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**BOSA Transmission Interconnection
Project**

**Draft Social Impact Assessment Report
SAPP**

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*Bringing ideas
to life*

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Executive summary

Methodology

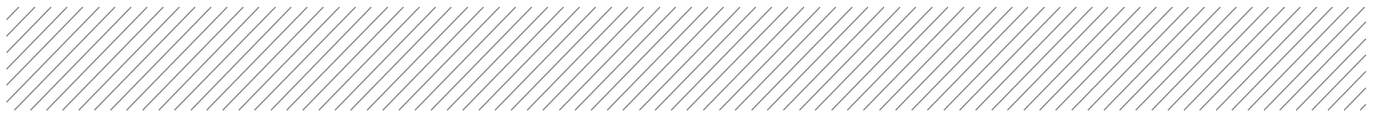
This study was informed by the approach of the Environmental and Social Impact Assessment (ESIA) for the BOSA Transmission Interconnection Project. The study was executed in compliance with the relevant national legislative requirements, such as those stipulated in the South African National Environmental Management Act (NEMA), No. 107 of 1998, as amended and the Environmental Impact Assessment Act, No 6 of 2005 of Botswana. Relevant international best-practice standards, such as the Equator Principles, and the International Finance Cooperation's (IFC) Principles and Performance Standards also informed the investigation's approach. The following activities were undertaken as part of the Social Impact Assessment during the Impact Assessment Phase of the ESIA:

- A **desktop review** was undertaken of the previous studies and reports on similar projects to inform the study. Other available documents were also reviewed to obtain and confirm relevant baseline socio-economic information on the potentially affected areas.
- **Focus group meetings:** site visit to the proposed project area was undertaken during the period 17 – 21 July 2017 in South Africa and 1 to 4 August 2017 in Botswana. The aim of the meetings was to verify the socio-economic baseline as well as to verify impacts identified in the Scoping phase.
- **Identification of potential impacts.** Identified positive and negative impacts were categorised in terms of the phase of the proposed project that is expected to give rise to these impacts.
- **Rating of impacts.** Impacts were rated in terms of their anticipated duration, extent, intensity and probability. Duration, extent and intensity ratings were combined into a measure of an impact's expected consequence. Consequence ratings, in turn, were combined with probability ratings to give a measure of an impact's overall significance.
- Identification of appropriate **mitigation measures** to avoid or ameliorate negative socio-economic impacts and to enhance positive ones. The rating procedure described above was then repeated to assess the expected consequence, probability and significance of each impact after mitigation. This post-mitigation rating gives an indication of the significance of residual impacts, while the difference between an impact's pre-and post-mitigation ratings therefore represents the degree to which the recommended mitigation measures are expected to be effective in reducing or ameliorating that impact.
- Assessment of **cumulative impacts**, which are defined as impacts arising from the combined effects of two or more projects or actions. Two types of cumulative impacts were assessed: impacts related to population influx as well as impacts on sense of place.
- Formulating **recommendations** regarding potential linkages and synergies with relevant development planning at a local and regional level.

Summary of potential impacts

Based on the discussion presented in the previous sections, it can be concluded that many of the significant socio-economic impacts of the proposed BOSA Transmission Interconnection Project will occur during their construction phase.

Positive impacts include temporary and permanent creation of employment opportunities as well as associated economic benefits and possible creation of opportunities for local sourcing of goods and

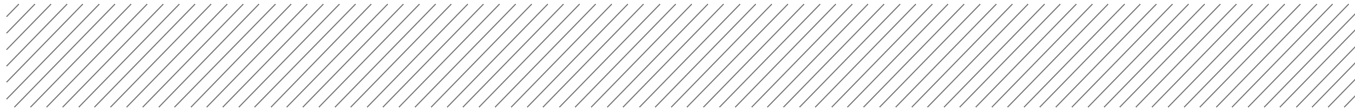


services. In addition, there will be anticipated positive impacts on local micro, small and medium enterprises and increased availability of electricity.

Negative impacts include the potential influx of job seekers, possible social pathologies arising from the influx of construction workers and job seekers, construction-related health, safety and aesthetic impacts, and displacement.

Cumulative impacts include impacts related to population influx such as the creation of spontaneous and informal settlements and the increased pressure on local services/ resources and further the impact on the visual surroundings and sense of place as well as impacts on ecosystem services.

The pre- and post-mitigation ratings assigned to the various impacts discussed in Section 6 are summarised in the table below and graphically represented in the figures below. In the figures, the entries in the various coloured cells correspond to the codes given for impacts in the second column of the table.

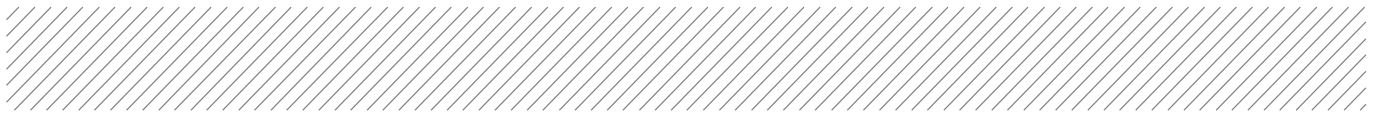


Pre- and post-mitigation impact ratings

Code	Impact	Pre-mitigation:						Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance	Duration	Extent	Intensity	Consequence	Probability	Significance
1	Job creation	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
2	Opportunities for local sourcing of good and services	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
3	Local and regional economic benefits and multiplier effects	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
4	Increased availability of stable electricity	Long-term	Regional	High - positive	Highly beneficial	Fairly likely	Moderate - positive	Long-term	Regional	Very high - positive	Extremely beneficial	Very likely	High - positive
5	Population influx	Short-term	Local		Moderately detrimental	Very likely	Moderate - negative	Short-term	Local	Moderate - negative	Slightly detrimental	Fairly likely	Low - negative
6	Increased social pathologies	Long-term	Regional	Very high - negative	Extremely detrimental	Certain	Very high - negative	Long-term	Regional	High - negative	Highly detrimental	Fairly likely	Moderate - negative
7	Construction related health, safety and aesthetic impacts	Short-term	Local	High - negative	Moderately detrimental	Very likely	Moderate - negative	Short-term	Local	Moderate - negative	Slightly detrimental	Fairly likely	Low - negative
8	Land use impacts and impacts on common property resources	Long-term	Site-specific	High - negative	Moderately detrimental	Certain	High - negative	Short-term	Site-specific	Moderate - negative	Slightly detrimental	Certain	Low - negative
9	Displacement	Long-term	Site-specific	Very high - negative	Highly detrimental	Certain	High - negative	Long-term	Site-specific	High - negative	Moderately detrimental	Very likely	Moderate - negative

Legend

Significance:	Negative	Positive
Very high	Red	Blue
High	Orange	Light Blue
Moderate	Yellow	Light Green
Low	Light Yellow	Light Cyan
Very low	Light Green	Light Blue



Pre-mitigation

Probability	Certain	6.		9.	8.													
	Very likely					5. 7.						1. 2. 3.						
	Fairly likely															4.		
	Unlikely																	
	Very unlikely																	
		Extreme	High	Moderate	Slight		Negligible		Slight	Moderate	High	Extreme						
		Consequence																
		Detrimental										Beneficial						

Impact rating Pre-mitigation and maximisation measures


Post-mitigation

Probability	Certain						8.					1. 2. 3.						
	Very likely																	4.
	Fairly likely		6.				5. 7.											
	Unlikely																	
	Very unlikely																	
		Extreme	High	Moderate	Slight		Negligible		Slight	Moderate	High	Extreme						
		Consequence																
		Detrimental										Beneficial						

Impact rating Post-mitigation and maximisation measures

Conclusion

The socio-economic environment in general poses no significant adverse socio-economic impacts of the construction of the proposed BOSA Transmission Interconnection Project. It is recommended that the mitigation and maximisation measures included in the report be implemented to decrease the effect of negative impacts on communities and maximise the effect of positive impacts on communities. It will be important that local employment opportunities are maximised, local community is fully engaging in decision making processes, recommended mitigation measures are followed by other specialists and maximising opportunities for income creation for local people.



