanitation

Statistics SA 2001, confirms the following figures on access to sanitation that:

- 3.5% households have access to VIP toilets and 4894 households (85%) have access above VIP standards.
- 11% of households have access below VIP standards.
- 259 households use the bucket system and 362 households have no access to sanitation facilities.

Table 17: Sanitation access per household



StatsSA Census 2001

5.1.7. Electricity Services

Electricity is provided by Eskom (Pella & Onseepkans), Khai Municipality (Pofadder) and Black Mountain Mine (Aggeneis) and 75% of households have electricity.

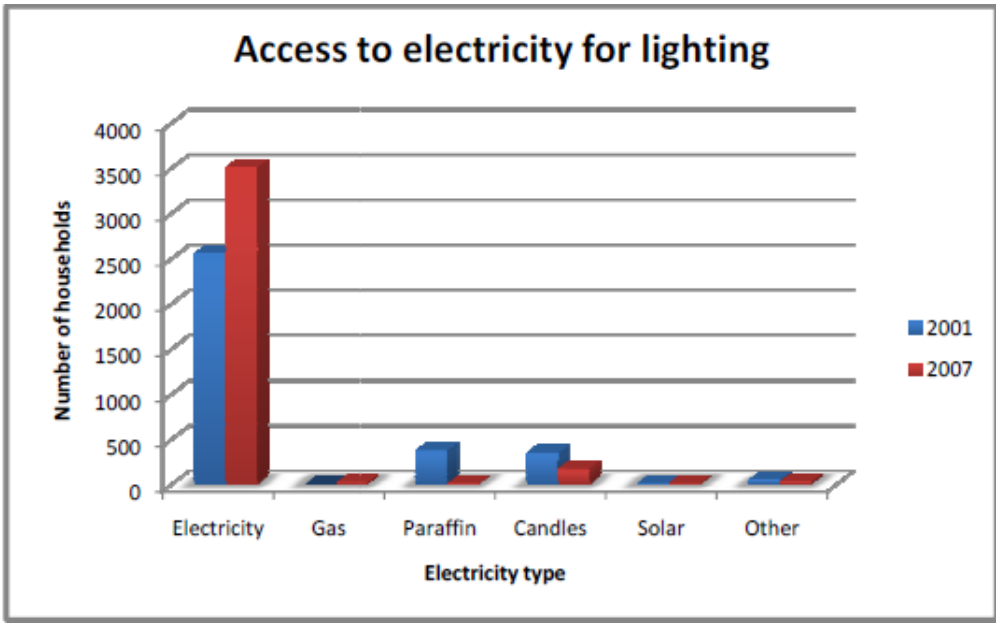


Figure 22: Access to electricity

Source: StatsSA Census 2001 and Household Survey 2007

5.12. Heritage Features

National Heritage Resources Act, 1999 (Act 25 of 1999), provides for the establishment of the South African Heritage Resources Agency (SAHRA), and a Provincial Heritage Resources Authority in each province, which replaced the National Monuments Council (NMC). The Northern Cape Heritage Resources Authority is Ngwao Boshwa Kapa Bokoni (Heritage Northern Cape), commonly known as Boshwa. SAHRA and Boshwa are obliged to identify those places that respectively have special national and or provincial significance in terms of heritage assessment criteria. A heritage resource is protected by law from certain actions (alteration, subdivision, and change in land use) without the necessary consents from the relevant authority. In terms of types of protection of heritage resources, the well-known category of 'national monument' has replaced or modified by a category of 'provincial heritage site' for sites of outstanding national importance. The new scope of the act allows members of the public to identify places with qualities that are of special national or provincial significance to be declared national or provincial heritage sites.

According to Boshwa, studies are being undertaken at Pofadder and Pella regarding Heritage Areas, but to this end, no sufficient environmental value has been found except for certain individual sites that have not yet been formally protected. These individual sites do have value and remain protected in terms of the 'general protections' provided for in terms of Chapter II Part 2 of the National Heritage Resources Act. There is only one provincial heritage site in the municipal area, the Pella (old) Cathedral. In Pofadder, there are seven (7) sites of potential historical interest which should be protected in the future.

6. SOCIAL IMPACT PREDICTION AND EVALUATION

6.1. Introduction

Social impacts refer to the consequences to the local population of the project actions that alter the way in which the community live, work and relate to one another, meet their needs and generally live and cope as members of society. Economic impacts characterize the level and type of economic activities in the project area as a direct result of the project activities.

This section is a description of the potential social and economic impacts associated with the pre-construction, construction and operations phases of the Paulputs-Aggeneis Transmission Line project. The transmission line social and economic impacts are characterized from local people's perspective under Performance Standards 7, bearing in mind the stringent requirements of the Bill of Rights as defined by the Constitution of the Republic of South Africa. This means that the development of the transmission line should foster full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of local peoples. Characterization of the social and economic impacts of the transmission line project is weighted towards adding to all the above principles and objectives.

The baseline description has been based both on desk review, field observations and consultations within the proposed project areas. The profile has been split down into a description of the socio-economic and cultural, environments for the proposed transmission line. It is vital to note that all three proposed alternatives lie within the same study area and share similar socio-economic profiles. The risks and opportunities posed by choosing any one of them as the preferred alternative are therefore not significantly different.

6.2 Criteria for determination of social impacts

The identification of social impacts was in general guided by:

a) IFC Performance Standard 1 Requirements: Social Risks, Impacts and Opportunities

b) IFC performance Standard 7 Requirements: Indigenous Peoples

c) The Bill of Rights and Chapter 5 (Land & Environment) of the new Constitution

d) Relevant Legislation

Ground-truthing observations and stakeholder engagements exercising professional skill, diligence, prudence and foresight balanced with stakeholder views and socio-economic baseline, and technical realities of the transmission line project, helped determine which social impacts associated with the project. The type, scale and location of the identified impact was then characterized in an assessment regime and supported by the confidence levels of the specialist.

6.3 Impact Assessment Methodology

The impact assessment was done according to the following methodology:

- **Direction** of an impact may be positive, neutral or negative with respect to the particular impact (e.g., a habitat gain for a key species would be classed as positive, whereas a habitat loss would be considered negative).

- **Magnitude** is a measure of the degree of change in a measurement or analysis (e.g., the area of pasture, or the concentration of a metal in water compared to the water quality guideline value for the metal), and is classified as none/negligible, low, moderate or high. The categorization of the impact magnitude may be based on a set of criteria (e.g. health risk levels, ecological concepts and/or professional judgment) pertinent to each of the discipline areas and key questions analysed. The specialist study must attempt to quantify the magnitude and outline the rationale used. Appropriate, widely-recognised standards are used as a measure of the level of impact.

- **Duration** refers to the length of time over which an environmental impact may occur: i.e. transient (less than 1 year), short-term (0 to 5 years), medium term (5 to 15 years), long-term (greater than 15 years with impact ceasing after closure of the project) or permanent.

- **Scale/Geographic extent** refers to the area that could be affected by the impact and is classified as site, local, regional, national, or international.

- **Probability of occurrence** is a description of the probability of the impact actually occurring as either improbable (less than 5% chance), low probability (5% to 40% chance), medium probability (40 % to 60 % chance), highly probable (most likely, 60% to 90% chance) or definite (impact will definitely occur).

- **Impact significance** was rated by the specialists using the scoring system shown in the box below. **(Refer to Figure 6.1 below).**

Magnitude	Duration	Scale	Probability
10 Very high	5 Permanent	5 International	5 Definite/dont know
8 High	4 Long term (Greater than 15 years)	4 National	4 Highly probable
6 Moderate	3 Medium term (5-15 years)	3 Provincial	3 Medium probability
4 Low	2 Short term(0-5 years)	2 Local	2 Low probability
2 Minor	1 Transient (less 1 than one year)	1 Site only	1 Improbable
1 None			0 None

Maximum SP is 100 points

SP>75 High environmental significance

SP 30 to 75 Moderate Environmental significance

SP<30 Low environmental significance

Figure 23: Scoring System for Assessment of Significance

After ranking these factors for each impact, the significance of the two aspects, occurrence and severity, was assessed using the following formula:

SP (significance points) = (magnitude + duration + scale) x probability

The maximum value is 100 significance points (SP). The potential social impacts were then rated as of High (SP >71), Moderate (SP 41 – 70) or Low (SP <40) significance, both with and without mitigation measures on the following basis:

SP >75 **SP 30 - 75**	Indicates high environmental Significance	Where it would influence the decision regardless of any possible mitigation. An impact which could influence the decision about whether or not to proceed with the project.
SP <30 **+**	Indicates moderate environmental significance	Where it could have an influence on the decision unless it is mitigated. An impact or benefit which is sufficiently important to require management. Of moderate significance - could influence the decisions about the project if left unmanaged.
	Indicates low environmental Significance	Where it will not have an influence on the decision. Impacts with little real effect and which should not have an influence on or require modification of the project design or alternative mitigation.
	Positive impact	**+ Positive impact** An impact that is likely to result in positive consequences / effects.

6.4 Project Phases

For the purposes of this impact assessment, the Paulputs-Aggeneis power line project timeframe has been subdivided into three phases, as follows:

a. Pre-Construction and Construction Phase;
b. Operational Phase; and
c. Decommissioning and Closure Phase.

6.5 Social Impacts Assessment

The affected communities in Khai Ma will need to be adequately informed before any construction-related work such as surveys for pylon positions, soil/founding condition verification is started to minimize any antagonism towards the different crews from the communities.

6.5.1 Pre- and Construction Phase Impacts

Perceived invasion of privacy: negotiate access & conditions of access (notification/construction lock on affected farm gates/vehicle and construction crew identification, amongst others), increased traffic on Khai Ma roads that are usually low volume-low frequency of use roads; location of lay down areas & contractor staff accommodation

6.5.1.1 Destruction of Fences and Gates

Presently, a number of land owners have erected paddock fences and gates to keep their livestock from going astray or getting lost; some of paddock fences and gates cross the proposed transmission line wayleave. From the field surveys conducted, it is likely that the project may cause potential security concerns if construction would lead to removal of paddock fences and gates that separate individual livestock farm lands. The construction phase has to manage livestock farming among alternative neighbours even as they build access routes and transmission line itself.

Impact without mitigation: Destruction of Fences and Gates			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**2**	**2**	**4**
Result: LOW (-24)			
Mitigation/Comments: Eskom should avoid destruction of the fences and gates during construction and return them as they were or better after construction is complete to maintain paddock gates and fences to keep the integrity of individual paddocks			
Impact with Mitigation: Destruction of fences and gates			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
1	**2**	**1**	**2**
Results: LOW (-8)			
CONFIDENCE: High			

6.5.1.2 Impacts associated with construction disturbance.

During the construction phase, the excavation of soil for pylon erection will loosen the soil along the Way leave. Occasionally; temporary access roads to construction sites will have to be created where they did not exist before and this will result in displacement/loosening of top soil in the affected sections.

a) Construction Traffic: During the process of construction, some dust and exhaust fumes will be generated from the construction vehicles as they make their way through the mainly dry and perched terrain in the parts of the project areas the proposed transmission line corridor. In some areas the ground conditions are rocky and therefore there will be need to use a compressor to break hard ground. These processes will lead to dust generation and exhaust fumes.

b) Hazardous Substances: Use of engines (construction vehicles) and other equipment on site has the potential to lead to spillage of petroleum products. It is however worth noting that the risks of a major oil spillages occurring are minimal because only a few construction vehicles will be needed in the construction of the transmission line. Highly-refined, mineral insulating oils will be used to cool transformers and provide electrical insulation between live components.

c) Solid Waste Generation: During the construction period, solid waste will be generated from the actual construction activities (packaging materials, excess materials, recovered materials, among other waste) and from the workforce itself (waste in the form of food, wrappers, bottles, containers, cartons, and other disposable or personal items). The workforce on site at any given time is relatively small however the accumulative impact of waste generation can create a significant problem if mitigation measures are not made available.

e) Construction Noise pollution: The noise impact during construction is expected to be negative but short term. Sources of noise will be trucks and the off-road vehicles in transit, use of compressor to break hard ground and the use of motorized chain saws for vegetation clearing. Impacts of noise include noise-induced hearing loss and/or nuisance for the project workers and the affected settlements.

Impact without mitigation: Impacts associated with construction disturbance			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
1	**4**	**2**	**4**
Result: LOW (-28)			
Mitigation/Comments: • The Contractor to develop and implement a construction HSE management plan to manage the impact of construction disturbances on the environment. • Contractor should manage contraction traffic especially its impact on grassland resources.			
Impact with Mitigation: Impacts associated with construction disturbance			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
1	**2**	**1**	**2**
Results: LOW (-8)			
CONFIDENCE : High			

6.5.1.3. Population Influx

An external workforce is likely to be brought into the area where employment positions cannot be filled locally. The creation of employment opportunities may also result in a population influx into the area in search of possible opportunities, contributing to existing ongoing population expansion in the area. Construction teams that are constituted from people not from the project area have potential to create social tensions and cause disruption. Large labour contingents require appropriate security measures to protect neighbouring communities from social exploitation and petty crime. Construction teams equally face social integration challenges that need to be appropriately managed. An increase in exploitative sexual behaviour and the associated risk of sexually transmitted diseases are likely to occur, especially given the current lack of medical knowledge and facilities.