It is further recommended that labour should be sourced locally as far as possible during construction and operation of the project. This will minimise the risk of conflict among local residents and newcomers and better relationships for workers housed in temporary housing for construction workers.

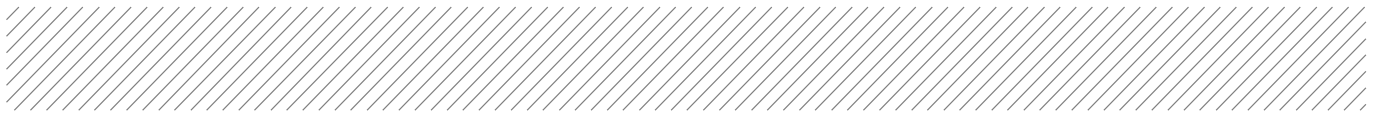
Furthermore, new construction workers in the area must be urged to refrain from abusing resources and infrastructure of the existing adjacent communities. There should be closer cooperation between the affected Municipalities, Farmers Association in the area, SAPP, Eskom and BPC and the appointed construction contractor to ensure that identified negative impacts are dealt with in a coordinated manner. This information should be conveyed to all relevant construction workers and affected communities.

In conclusion, the proposed BOSA Transmission Interconnection Project t poses a number of potential positive and negative social impacts. With appropriate measures, the negative impacts can be reduced to acceptable levels while the positive impacts can be maximised to provide significant benefits to the region. Measures must also be put in place to monitor and evaluate implementation of these mitigation measures and to take corrective action where necessary.



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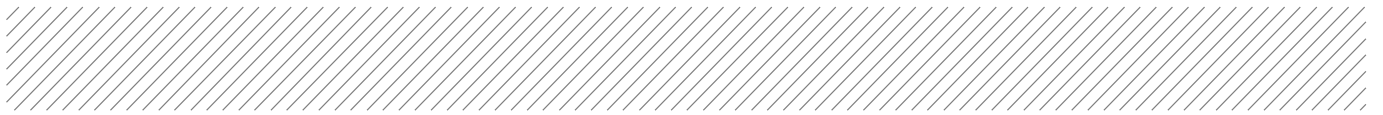


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List of Acronyms

AIDS	Acquired immunodeficiency syndrome
BOSA	Botswana-South Africa
BPC	Botswana Power Corporation
CLO	Community Liaison Officer
ECO	Environmental Control Officer
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
Eskom	Electricity Supply Commission of South Africa
ESTA	Extension of Security Tenure Act
GDP	Gross domestic product
HIV	Human immunodeficiency virus
IDP	Integrated Development Plan
IFC	International Finance Corporation
LM	Local Municipality
LPG	Liquefied petroleum gas
LSD	Local supplier development
MCDM	Multi-criteria Decision-Making Model
NDP	National Development Plan
NEC	Not elsewhere classified
NEMA	National Environmental Management Act (No. 107 Of 1998)
NMMDM	Ngaka Modiri Molema District Municipality
RECP	The Africa-EU Renewable Energy Cooperation Programme
SAPP CC	Southern African Power Pool
SIA	Social Impact Assessment
SMMEs	Small, Medium & Micro Enterprise Businesses
STD / STI	Sexually transmitted diseases / infections
TB	Tuberculosis
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VCT	Voluntary counselling and testing
VIP	Ventilated Improved Pit



1 Introduction

Aurecon and Digby Wells Botswana have been appointed to undertake an Environmental and Social Impact Assessment (ESIA) study to assess and address environmental and social impacts associated with Botswana-South Africa (BOSA) Transmission Interconnection Project. A social assessment of the study area is required to inform the ESIA of the potential impacts posed by the construction and operational activities of the proposed project.

Due to the growing demand for electricity in both South Africa and Botswana, the Southern African Power Pool (SAPP CC) has initiated the BOSA Transmission Interconnection Project on behalf of Eskom of South Africa and Botswana Power Corporation (BPC) of Botswana. The interconnector infrastructure components consist of two 400kV transmission power lines approximately 210 km in length and 60 m apart, connecting the existing Isang 400kV substation in Botswana to the Watershed B area North of Mahikeng (formerly known as Mafikeng) in South Africa.

In the pre-feasibility stage of the project, the potential routes were assessed against the criteria identified below. Two Multi-Criteria Decision-Making Model (MCDM) processes were undertaken to determine the preferred route. The following criteria were taken into consideration:

- **Technical category.** This relates to the impact of a specific route alignment with regards to achieving the technical goals of the project while reducing cost and increasing ease of both construction and maintenance activities.
- **Environmental category.** This component refers to the need to select a route that minimises the risk to ecosystem functioning and environmental integrity. Therefore, the environmental criterion prioritises the anticipated impacts on the both terrestrial and aquatic fauna (especially avifauna who are negatively impacted by high voltage transmission lines) and flora.
- **Social Category.** This aspect considers the impact of route alignment on people. Specifically avoiding residential areas, areas where assets and livelihoods may be affected (e.g. the loss of agricultural land for tower structures, the impact on tourism activities in game farm areas) and the need for compensation. Visual impacts and the impacts on heritage resources is also an important consideration in routing power lines.
- **Strategic category.** This aspect relates to the potential to either provide bulk power to large users in the area in future or allow for ease of connection to large generators of power in the future.

The MCDM processes thus included not only the relevant environmental and social specialist team, but also the Aurecon technical team and representatives of SAPP, the Development Bank of Southern Africa (DBSA), Eskom and BPC, in order to ensure that all relevant information, local knowledge and transmission expertise was duly taken into consideration in the final decision; and that all project level stakeholders agree on the way forward. Specialist input was obtained to draw up the criteria, which were deemed to have most relevance to the selection of route alignments.