6.5.1.4 Conflict Potential

The displacement of the livelihood base of a large proportion of the community has the potential to create conflict in the project area should alternative livelihood strategies not be in place. A report by the International Labour Organisation (ILO) in 2002 contends that land-use conflicts between large companies (especially mining) and the local community have largely been due to poor communication, failure of companies to live up to commitments, and unexpected yet preventable environmental accidents. Early management of disputes, proactive community engagement and the development of a Livelihood Restoration Plan (LRP) to address the possibility of the project influencing the dynamics of conflict8 are essential to maintaining good relationships and avoiding disputes. However, for the proposed alternatives, it is not envisaged that there will be any large scale displacement of the livelihood base of communities.

6.5.1.5 Increase in Traffic and Safety Hazards

For this project, construction activities will lead to a significant increase in vehicular traffic especially with the construction of access routes and routes around the site. Increased traffic will lead to deterioration of these access routes and the creation of dust.

6.5.1.6 Increase in Business Opportunities

An influx of population into the project area, including contracted construction teams, will increase the demand for goods and services. Increases in income-earning opportunities will also increase spending potential, providing opportunities for supply of such services, indirectly increasing the overall wealth of the area.

6.5.1.7 Improved utilization of compensation payments

The compensation payments proposed are likely tp be attractive considering that the local community whose households have little and irregular income streams. It is anticipated that compensation payments made to transmission wayleave affected property owners will be utilized for beneficial socio-economic purposes to progress their livelihoods. This is seen as a

positive impact to the affected assets along the transmission line wayleave who sign compensation agreements with Eskom.

Impact without mitigation: Improved utilization of compensation payment			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2		**2**	**4**
Result: LOW (+12)			
Mitigation/Comments: • The transmission line wayleave land owners and their families should be provided with basic training on financial management through financial institutions available in towns like Pofadder and Aggeneis. • The land owners should be provided with legal training to enable them safeguard their wealth from compensation payments.			
Impact with Mitigation: improved utilisation of compensation payment			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**2**	**4**	**4**
Results: LOW (+32)			
CONFIDENCE: Medium			

Post-construction Impacts: removal of lay-down areas, rehabilitation of access tracks and lay down areas, traffic.

6.5.2 Operations Phase Impacts

6.5.2.1 Exposure to Electromagnetic Field (EMF)

The establishment of a way leave and the need to have limitations of land use are mitigations measures which help manages the effects of EMF on public health. Scientific research has not demonstrated any significant impacts of EMF from conventional 30-40m high transmission lines. The finding and conclusions are that the field strength on a 132 kV line at the distance of exposure heights of 30-40m is less than what one would ordinarily be exposed to in a domestic setup.

Impact without mitigation: Electronic Magnetic field(EMF) Exposure			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
1	**4**	**1**	**3**
Result Low(-18)			
Mitigation/Comments: Eskom develops and administers a community sensitization plan Eskom manages the limits for building houses as pressure on land increases.			
Impact with Mitigation: Electronic Magnetic field(EMF) Exposure			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
1	**2**	**1**	**2**
Results: LOW (-8)			
CONFIDENCE : High			

6.5.2.2 Maintenance of transmission line way leave

During the operational phase, the transmission line wayleave will require periodic maintenance to ensure that the grasses do not grow too large. Additionally, it will be important to ensure that paddock fences and gates erected by the land owners to keep their livestock within their parcels are not destroyed by Eskom during transmission line maintenance operations. Thirdly, it will be important to ensure that the wayleave is not utilized as an informal road by vehicle drivers.

During public meetings, the local community expressed their interest of being provided with employment by Eskom for purposes of security and surveillance. The employment of local youth to ensure that the wayleave is always maintained in a good state would be a positive social impact.

Impact without mitigation: maintenance of transmission iine way leave			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**4**	**4**	**2**
Result: LOW(+20)			
Mitigation/Comments: • Eskom should consider providing employment to local youths in the transmission line project area for keeping the vegetation height to management levels. • The proponent should engage land owners in maintaining the gates and fences throughout the operations period;			
Impact with Mitigation: maintenance of transmission line wayleave			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**6**	**4**	**4**
Results: MEDIUM (+48)			
CONFIDENCE: High			

6.5.2.3 Lack of skilled workers

The proposed transmission line will require skilled, semi-skilled and unskilled labor for the construction and operational phase of the project respectively. Currently the local community has limited skilled and semi-skilled workers among the families. Disciplines such as back-hoe excavator operators, crane operators, etc. are limited among the community. This will imply that in the absence of skilled and semi-skilled workers, the plum jobs may be offered to people from other parts of the Province or the country to the detriment of the local community.

Impact without mitigation: Organizational Capacity Impacts :			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**4**	**2**	**4**
Result: LOW(+20)			

Mitigation/Comments:

- Eskom to develop and implement a social and environmental organizational capacity development performance plan that includes designated management, human resources, financial systems.
- The organizational capacity development plan should include a Human Resource Management plan that has a Training system for implementation to achieve the objectives of the Plan.
- All sub-contractor standard social and environmental guidelines for third parties working on the project.
- An Emergency preparedness and Response plan in consultation with the community.
- Community participation in the project's established monitoring and review system

Impact with Mitigation: Organisational capacity impacts			
EXTENT	**MAGNITUDE**	**DURATION**	**PROBABILITY**
2	**2**	**2**	**2**
Results: Low (-12)			
CONFIDENCE: High			

7 SOCIAL MANAGEMENT PLAN / MITIGATION PLAN

7.1. Social Management Plan

In short, the SIA indicates that in the short term, for all the proposed alternatives, there will be dramatic and significant improvement or deterioration in the Khai Ma community's well-being although stakeholders do believe that the proposed project may positively impact employment and local agro-industrial development initiatives. The assessment shows that there will be little disruption due to relocation, large scale influx of work force, pressure on infrastructure, no significant dislocation of activity networks or disintegration of support networks or introduction of significant health risks or loss of archaeological sites or other cultural property.

There is no significant loss to public infrastructure and services or disruption of women/ economic activities. However, there will be some loss of agricultural lands but no loss of shops, commercial buildings or significant reduction in income due to loss of business or access to common property resources. This assessment applies to all three alternatives as they all lie close together.

The SIA also included the identification of potential impoverishment risks which the Aggeneis-Paulputs power line project is likely to create and concluded that the proposed project alternatives did not pose any significant impoverishment risks. The eight most common impoverishment risks to the project area people, as described by Cernea (1996), are as follows:

- **Landlessness:** Expropriation of land removes the main foundation upon which peoples' productive systems, commercial activities and livelihoods are constructed.
- **Joblessness:** Loss of employment and wages occurs more in urban areas, but it also affects rural people, depriving landless labourers, service workers, artisans, and small business owners of their sources of income.
- **Homelessness:** Loss of housing and shelter is temporary for the majority of displaces, but threatens to become chronic for the most vulnerable. Considered in a broader cultural sense, homelessness is also planeness, loss of a group's cultural space and identity.
- **Marginalization:** Marginalization occurs when families lose economic power and spiral downwards. It sets in when new investments in the area are prohibited, long before the actual displacement. Middle-income farm households become small landholders; small shopkeepers and craftsmen are downsized and slip below poverty thresholds. Economic marginalization is often accompanied by social and psychological marginalization and manifests itself in a downward mobility in social status, displaced persons' loss of confidence in society and in themselves, a feeling of injustice and increased vulnerability.
- **Food Insecurity:** Forced displacement increases the risk that people will undergo chronic food insecurity, defined as calorie-protein intake levels below the minimum

necessary for normal growth and work. Sudden drops in food crops availability and income are endemic to physical relocation and hunger lingers as a long-term effect.

- **Increased Morbidity and Mortality:** The health of affected persons tends to deteriorate rapidly due to malnutrition, increased stress and psychological traumas. Unsafe water supply and waste disposal tend to proliferate infectious disease, and morbidity decreases capacity and incomes. The risk is highest for the weakest population segments – infants, children, and the elderly.
- **Loss of Access to Common Property:** Loss of access to commonly owned assets (forestlands, water bodies, grazing lands, and so on) is often overlooked and uncompensated, particularly for the asset less.
- **Social Disarticulation:** Community dispersal means dismantling of structures of social organization and loss of mutual help networks. Although this loss of social capital is harder to quantify, it impoverishes and disempowers affected persons.

In view of the positive impacts identified, as well as the community engagement, stakeholders' consultations, within the project area, it is unlikely that the proposed transmission line project and substation, would adversely impact on the social environment of the locals. The impacts identified prudently managed by the mitigation measures would reasonably suffice. To achieve the main objectives of the SIA study the specialists conclude by proposing a mitigation framework that is managed within a system and includes monitoring and evaluation in all the phases of the construction and operations phases.

The proposed Social Management Plan (SMP) proposed below is however cognizant of the possibilities related to the risks as defined by all stakeholders. The community aspirations should be addressed in a way the community feels part and parcel of the project throughout the construction and operational phase of the project.

A participatory and empowering approach to the SMP would help mitigate this issue especially misinformation about the risks related to the project. By providing effective and targeted information and participation structures for delivery of the project, the community would feel the project added value to community.

This Social Management Plan (SMP) predicts and plans responses for certain common and specific social impacts that may occur throughout the operations activities for the Paulputs-Aggeneis Line Project. The social management plan is necessary for adequate management of these social impacts. This SMP contains the measures to be implemented in the different phases of execution or operation of the project, in order to promote positive outcomes and decrease or minimize the adverse impacts that may arise. It incorporates some recommendations on how to handle community safety throughout the project cycle. This Social Management Plan has been conceived from the perspective that the primary task of this SIA should be to improve the management of social issues (rather than to only influence go/ no go decisions); and that the effectiveness of SIA in terms of achieving better outcomes for affected communities will be maximised by being relevant to Eskom who has initiated and proposes to implement this project.

This Social Management Plan (SMP) is consistent with IFC's Performance Standard 1, its objectives and principles. The SMP describes mitigation and performance improvement

measures and actions that address the identified social risks and impacts of the transmission line project on partners, staff and project affected community.

The management plan takes into account the engagement with the local community in line with Performance standard 7 and addresses specific safety aspects raised and those in the judgment of the social specialist are necessary to meet the benchmarks of performance standard 4 on community health, safety and security.

The Eskom Project Unit set up for the execution of this project will be responsible for the development of the full Community Management Plan. There will be an overlap between this plan and the Social Management Plan.

The objective of the management plan is:

- To ensure the health safety and security of the local community members is not affected by the transmission line project at construction or operations phases;
- To generate safety awareness in local communities to ensure they are pro-active in managing their own safety with regard to the transmission line;
- To minimize the impacts on local culture, identity as a result of the project and maximize the benefit sharing opportunities for the local communities affected by the project at construction and operations activities continue.
- To manage any grievances arising from the whole transmission line way leave project during the construction and operations.

In line with these objectives, specific targets will be set and negotiated with the contractor. For example, a target is likely to be set around ensuring no major health or safety incidents affecting community members. Eskom/Contractor Project Manager will be accountable for providing assurance during the construction phase that the above objectives and agreed targets are met.

A Social Monitoring Officer will have responsibility for monitoring activities during both construction and operation. Major health and safety incidents such as fatalities or serious accidents will be reported by community liaison immediately.

The table below summarizes all the necessary mitigation measures, allocation of responsibilities, time frame, minimization and monitoring of all potential impacts associated with the lifecycle of the transmission line

Table 18: Social Management Action Plan

Aspect	Impacts	Social Management Action Plan	Responsibility	Timing
Local Infrastructure, Services and Natural resources	**Access Roads for construction and operations** Access roads may be damaged due to pressure from heavy machinery during the construction phase. During the operations, a **number of** trucks are expected on a daily basis within each construction spread. This will put a lot of pressure on the roads.	All roads being used by the project need be well maintained, and left in as good state, or better than their current state.	**Eskom/Contractor**	**Construction Phase of the project**
	Road Upgrading The access roads leading to the Right of Way from the main highway will be upgraded to suite transmission line components transportation needs;	Involve the community during road upgrades through regular and timely communication like emails, newspapers, local radio stations etc.. Eskom needs to consider upgrading existing roads that will be used by the project to minimise local grassland impact.		
	Water Supplies The project may strain the existing water resources especially during the construction phase.	Eskom needs to clearly identify the amount of water required for the project and should work closely with the community to avoid straining the already meagre water resources available for livestock and humans		
	Increase in traffic and traffic related impacts on grassland resources There will be increased traffic on the roads and off-roads during project activities, and the associated increased incidence of grassland destruction	A traffic management plan will have to be developed for all vehicle drivers given the importance of least effect on grassland and respect of local grazing livestock.	**Contractor**	
	Maintenance of	Engagement of local	**Eskom**	

Aspect	Impacts	Social Management Action Plan	Responsibility	Timing
	transmission line way leave Grassland management and balancing wildlife resources for the social cultural activities may be affected by land clearing standards proposed for transmission line	land owners in management of way leave sections under their land for a fee would help integrate their informed participation and planning		
Local community identity, culture, and heritage resources	**Grassland resources** Various project activities depending on when they are carried out can have cumulatively high short term impacts on scarce grassland resources	Mapping out of access roads and strict driving instructions, and maintaining adherence to way leave land boundaries	**Contractors and all sub-contractors**	**Throughout the construction and operations**
	Fences and gates management Way leave maintenance plan may come with the need to have a clear way throughout which has the potential of opening a road through paddocks and causing conflicts among neighbours.	Reconstruction of fences and gates after construction and maintenance of their integrity within a way leave management system.		
	Community relations Throughout construction and operations phases, construction workers and maintenance personnel, drivers and consultants should be trained on community relations, within respect and dignity as expressed in the constitution	The contractor needs to develop a code of conduct to guide the employees on how to relate with the community to avoid conflicts; Human Rights of all should be respected irrespective of their rights awareness;		
Compensation for easement	**Land compensations valuation** There is a high expectation among farmers in relation to specifics about compensation for Way leave land taken. Management of these expectations without significantly affecting project participation is important	Eskom engagement meetings need to be as clear as possible and be ready to deal with issues related to: - Legal educations and localized service demands - Land survey and boundary issues - Financial education - Compensation expectations	**Eskom**	