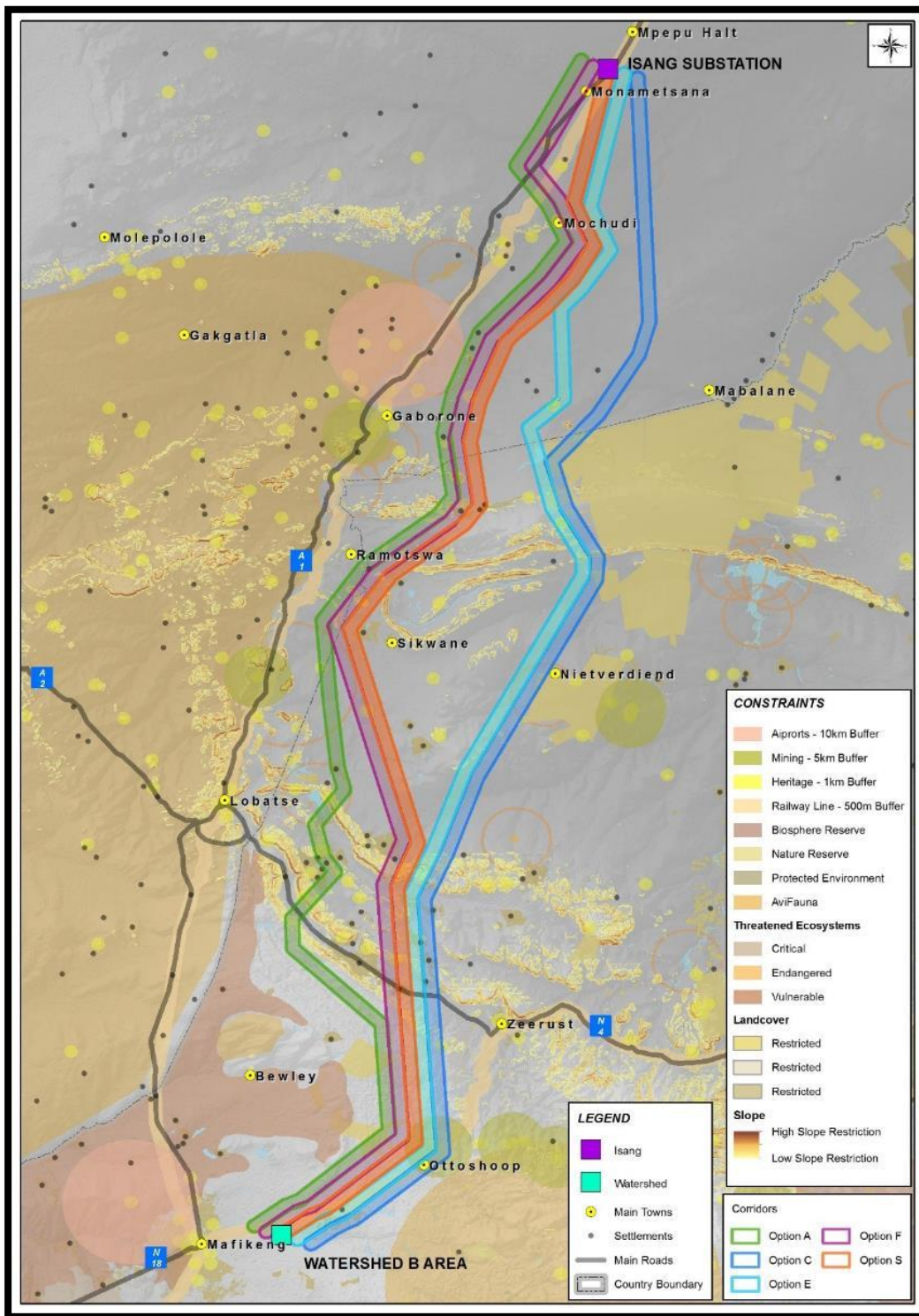


Figure 1: Alignment of 5 alternative routes from the original Watershed B substation location (an MCDM was undertaken to link the new Watershed B substation location to the preferred route)

Note that for illustrative purposes the routes are indicated as running next to each other in places but run in the same corridor.

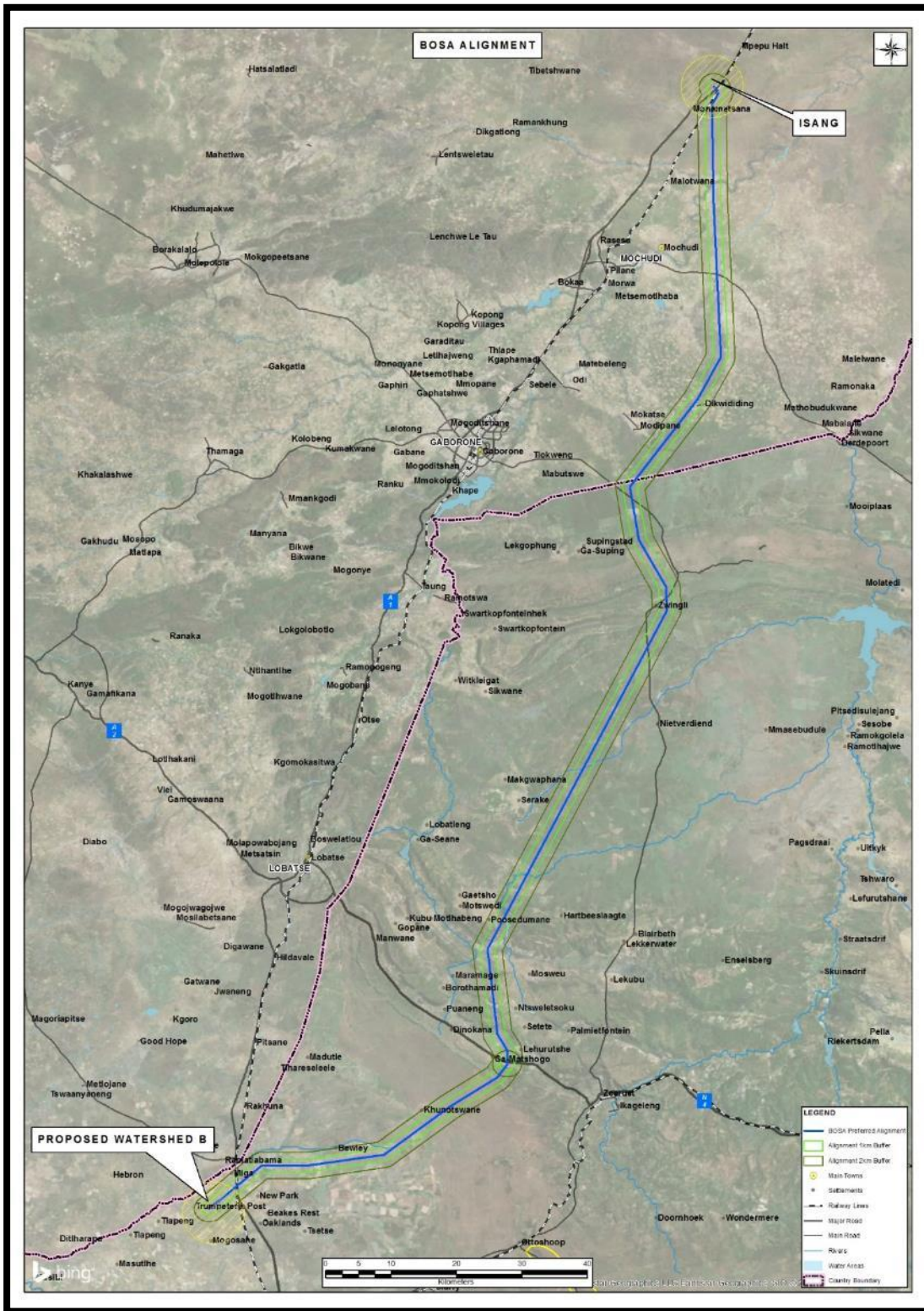



Figure 2: Preferred route from the new Watershed B substation location



The MCDM processes resulted in a preferred route (Route C) being identified. Please see the full assessment of alternatives in the main ESIA Report. This preferred route will be assessed in more detail in the sections below.

The Social Impact Assessment (SIA) is focused on the human dimensions of the environment, as it aims to provide the social information and seeks to predict, anticipate and understand the potential social impacts of development that allows the Environmental Assessment Practitioner (EAP) to try and balance the social, economic and environmental objectives.

The baseline social conditions of a community are the existing conditions and past trends associated with the human environment and their area of influence in which the proposed activity is to take place. The description of baseline conditions includes the relationship with the biophysical environment, historical background, social resources, culture, attitudes and social conditions, economic and population characteristics.

The SIA process focuses on evaluating the impacts a proposed development may have on a community's social and economic well-being. This analysis relies on both quantitative and qualitative measures of impacts. Assessing proposed developments in a socio-economic context will help both the developer, the project team and affected community to identify potential social equity issues, evaluate the adequacy of social services and determine whether the project may adversely affect overall social well-being. With SIA scoping, an initial understanding of the socio- economic environment of the proposed project area was gained. Through scoping, socio-economic issues that may influence project decisions were identified and these will be considered during development of the terms of reference for the impact assessment phase.

This document details the SIA for the impact assessment phase through detailed investigations of the potential impacts along the proposed project corridor and identifies mitigation measures that could be implemented to reduce or avoid negative impacts and enhance positive ones. The assessment also sought to analyse and assess the data obtained through a semi structured survey¹ undertaken. Through this assessment, SAPP will be informed about the impacts its proposed development may have on community's social and economic well-being.

The assessment shows that the proposed project will have both positive and negative impacts on the local and regional population. Adequate and suitable mitigation measures have been recommended so that the proposed negative impacts can be minimized and the positive impacts are enhanced.

¹ A semi structured survey is a mix of unstructured and structured questionnaires. Some of the questions and their sequence are determined in advance, while others evolve as the interview proceeds.



2 Methodology

The SIA endeavours to illustrate the socio-economic baseline environment of the affected communities in the study area, as well as attempts to predict the possible impacts that the proposed development may have on the host communities. The impacts include those on people's way of life and livelihoods (how they live, work, play and interact with one another daily), their culture (their shared beliefs, customs and values) and their community (its cohesion, stability, character, services and facilities).

The sustainability of projects is influenced by the balance that is created between the socio-ecological environment and the proposed project intervention. As far as possible, a symbiosis must be established between the natural environment and commercial projects. The SIA aim to provide information on the social elements of sustainability.

This study was informed by the approach of the ESIA for the BOSA Transmission Interconnection Project. The study was executed in compliance with the relevant national legislative requirements, such as those stipulated in the National Environmental Management Act (NEMA), No. 107 of 1998, as amended in South Africa and the Environmental Impact Assessment Act, No 6 of 2005 of Botswana. Relevant international best-practice standards, such as the Equator Principles, and the International Finance Cooperation's (IFC) Principles and Performance Standards also informed the investigation's approach. The activities outline below were undertaken as part of the Baseline Social Description during the Scoping Phase of the ESIA.

2.1 Baseline data collection

A **desktop review** was undertaken of the previous studies and reports on similar projects to inform the study. Other available documents were also reviewed to obtain and confirm relevant baseline socio-economic information on the potentially affected areas. Documents reviewed include the following:

- The various Statistical South Africa and Botswana Reports including the Census 2011 Provincial Profile: North West;
- Other Social Impact Assessment (SIA) and Scoping reports for similar projects;
- Supplementary literature that enhanced the specialist's understanding of the social factors that come into play during a project such as the one under consideration; and
- Maps and available satellite imagery of the proposed project sites and surrounding environment.



2.2 Site visits to study area

The aim of these site visits was to verify information obtained from secondary sources on potential project impacts and the socio-economic characteristics of the receiving environment of the preferred site, and to ascertain if there are any dwellings, businesses or livelihood activities in the vicinity of the proposed site that might be affected by the project. Site visits to the proposed project area were undertaken during July and August 2017 (during the detailed investigations forming part of the impact assessment phase).

2.3 Focus group meetings and interviews with key informants

The aim of the scoping and impact assessment interviews was:

- To assess stakeholders' perceptions, concerns and expectations regarding the proposed project;
- To verify baseline socio-economic information collected through the desktop review;
- To identify potential impacts of the proposed project on peoples' lives and livelihoods (including tourism and filming); and
- To help identify possible mitigation measures to avoid or reduce negative impacts, and to enhance the positive impacts of the project.


2.4 Information from other specialist studies and stakeholder engagement process

Social issues may overlap with other issues, such as visual impacts, cultural heritage, biodiversity (ecosystem services) and land use. Therefore, although these may have been dealt with in other specialist studies, their interrelationship with the social concerns should not be overlooked.

The study was undertaken in close liaison with the specialists conducting other specialist studies as part of the ESIA. Relevant information was obtained from these specialists on the anticipated biophysical and other (traffic, air quality, noise etc.) impacts that could give rise to indirect socio-economic impacts. The Comments and Response Report produced as an outcome of the public participation process documented the concerns of various stakeholders regarding the proposed project. These issues helped to define the aspects which would require more in-depth investigation during the ESIA.

2.5 Identification of potential impacts

A range of issues and potential socio-economic impacts of the proposed project was identified through the public participation process, interviews with key informants and through specialist opinion as part of the original study. The terms of reference specified that impacts likely to occur during construction and operation should be investigated. Impacts associated with each project



phase were classified as being either positive or negative. Data collected during the site visits and from secondary sources were used to estimate whether and to what extent each of these impacts is likely to materialise as a result of the proposed project.

The methodology took into account the distinction between social change processes and social impacts. A change process refers to a change that takes place within the receiving environment as a result of a direct or indirect intervention. An impact follows as a result of the change process. Impacts are those changes that are physically felt and emotionally experienced, positively and negatively. However, a change process can only result in an impact once it is experienced as such by individual persons, by groups of people and households, a community or society as a whole, social organisations and institutions individual/community on a physical and/or cognitive level. These impacts will be further investigated and rated in the impact assessment phase in order to assess the significance of each identified impact.

2.5.1 Objective social impacts

These are impacts that can be quantified and verified by independent observers, such as changes in population size or composition, in employment patterns, in standard of living or in health and safety.

2.5.2 Subjective social impacts

These are impacts that occur “in the imagination” or emotions of people, such as negative public attitudes, psychological stress or reduced quality of life. This kind of impact is much more difficult to identify and describe, as one cannot readily quantify perceptions or emotions.

The information will be verified by utilisation of the public participation process.

2.5.3 Rating of impacts

In order to assess the significance each identified impact, standard methodology in risk analysis was adopted, in which risk is defined as follows (Ansel & Wharton, 1992):

Significance = consequence² of an event x probability of the event occurring.

Depending on the numerical result of this calculation, the impact would fall into a significance category of negligible, minor, moderate or major, and the type would be either positive or negative.

² The term consequence is used in this methodology instead of magnitude (as included in the definition of “significant impact” in GNR 982). Furthermore, the specialists themselves translate their subjective judgements into numerical ratings to determine the significance score. As this “translation” is undertaken by the specialists themselves, it is asserted that outcomes will be accurately interpreted.

For each predicted impact, criteria are applied to establish the significance of the impact based on likelihood and **consequence**, both without mitigation being applied and with the most effective mitigation measure(s) in place.

The criteria that contribute to the consequence of the impact are **intensity** (the degree to which pre-development conditions are changed), which also includes the **type of impact** (being either a positive or negative impact); the **duration** (length of time that the impact will continue); and the **extent** (spatial scale) of the impact. The sensitivity of the receiving environment and/or sensitive receptors is incorporated into the consideration of consequence by appropriately adjusting the thresholds or scales of the intensity, duration and extent criteria, based on expert knowledge.

The rating options for each dimension, as well as the criteria for selecting a particular option, are given in the tables below.