Aspect	Impacts	Social Management Action Plan	Responsibility	Timing
Community Safety	**Risks associated with Electro Magnetic Field (EMF)** There are perceptions among community members about the adverse effects associated with EMF and its potential impacts on livestock and humans.	Eskom needs to include appropriate design measures to limit the effects of EMF on livestock and humans, e.g. requiring that no routine activity occurs on the wayleave, livestock and humans move quickly beneath the transmission lines, etc.	**Eskom**	**Throughout the operations**
Community livelihoods				

8. CONCLUSION AND RECOMMENDATIONS

8.1 Conclusions

The purpose of this SIA's was to identify and assess the changes that are likely to occur in Khai Ma communities or to individuals in Khai Ma as a result of the construction of the proposed Aggeneis-Paulputs power line. The study thus intended to assess the consequences to Khai Ma human populations of the power line and look at the ways in which it would possibly alter the ways in which Khai Ma people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of the Khai Ma community. The likely impacts assessed also included cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society. It is important to emphasize that social impacts are both positive and negative. Consultations were also undertaken as part of the SIA in order to obtain the views of immediate community, interested groups and affected groups within the project's immediate area of influence. The consultation was done with the immediate neighbourhood of the proposed site and involved use of a semi-structured public participation form and direct face to face discussions with key stakeholder influencers. In general, the project is acceptable and no objections were raised concerning the proposed 400kV electrical transmission line and the upgrading of the two substations.

8.2 Recommendations

It is quite evident from this study that the construction and operation of the proposed Aggeneis-Paulputs electrical transmission line and the upgrade of the two substations will bring positive effects in the project area including improved supply of electricity, and potential creation of employment opportunities, and gains in the local and regional economy, However, although the project will come with various positive impacts, negative impacts will also be experienced hence the need to also look at them. Considering the proposed location, construction, management, mitigation and monitoring plan that will be put in place, the project is considered important, strategic and beneficial and may be allowed to proceed

The three alternatives fall within the same study area and there are no significant social impact differences between the three proposed alternatives. Although the SIA showed that the impacts of the three alternatives are not significantly different, alternative 2 is the most recommended. It ensures the health and safety of people in the area, as it does not pass through heavily settled areas. Most of the line passes over grazing land and animals can still freely move around towers and underneath the transmission power line, which implies minimal razing pasture loss; where the sub-transmission power line cannot avoid crossing over cultivated land, the cultivated land is minimal.

Alternative 2 is also the furthest alignment from the Aggeneys Airport and the town itself. Following on the alignment of the N14, this alternative does not affect any scattered households. Where the alternative intersects with Alternatives 1 and 3, it should follow on with Alternative 1 following the alignment of the existing line as the area is already disturbed.

This assessment recommends that transmission line Project Committee should provide a locally based **community liaison officer** to continuously engage the community with factual information and promptly responding to their concern. He will work with the Social Monitoring Officer who will be a member of the Project Management team. The CLO will be a member of the community employed by Eskom who will act as a go between the proponent and the community. She/he will articulate issues from the community to the Proponent and vice versa.

Eskom will have a stakeholder management and communication plan to enable it to learn community expectations and concerns and work out a negotiated middle point that motivates the land owners to participate in the transmission line project.

- Eskom will ensure that heritage assets are fully recognized and compensated for.
- All project activities will be managed with minimal impact to the local livelihood resources both for domestic and medicinal values (where it is still practiced).
  A community safety plan should be integrated into both the construction and operations phase project management plans.
- The project should respect human rights of the local community in all aspects and should promote culture and identity as much as practically possible.

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ANNEXURE 1: **PUBLIC NOTICE**

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MOKGOPE consulting

17 October 2016

TO INTERSTED AND AFFECTED PARTIES

RE: PROPOSED AGGENEIS-PAULPUTS 400KV TRANSMISSION POWERLINE AND SUBSTATIONS UPGRADES, NORTHERN CAPE PROVINCE

Please be informed that the above mentioned project is in the DRAFT Scoping phase. As such, the Draft Scoping Report is available for your review from the 21 October to 22 November 2016. The document will be available on the Mokgope Consulting website (www.mokgope.co.za) and at the libraries in the towns of Pofadder and Pella, as well as at the Rec Club in Aggeneys. The Report may also be emailed to you upon request.

You are also invited to attend the public meetings, which will be held at the following places:

Venue	Date	Time
Aggeneys Rec Club, Aggeneys Town	Tuesday 25 October 2016	10h00
Pella Library Hall, Pella Town	Tuesday 25 October 2016	14h00
Pofadder Hotel, Pofadder Town	Wednesday 26 October 2016	10h00

Should you wish to attend one of the above meetings, please contact:

Judith Fasheun - Cell: 076 876 2672 - E-mail: judy@mokgope.co.za

Kind regards

Judith Fasheun (Environmental Consultant)
Mokgope Consulting CC

ANNEXURE 2: STAKEHOLDER FORUM MEETINGS

Meeting held at Aggeneys Recreational Club on 25 Oct at 10h00:

Three (3) officials from the Mine and the ward councillor from Pofadder attended. The mine officials were concerned about one of the alternative corridor 3 traversing a conservation area and that Eskom should also be aware of the sand dunes around the area. One of the officials made a comment on one of our presentation slides. We mentioned that the proposed project would benefit the community, which is a wrong statement. Infact, the proposed project aims to comply with NERSA N-1 criteria. However, it would benefit the region at large with an added electricity infrastructure that can attract future IPPs in the area. The councillor did not really comment but asked for a copy of the presentation so he could report back to his council team.

Meeting held at Pella Library hall on 25 Oct at 14h00:

About 15 community members attended. They wanted to find out if there would be any job opportunities during the construction. The Eskom Project Manager responded to them that the construction needed highly technically skilled workers who would be employed by Eskom. However, if Eskom needed low skilled workers, they would inform the surrounding communities. The Mayor brought it to our attention that next time we should have the meeting in the morning when it is not too hot. The low number of attendees could be a result of the inconvenient time. The area is extremely hot and hence afternoons are not ideal to have meetings.