Table 1: Definition of Intensity ratings

Rating	Criteria	
	Negative impacts (-)	Positive impacts (+)
Very high (-/+ 4)	Very high degree of damage to social systems or resources. These processes or resources may restore to their pre-project condition over very long periods of time (more than a typical human life time).	Great improvement to social processes and services or resources.
High (-/+ 3)	High degree damage to social system components or resources.	Intense positive benefits for social systems or resources.
Moderate (-/+ 2)	Moderate damage to social system components or resources.	Average, on-going positive benefits for social systems or resources.
Low (-/+ 1)	Minor damage to social system components or resources. Likely to recover over time. Valuable social processes not affected.	Low positive impacts on social systems or resources.
Negligible (0)	Negligible damage to individual components of social systems or resources, such that it is hardly noticeable.	Limited low-level benefits to social systems or resources.

Table 2: Definition of Duration ratings

Rating	Criteria
2	Long-term: The impact will continue for 6-15 years.
1	Medium-term: The impact will continue for 2-5 years.
0	Short-term: The impact will continue for between 1 month and 2 years.

Table 3: Definition of Extent ratings

Rating	Criteria
2	Regional: The impact will affect the entire region
1	Local: The impact will extend across the site and to nearby properties.
0	Site specific: The impact will be limited to the site or immediate area.

The procedure for deriving the consequence of an event from its expected duration, extent and severity is based on the numeric values for each rating option given in the last column of the table, with consequence being defined as follows:³

$$\text{Consequence} = (\text{Sign of Intensity rating}) \times (\text{Duration} + \text{Extent} + |\text{Intensity}|)$$

Depending on the numerical result, the impact's consequence would be defined as either extremely, highly, moderately or slightly detrimental; or neutral; or slightly, moderately, highly or extremely beneficial.

Descriptions of the consequence ratings associated with each derived numerical value are given in Table 4 below.

Table 4: Descriptions of consequence ratings

Rating	Consequence rating
-8	Extremely detrimental
-7 to -6	Highly detrimental
-5 to -4	Moderately detrimental
-3 to -2	Slightly detrimental
-1 to 1	Negligible
2 to 3	Slightly beneficial
4 to 5	Moderately beneficial
6 to 7	Highly beneficial
8	Extremely beneficial

To determine the **significance** of an impact, the probability (or likelihood) of that impact occurring is also taken into account. In assigning probability the specialist considers the likelihood of occurrence

³ $|\text{Intensity}|$ denotes absolute value of Intensity rating. I.e. $|-2| = 2$.

but also takes cognisance of uncertainty and detectability of the impact. The most suitable numerical rating for probability is selected from Table 5 below.

Table 5: Definition of Probability ratings

Rating	Criteria
4	Certain/ Definite: There are sound scientific reasons to expect that the impact will definitely occur.
3	Very likely: It is most likely that the impact will occur.
2	Fairly likely: This impact has occurred numerous times here or elsewhere in a similar environment and with a similar type of development and could very conceivably occur.
1	Unlikely: This impact has not happened yet but could happen.
0	Very unlikely: The impact is expected never to happen or has a very low chance of occurring.

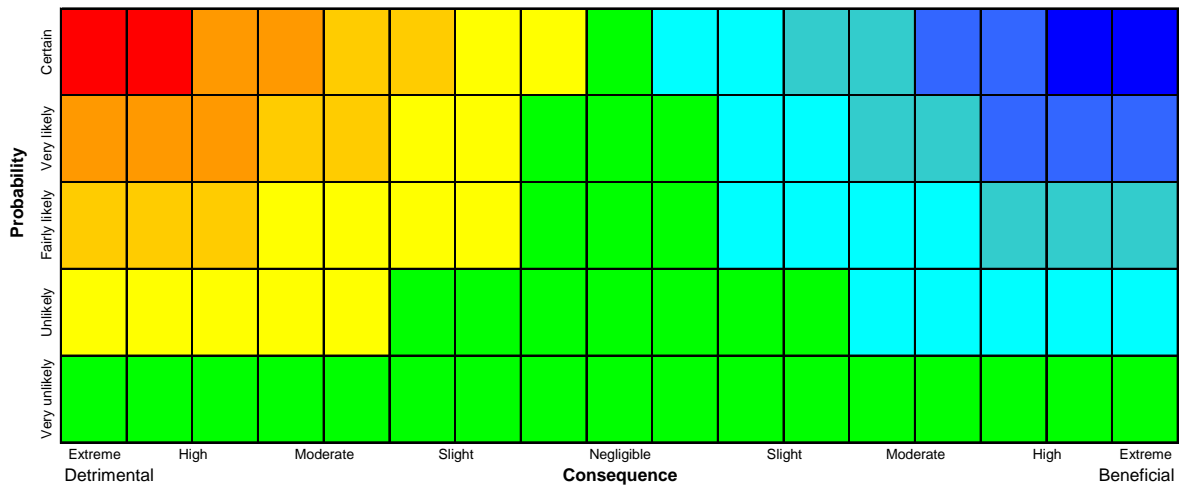
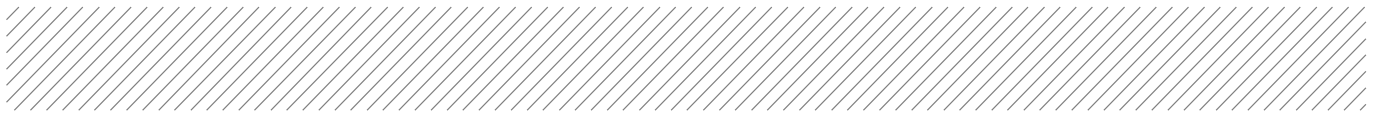
Once the significance of an impact occurring without mitigation has been established, the same impacts will be assigned ratings after the proposed mitigation has been implemented.

Although these measures may not totally eliminate subjectivity, they provide an explicit context within which to review the assessment of impacts. The specialists appointed to contribute to this impact assessment have empirical knowledge of their respective fields and are thus able to comment on the **confidence** they have in their findings based on the availability of data and the certainty of their findings. As with all studies it is not possible to be 100% certain of all facts, and for this reason a standard “degree of certainty” scale (Table 6). The level of detail for specialist studies is determined according to the degree of certainty required for decision-making.

Table 6: Definition of Confidence ratings

Rating	Criteria
Low	Judgement is based on intuition and there some major assumptions used in assessing the impact may prove to be untrue.
Medium	Determination is based on common sense and general knowledge. The assumptions made, whilst having a degree of uncertainty, are fairly robust.
High	Substantive supportive data or evidence exists to verify the assessment.

Finally, the procedure for deriving the significance of an impact from its associated consequence and probability is given in Figure 3.



Legend:

Significance:	Negative	Positive
Very high	Red	Blue
High	Orange	Light Blue
Moderate	Yellow	Light Cyan
Low	Light Yellow	Light Green
Very low	Yellow-Green	Green

Figure 3: Procedure for deriving significance from consequence and probability ratings.

2.5.4 Mitigation measures and recommendations

Appropriate mitigation measures were recommended and amended to avoid or ameliorate negative socio-economic impacts and to enhance positive ones. The criteria for the selection of mitigation measures included that:

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

After suitable mitigation measures were identified for each identified impact, the rating procedure described in Section 2.5.3 above was repeated to assess the expected consequence, probability and significance of each impact after mitigation. This post-mitigation rating gives an indication of the significance of residual impacts, while the difference between an impact’s pre-and post-mitigation ratings represents the degree to which the suggested mitigation measures are expected to be effective in reducing or ameliorating that impact.



3 Gaps and limitations

The SIA was subject to the following assumptions and limitations:

- The socio-economic profile presented is partially based on data from the most recent Statistics SA and Botswana Census Survey results, which was conducted in 2011. Characteristics of the study area may have changed significantly since then and, although every attempt was made to supplement this with more recent data, some aspects of the profile may still not be completely accurate. Despite this limitation, however, the author is confident that in all respects where the nature or magnitude of potential socio-economic impacts is dependent on accurate and current baseline data, these have been sufficiently updated from the supplementary sources.
- In many respects, the proposed project is still in the early stages of design. Hence, figures quoted in the estimates of certain impacts (e.g. numbers of employment opportunities that will be created) may be subject to change. In such cases, conservative estimates were employed.



4 Applicable legislation and standards

The following list of legislation and regulatory documents are relevant to the BOSA Transmission Interconnection Project SIA process and taken into account with the impact assessment:

South Africa

- Constitution of the Republic of South Africa (Act No. 108 of 1996);
- The Occupational Health and Safety Act (Act No. 85 of 1993);
- Extension of Security of Tenure Act (Act 62 of 1997) (ESTA);
- National Environmental Management Act (NEMA), No. 107 of 1998, as amended;
- Environment Conservation Act, No. 73 of 1989, as amended;
- The Environmental Impact Regulations of 21 April 2006;
- The National Development Plan 2030 (NDP 2030): National Plan for Delivery of Electricity;
- Development Facilitation Act, 67 of 1995; and
- Restitution of Land Rights Act, 22 of 1994 (only applicable if the site of any proposed development is the subject of a land claim).

Botswana

- Constitution of Botswana, 1966;
- National Policy on Natural Resource Conservation and Development, 1990;
- Environmental Assessment Act, No. 10 of 2011;
- Botswana Environmental Assessment Regulations, of 2012;
- Town and Country Planning Act of 1980;
- State Land Act, of 1996;
- Employment Act, of 1992;
- Tribal Land Act of 1990; and
- Land Control Act of 1975.

South Africa and Botswana

- Relevant Labour Relations legislation;
- IAIA Social Impact Assessment: Guidance for assessing and managing the social impacts of projects;
- Development Bank of Southern Africa (DBSA) Standards;
- IFC Performance Standards; and
- Equator Principles.

5 Social baseline

The study area relates to the areas within the servitude and associated infrastructure located. The study area is located within the countries of South Africa and Botswana.

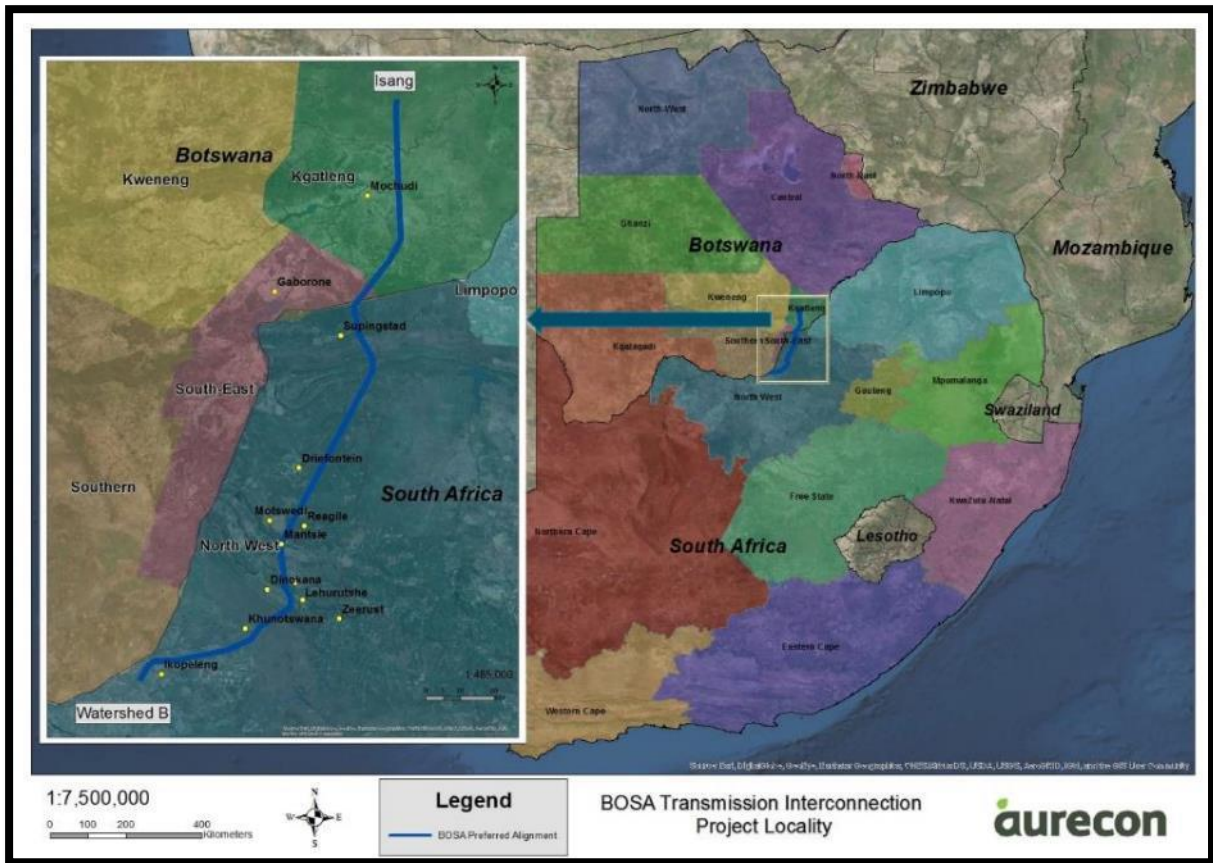


Figure 4: Project locality

For a more detailed map of the above-mentioned corridors refer to the Draft ESIA Scoping Report.

The sections below detail some of the main statistics for the two project host countries, namely; South Africa and Botswana.

South Africa



Figure 5: South Africa

The Republic of South Africa has land borders with: Namibia, Botswana, Zimbabwe, Mozambique and Swaziland. Its sea borders are with the South Atlantic and Indian Oceans. Lesotho is enclosed within its land area. The country comprises nine provinces: Eastern Cape (provincial capital Bhisho), Free State (Bloemfontein), Gauteng (Johannesburg), KwaZulu-Natal (Pietermaritzburg), Limpopo (Polokwane), Mpumalanga (Nelspruit), Northern Cape (Kimberley), North-West (Mafikeng) and Western Cape (Cape Town)⁴. In South Africa, the study area is within the North-West Province as seen in Figure 6 below, which lies in western South Africa, bordering the Northern Cape, Limpopo and Gauteng Provinces as well as Botswana on the western side. The capital of North West is Mahikeng, 'The City of Goodwill'.