Meeting held at Pofadder Hotel on 26 Oct at 10h00:

Seven (7) Farmers/Landowners attended. They all opposed corridor 3. They were in support of corridor 1 which was along the existing 220kV powerline. They wanted to know if they would be compensated for their land that would be used by Eskom. Eskom responded that they would be compensated for the area that Eskom is going to use, and this process would take place after the Environmental Authorisation has been granted. They wanted to know how Eskom chose their route alignments. However, the land survey was not at the meeting to respond. However, they were told that their comments would be compiled in a comments and response report where their comments would be responded to by the technical team. So any comments that were technically related would be responded to in two weeks' time. The farmers requested that we hold the next meeting in the late afternoon as they are busy during the day.

The councillor of ward 2 asked on behalf of the community members when there will be electricity supply in their households. Eskom had to explain that this project is not here to benefit the community. The people responsible for their concern are the municipality and Eskom distribution.

ANNEXURE 3: INTERVIEW WITH BLACK MOUNTAIN MINE MANAGER

Black Mountain Mining is located at Aggeneis, a dedicated mining town 113km north-east of Springbok in the Bushmanland region, of the Northern Cape Province, in South Africa. Black Mountain Mining (BMM) comprises the Deeps and Swartberg operation, and the Gamsberg Project.

Both the operation and project are located in the Northern Cape Province, South Africa. The Gamsberg Project is currently in project development stage, while the existing mining operations at Black Mountain Mine have been in production for over three decades. Black Mountain Mining has been a stable employer in the region for the last thirty years, and with the development of Gamsberg has the potential to remain so for at least the next twenty years. Black Mountain Mining is the largest private employer in the Bushmanland and Namaqua region, providing over 1300 personnel with employment.

The Aggeneis town (where mining takes place) provides accommodation to almost all employees. Most municipal services are provided and funded by the Company. While most mining operations in the region have been declining over the past few years, Black Mountain, under management of the Vedanta Group, continues to be an efficient producer primarily of zinc, in addition to lead, copper and silver.

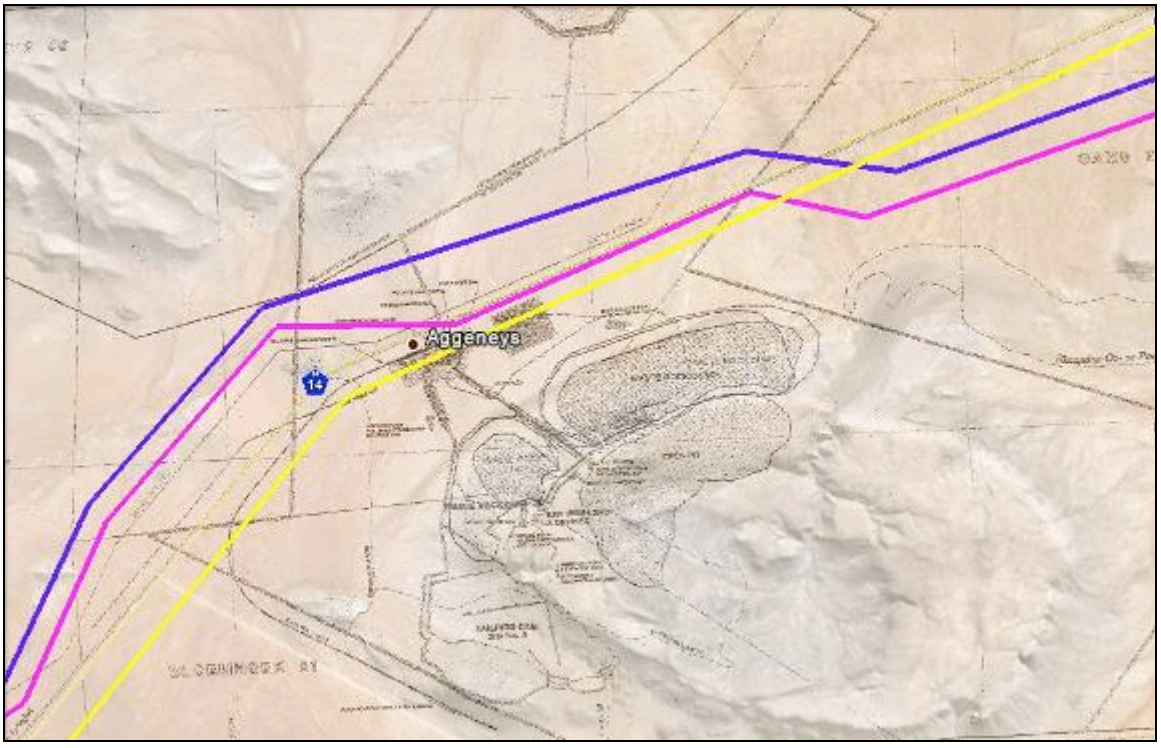

Figure 24: Black Mountain Mining Project in relation to the three alternatives

Source: Eskom, 2016

Figure 25: Black Mountain Mine Offices
Source: Mokgope Consulting, July 2016

In an interview conducted in July 2016, Mr Peter Clarke, the Stakeholder Relations Manager for Black Mountain Mine, provided insights on the likely impacts of the proposed project on the Mine's activities and the mine-dependent Aggeneis community.

Figure 26: Mokgope Consulting Social Specialist talking to Mr Clarke (left), Black Mountain Stakeholder Relations Manager
Source: Mokgope Consulting, July 2016

Questions posed to Mr Clarke and his responses included:

- **What does the Black Mountain management already know about the proposed project, its impact and the measures being contemplated to mitigate its negative impact?**

Mr Clarke indicated that the Black Mountain Mine management was fully aware of the Eskom project. However, he said he had little to say about the impacts from a specialist point of view although, he pointed out, he was very confident that a project of this nature would bring positive benefits to the area. He remarked that ***the Eskom service is always an essential service'.***

- **What are their interests? Are the objectives of the project consistent with their needs, interests and capacities?**

The development and sustainability of the mine and the welfare of its employees, Mr Clarke pointed out, is the primary concern. The Stakeholder Relations Manager explained that the proposed project is in line with Black Mountain Mine's key objectives because it is meant to boost energy supply to the area. He pointed out that although the Mine itself is not presently suffering electricity deficits of any sort, the development has come at a timely junction when the Company is developing the Gamsberg mining ventures just close by.

- **What is the impact of the project on various stakeholders, and particularly on women and vulnerable groups? How does the project address needs of different stakeholders?**

Mr Clarke pointed out that indeed, the Black Mountain community, which resides in Aggeneis town, has vulnerable people like the old and the infirm. However, he said the community largely depends for its needs on the Black Mountain mine as most of the mine employees reside in Aggeneis. He said he is particularly happy about the proposed project because it will help vulnerable communities of Pofadder.