⁴ http://commonwealthofnations.org/yb-pdfs/south_africa_country_profile.pdf

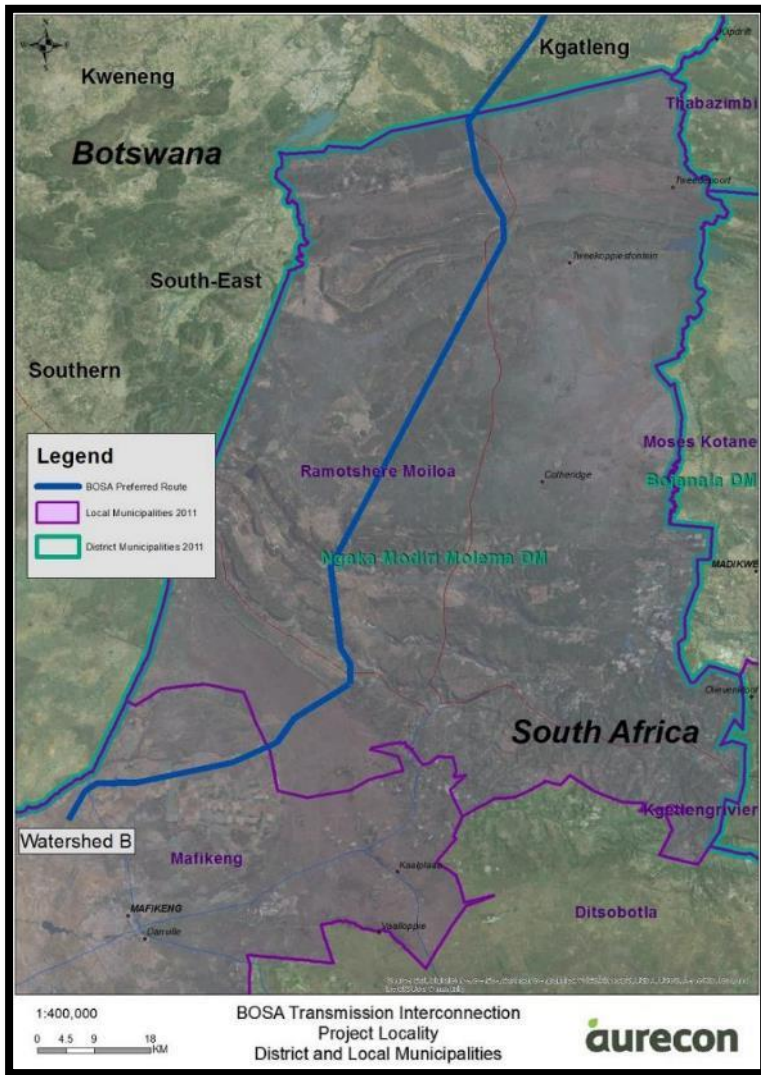


Figure 6: District and Local Municipalities affected – South Africa

The study area falls within the Ngaka Modiri Molema District Municipality (NMMDM). Ramotshere Moiloa and Mafikeng Local Municipalities, as highlighted in Figure 5 are the two Local Municipalities that are affected by the proposed project. The main towns and settlements within 10 km of the study area are Ikopeleng, Khunotswana (Figure 7), Lehurutshe, Mantsie, Motswedi, Driefontein, Miga and Supingstad. The residents of these settlements and the surrounding farms form part of the baseline stakeholders for the Public Participation Process.



Figure 7: Khunotswana – South Africa

The aim of this section is to contextualise the study by developing a socio-demographic profile that captures the relevant characteristics of the affected region.

Figure 8 shows the affected Wards in the respective affected local municipalities, namely:

- Ramotshere Moiloa Local Municipalities: Ward 3, 4, 11, 12, 13, 14, 18 and 19; and
- Mahikeng Local Municipalities: Ward 3 and 4.

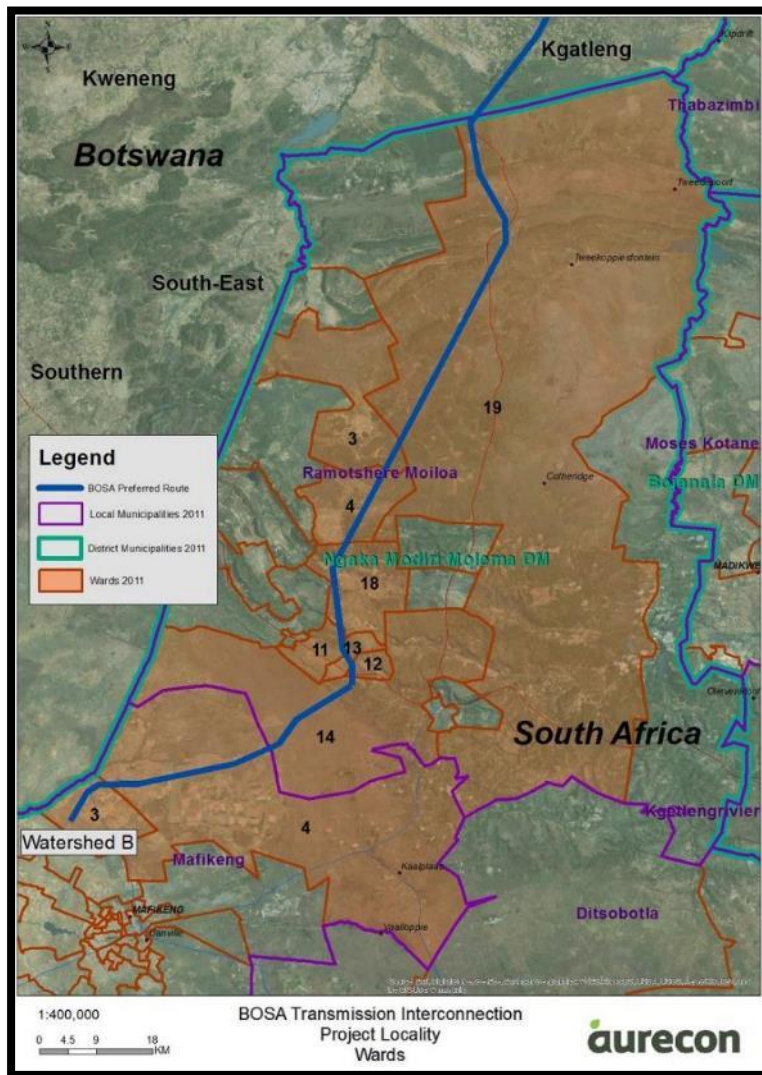


Figure 8: District, Local Municipalities and Wards affected – South Africa

5.1 Regional summary

North West Province is in the north-western section of South Africa, with the Northern Cape Province to the west, Gauteng Province to the east, and the Free State Province to the south. The capital city of North West is Mahikeng (previously Mafikeng). North West has a total area of 118,797 km², which is almost 9% of South Africa's total land area. North West has various tourist attractions,

including Sun City, the Pilansberg National Park, the Madikwe Game Reserve and the Rustenburg Nature Reserve.

Portions of two of South Africa's eight Unesco World Heritage sites fall within the borders of North West: the Vredefort Dome, the world's largest visible meteor-impact crater, and the Taung hominid fossil site, which has been incorporated into South Africa's Cradle of Humankind.
Brand South Africa

The main economic driver of the North-West Province is mining; it contributes more than 50% towards the province's gross domestic product (GDP) and provides employment for about 25% of its workforce. North West is also known as the Platinum Province, as almost all South Africa's platinum is found in North West. Mining contributes around a quarter toward the North-West Province's economy and makes up about a fourth of the South African mining industry.