The Manager informed the specialists that the project is likely to have positive impact on the industrialisation initiatives that the local municipality is planning. He revealed that the different stakeholders in the municipality had come together and formed the Khai Ma Development Forum. The Forum's objective is to encourage integrated planning and build consensus on the way forward for the local economy.

One of the key objectives of the Forum's plan, in line with the Municipal IDP, is to see the growth of the agro-industry sector. He said that the plan is to take advantage of the rich agriculture produce that comes from the Orange River basin to grow an agri-processing sector.

Mr Clarke also emphasized that job creation is a sore problem in the area especially Pofadder. In an important way therefore, he said, the proposed project may help kick start some small

industrialisation initiatives that may be key to improving the welfare of the population especially the youth. In his own words, the proposed project `***will affect the community's quality of life- more opportunities explored and alternative livelihoods'***. He said `alternative livelihoods' is especially critical because at present, Black Mountain is the largest employer apart from the big commercial farms.

The Stakeholder Manager acknowledged that not much could be expected from this project in terms of employment prospects for local youths. However, he expressed the wish that some individuals may be able to get employment, if not in the construction phase, at least during the life of the line on projects related to line maintenance.

- **What social factors affect the ability of stakeholders to participate or benefit from the operations proposed?**

In some circumstance, Mr Clarke pointed out, it would be expected that new power-line projects would bring job creation opportunities; However, he does not expect this to be the case because, in his experience, such an Eskom line does not create lots of job opportunities for local people. What is worse, he regretted, is that the requisite skills needed to participate in the project do not exist in the community. May be, he mused, `***Eskom may do some skills training in this direction'.***

Mr Clarke said that due to the chronic unemployment, the towns closest to the proposed project especially Pella and Pofadder, had become places where only old people remain and reside. The youths migrate to `greener pastures'. This deprives the community of the energy and organisational stamina to engage robustly with new development initiatives that come into the area or the potential opportunities they present.

- **What institutional arrangements are needed for participation and project delivery?**

The Manager's response to this was that not much could be done in this direction but what is especially critical is to make the communities fully aware of the Eskom project through local discussion forums. He said he had noted with pleasure that Eskom has engaged specialists to hold discussions with communities at different but accessible venues like schools.

He also said that it is his wish that Eskom could also become part of the Khai Ma Development Forum. He pointed out that Eskom has not yet joined but it would be beneficial for all if Eskom did join.

- **What are the risks which might affect the success of the project? Do any of these issues pose risks to overall project success and sustainability?**

He did not envisage any risk that may hamper project progress or obstruct it. He repeated his words that Eskom offers an essential service and its projects `***will never be judged as harshly as people would assess and judge a project by say.. the Vedanta Group'.*** He narrated that Eskom has `***obviously planned for the project and would never be held up***

by technical capacity issues and on the ground there is nothing that can therefore hold the project back'.

ANNEXURE 4: INTERVIEW WITH LOCAL COUNCILLOR

Interview with Mr Alfredo: Communications Manager-Khai Ma Municipality

Figure 27: Mokgope Consulting specialists discussing with Mr Alfredo (extreme left) , the Khai Ma Municipality Communications Manager
Source: Mokgope Consulting, July 2016

- **What do they already know about the proposed project, its impact and the measures being contemplated to mitigate its negative impact?**

Mr Alfredo responded by saying that the Municipality is fully aware of the Eskom project and is excited about its realisation. He said that the Municipality has an agreement with Eskom (according to him signed in June 2015) to upgrade the electricity supply to Pofadder. The Communications Manager said they are not yet aware of any professional opinion on the likely impact of the line. However, they certainly have, he retorted, their own expectations in terms of the proposed project's likely impacts.

- **What are their interests? Are the objectives of the project consistent with their needs, interests and capacities?**

Mr Alfredo went into detail to emphasize that the Municipality's primary objectives are to provide services to the community, facilitate business investment and the creation of

employment opportunities, give quality health services, lessen crime, and ensure adequate housing provision.

According to Mr Alfredo this project fits into their development plan. At present the Municipality does not have adequate power to electrify houses because they are over their demand requirements. The Municipality already has signed an agreement with Eskom to upgrade electricity supply to the Municipality. Mr Alfredo revealed that at present the Municipality is behind in its schedule to electrify houses because of the shortage and can only electrify 25 houses out of the 200 houses they presently have to electrify. Their present demand limit, he said, is 1 megawatt and they want to have it increased to 1.5 megawatt per month.

Figure 28: Un electrified houses in Pofadder

Source: Mokgope Consulting, July 2016.

- **What is the impact of the project on various stakeholders, and particularly on women and vulnerable groups? How does the project address needs of different stakeholders?**

The Communications Manager indicated that the project will have positive impact across all stakeholder groups. First, it will help electrify community houses which are presently standing and being occupied without electricity supply. According to the Manager, the proposed project will boost business confidence and encourage investments. This is especially so with regard to the planned agro business activities in Pofadder, he emphasised.

In the Manager's view, the proposed project will boost employment opportunities since it will encourage private sector investment and stabilise the business environment through a reliable electricity supply. The project is timely as it will also complement the solar energy projects that are in the pipeline and that are being undertaken. The realisation of the project will also be a

big boost, he said, to the Gamsberg mining projects that is in progress that lie between Aggeneis and Pofadder.

With all the stimulation on business growth, the project will therefore benefit the unemployed especially the youth. Secondly, Mr Alfredo pointed out, the boost in electricity supply will help them implement the planned Municipal skills training programmes and thus provide the unemployed youth with some skills and a better chance for getting employment. He revealed that the Municipality has a plan to skill unemployed youth in Welding. The Municipality, he said, has entered into partnership with the relevant Sector Education and Training Authority (SETA) to train 300 youth in welding. However, the programme has stalled because of electricity supply and the proposed Eskom project will enable the Municipality to roll out the training programme.

- **What social factors affect the ability of stakeholders to participate or benefit from the operations proposed?**

Mr Alfredo sees lack of relevant skills especially amongst the youth as the key impediment to participation in this proposed project. He, however, does not have hih hopes on the capacity of the proposed project to absorb any meaningful number of locals into some jobs during any of the phases of the project.

- **What institutional arrangements are needed for participation and project delivery?**

The Communications Manager did not see any other institutional arrangement that could be necessary to ensure participation and project delivery except that Eskom should carry out its community awareness forums and that there should be more robust communications between Eskom and the Municipality as the project progresses.

- **What are the risks which might affect the success of the project? Do any of these issues pose risks to overall project success and sustainability?**

Mr Alfredo said he did not foresee any risks that may threaten the proposed project's success except Eskom's own delay. The Municipality welcomes the project and people's lives and welfare will be improved by the provision of electricity supply, he reiterated. He also said that the delays affect Pofadder and hinders its development initiatives.

ANNEXURE 5: INTERVIEW WITH LOCAL COUNCILLOR

Figure 29: Mokgope Specialist interviewing the local councillor (right), Cllr Stanley Basson, in Pofadder

Source: Mokgope Consulting, July 2016

- **What do they already know about the proposed project, its impact and the measures being contemplated to mitigate its negative impact?**

The councillor claimed that he is aware of the Eskom project and that the project is a necessary development for Pofadder.

- **What are their interests? Are the objectives of the project consistent with their needs, interests and capacities?**

He says this comes also at a time when solar projects are being put up in the area and this is all good for the municipality. He pointed out that the Municipality is facing a lot of challenges that include unemployment, lack of skills and high school drop- out rates and substance abuse. In his view, the proposed project may help alleviate some of these problems as it may bring with it some work opportunities and alternative livelihood options.

- **What is the impact of the project on various stakeholders, and particularly on women and vulnerable groups? How does the project address needs of different stakeholders?**

From the Councillor's point of view the project will encourage businesses to move into Pofadder. In his words, `***if we want to develop further, we need it, especially for small businesses'.*** He claimed that a number of Companies are applying for land for developments

but this is scuttled by the shortage of electricity so this project will have a positive impact in that respect. This, he said, will complement well with solar energy developments that are taking shape in the area. Small businesses that depend on electricity will benefit and this will improve income earning capacities of these small business entities.

Figure 30: electricity dependent welding craft businesses like this in Pofadder, says Cllr Basson, will benefit from reliable electricity supply

Source: Mokgope Consulting, July 2016

The Councillor also expects that the project will go a long way in terms of helping in the electrification of houses. The Councillor sadly retorted that***, `we're building houses but can't connect the houses'.***

The Councillor expressed hope that the project will recruit labour from the local population especially the youth and in this way also help transfer skills to the local people. He also expressed the hope that the provision of electricity will enhance safety as the Municipality will be able to electrify public spaces as well. In his view the project will help pacify the residents. What has been happening, the Councillor noted, is that the residents were getting agitated and were blaming the Municipality for high energy costs and blackouts and wanted the connections and supply to be done directly by Eskom to the residents.

- **What social factors affect the ability of stakeholders to participate or benefit from the operations proposed?**

Lack of skills and general delinquency, Councillor Basson noted, may hinder the involvement of the community especially the youth from being fully engaged in the project where there are opportunities. He noted that every development project brings its own challenges and these include increased prostitution and disease and general wantonness brought forth by increased temporary income earning opportunities.

- **What institutional arrangements are needed for participation and project delivery?**

Councillor Basson expressed regret that Companies always come with developments and promise a lot but do not fulfil their promises. In his words, `***in many instances, they come, they rush, do what they want to do, and go away'.*** This kind of situation, he said, can only be addressed by having stronger ties and communication between developers like Eskom and local municipal authority structures. Another thing, he said, is that Companies like Eskom should always have a local liaison person who comes from the local area so that he/she can appreciate and understand local conditions and the situation. Such an institutional arrangement will not only ensure regular communication but also help enhance Eskom accountability because Eskom will be forced to fulfil its promises, he said.

- **What are the risks which might affect the success of the project? Do any of these issues pose risks to overall project success and sustainability?**

The Councillor did not envisage any risks that could sabotage the project's completion especially given the need from consumers like the municipality and the capacity that Eskom has.

ANNEXURE 6: INTERVIEWS WITH COMMUNITY MEMBERS

Mokgope specialists carried out interviews and discussions with community members in Aggeneis, Pofadder and Pella- the three towns with in the study area.

- **What do they already know about the proposed project, its impact and the measures being contemplated to mitigate its negative impact?**

The interviews across all the three town communities indicated that there is little if any awareness of the project. They are also not aware of any mitigation measures that may have to be taken to mitigate any project impacts. However, they do expect that `***Eskom people'*** will talk to them about the project and all other related issues. To many of the residents, there is difficulty, conceptually, to separate Eskom development projects from government development projects. To them there is no distinction, conceptually. What this means is that whatever positive impact the project has, it earns the government some credit and the reverse is also true.

Figure 31: Discussions with community in Pofadder

Source: Mokgope Consulting, 2016

- **What are their interests? Are the objectives of the project consistent with their needs, interests and capacities?**

Community members talked at length about their needs and interests. What was interesting is the complete overlap between what community members across all the three towns talked about in terms of their hopes and challenges. Community members talked about the need for services in their areas. They emphasised the need to have proper and adequate health services. They pointed out that they do not have public services medical doctors stationed in the municipality. The doctor comes in once a month from Springbok. Even ambulance services are not adequate so, says ***one community member, `when you call in an ambulance for some emergency, it comes after a long time and the damage is already done'***. They also expressed a desire to have proper educational facilities for the young generation. They talked about their desire to have substance abuse eliminated in communities. As one woman in Pella poignantly put it, ***`in this community, they sell us more alcohol than they sell us paraffin'.***

Community members made it clear they are interested in having clean water and proper houses that are safe and electrified. They are interested in job creation and employment for their youth and care for the elderly. They are also interested in having companies coming into their area contribute to the local area's development. To members of the community, the proposed Eskom development would be good for their needs because, as one member said, ***`it is a development opportunity also that can help to bring jobs to our place'.***

- **What is the impact of the project on various stakeholders, and particularly on women and vulnerable groups? How does the project address needs of different stakeholders?**

Community members hold the view that such a project as is proposed will have, in the main, important positive impacts on community life especially on the youth and the elderly. For young people, the community feels that the supply of adequate electricity will help attract companies and businesses to their area. In this way, employment will be created and youth will have gainful employment. However, members were not very hopeful in this direction. They complained that even if the project brought employment opportunities to the area, the jobs would be taken up either by people from outside the area or by those who are well connected.

For the elderly and the general community, it was felt that reliable electricity supply will enable the government to install boreholes so this will lessen the water problems. To community members, electricity supply will thus have a general beneficial influence on all services.

- **What social factors affect the ability of stakeholders to participate or benefit from the operations proposed?**

Lack of skills, corruption and favouritism were identified as potential risks that will limit participation of community members in this project.

- **What institutional arrangements are needed for participation and project delivery?**

On this score, community members felt that delivery of the project benefits can be enhanced if councillors become more proactive and regularly consult with the residents on issues affecting them. They complained that Councillors are not responsive and in many instances do not acclimatise them with new developments coming into the communities. The elderly complained that they do not get access to their representatives even when they have complaints on service delivery.

- **What are the risks which might affect the success of the project? Do any of these issues pose risks to overall project success and sustainability?**

As indicated above, lack of skills, corruption and favouritism were identified as potential risks that will limit participation of community members in this project.

Figure 32: An elderly woman emphasising a point in Pella discussing with the Mokgope Social specialist. Below, a retrenched ex-mine worker (right) gives his views on the proposed project

Source: Mokgope Consulting, 2016