The chief minerals are gold, mined at Orkney and Klerksdorp; uranium, mined at Klerksdorp; platinum, mined at Rustenburg and Brits; and diamonds, mined at Lichtenburg, Christiana, and Bloemhof. The Rustenburg and Brits districts produce 94% of the country's platinum, which is more than any other single area in the world. North West also produces a quarter of South Africa's gold, as well as granite, marble, fluorspar and diamonds.
North West Provincial Government


Maize and sunflowers are some of the main crops produced in the North-West Province, which is also a major producer of white maize and beef, particularly around Vryburg and Groot Marico. The areas around Rustenburg and Brits are fertile, mixed-crop farming land.⁵

5.2 Municipal summary

The **Ngaka Modiri Molema District Municipality** (NMMDM) is one of the four District Municipalities of the North-West Province of South Africa. The other three are: Bojanala-Platinum, Dr Ruth Mompati and Dr Kenneth Kaunda Districts. The NMMDM covers an area of 31,039 km² and shares an international border with the Republic of Botswana.⁶ The area is fairly flat and dry in the west, becoming bushveld towards the east. The Ngaka Modiri Molema District offers game

⁵ <https://www.brandsouthafrica.com/tourism-south-africa/geography/north-west>

⁶ <http://led.co.za/municipality/ngaka-modiri-molema-district-municipality>



viewing - including the Big 5 - bird watching, hunting, fishing, sport, hospitality, conference facilities, shopping, gaming, Anglo-Boer War sites and a number of excellent guest houses and guest farms.⁷

The mission according to the Integrated Development Plan (IDP), 2012 – 2016 is: 'To provide a developmental municipal governance system for a better life for all in Ngaka Modiri Molema District'.

Some of the municipal priorities listed in the IDP include:

- Provision of water and sanitation;
- Improve road infrastructure;
- Local economic development and job creation;
- Environmental health management;
- Promote integration of services;
- Promote intergovernmental coordination and relations; and
- Support local municipalities.

The **Mahikeng Local Municipality** (previously Mafikeng Local Municipality) is the smallest of the five municipalities in the district and the municipal area covers an area of approximately 3,698 km².

Mahikeng Local Municipality is a Category B municipality^{8,9}. The mission of the Mahikeng Local Municipality is to:

- Foster Local Government through regular public participation and transparency for service delivery;
- Provide and maintain infrastructure through the concept of Villages, Townships and Small Dorpies;
- Reconstruct and develop Villages, Townships and Small Dorpies through the municipality's Integrated Development Plan; and
- Accelerate the concept of Rebranding, Repositioning and Renewal of the City in collaboration of social partners.¹⁰

The **Ramotshere Moiloa Local Municipality** (previously Zeerust Local Municipality) is also a Category B municipality and the largest of the five municipalities in the district, covering an area of approximately 7,193 km².¹¹ The municipal vision is to strive to be the best in the provision of sustainable development and service delivery at the local government level.¹² The municipal mission is to provide people oriented government that enables integrated social and economic development in the whole of Ramotshere Moiloa Local Municipality.¹³

⁷ <http://www.nmmdm.gov.za/Tourism.html>

⁸ Local Municipalities are also known as Category B Municipalities

⁹ <http://www.localgovernment.co.za/locals/view/203/Mahikeng-Local-Municipality>

¹⁰ <http://www.mahikeng.gov.za/>

¹¹ <http://www.localgovernment.co.za/locals/view/204/Ramotshere-Moiloa-Local-Municipality#overview>

¹² <http://www.ramotshere.gov.za/vision>

¹³ <http://www.ramotshere.gov.za/mission>

The Municipality is characterised by a few urban areas including Zeerust Town (the main town in the LM) as well as some formal settlement at Ikageleng, Henryville, Olienhout Park, Shalimar Park, Welbedacht (Lehurutshe Town) and Groot Marico. A vast majority of the population lives in a rural or peri-urban environment, which for most part is unplanned and poorly serviced. The rural part of the Municipality is estimated at 70% of its total area, with over 40 villages spread across distances of up to 120 km from the main town. Mountainous terrain forms a significant divide between the areas along the N4 and the remainder of the LM area. The natural environment is primarily characterised by turf thorn veldt and mixed bush veldt areas.¹⁴

The socio-economic indicators of the study area are discussed in the sections below.

5.3 Demographics

Table 7: Population of South Africa, Census 1996, 2001 and 2011

1996		2001		2011		Growth Rate		Population % change	
<i>Population</i>	%	<i>Population</i>	%	<i>Population</i>	%	1996 - 2001	2001 - 2011	1996 - 2001	2001 - 2011
South Africa									
40,583,572	100.00	44,819,777	100.00	51,770,561	100.00	2.0	1.4	10.4	15.5
North West Province									
2,727,223	6.7	2,984,098	6.7	3,509,953	6.8	1.8	1.6	9.4	17.6

Table 7 above shows the population size and percentage share of the South African population for the North-West Province between 1996 and 2011. The population of North West makes up 6.8% of the population of South Africa and is ranked seventh in terms of population size. 3,509,953 out of the 51 770,560 people in South Africa live in the North-West Province. Between 1996 and 2001 the population in North West Province increased by 9.4% and between 2001 and 2011 with an average growth rate of 1.8%, the population increased by 17.6% with an average growth rate of 1.6%, which is 2.1% above the average population increase for South Africa. The sex ration in North-West Province is 102.9, with 1 779,903 males and 1,730,049 females.

¹⁴ <http://www.ramotshere.gov.za/about-municipality>

The Ngaka Modiri Molema District Municipality has a total of 2,788,844 hectares, which is equivalent to 26% of the total number of hectares in the North-West province. 13% belongs to the Mafikeng Local Municipality; it is the area with the smallest portion of land although it represents the highest gross value add (GVA) figures and highest population in the District.
Ngaka Modiri Molema District Municipality

Table 8: Population distribution of North West by District, Census 1996, 2001 and 2011

	1996		2001		2011	
	Population	% Share	Population	% Share	Population	% Share
Ngaka Modiri Molema District Municipality	691,529	25.4	765,840	25.6	842,699	24.0
North West Province	2,727,223	100.00	2,984,098	100.00	3,509,953	100.0

Table 8 shows that Ngaka Modiri Molema District Municipality recorded the second highest population size in 2011 (842 699), which amounts to 24.0% of the population in North West.

The Ngaka Modiri Molema District Municipality has a total population of 764,351, which is equivalent to 24% of the total population in North-West.
Ngaka Modiri Molema District Municipality

Table 9: Population size and percentage by municipality, Census 2011

	Population			% Change	
	1996	2001	2011	1996 - 2001	2001 - 2011
Ramotshere Moiloa Local Municipality	129,287	137,443	150,713	6.3	9.7
Mafikeng Local Municipality	242,146	259,478	291,527	7.2	12.4
Ngaka Modiri Molema District Municipality	691,529	764,840	842,699	10.6	10.2
North West Province	2,727,223	2,984,098	3,509,953	9.4	17.6

Table 9 shows the population of the affected municipalities from 1996 to 2011 and the percentage change for each municipality. The population of Ngaka Modiri Molema District Municipality increased by 10.6% between 1996 and 2001, and increased by 10.2% between 2001 and 2011.

34% of the district's total population are found in the Mafikeng Local Municipality, thus giving it the largest population density in the district.
Ngaka Modiri Molema District Municipality

North West Province is comprised of 1,779,903 males and 1,730,049 females, with a sex ratio of 102.9% (more males than females). Ngaka Modiri Molema District Municipality has a sex ratio 96.3% with more females than males.

Table 10: Population grouping: Ngaka Modiri Molema District Municipality, Census 2011

Population group	Male	Female	Total
Black African	385,963	405,288	791,250
Coloured	7,067	6,743	13,810
Indian or Asian	3,210	1,758	4,968
White	15,897	15,052	30,950
Other	1,261	458	1,720

In the above

Population group	Male	Female	Total
Black African	385,963	405,288	791,250
Coloured	7,067	6,743	13,810
Indian or Asian	3,210	1,758	4,968
White	15,897	15,052	30,950
Other	1,261	458	1,720

it is apparent that the population of Ngaka Modiri Molema District Municipality is mainly made up of Black African (94%), while Whites make up 3.7%, and Coloured 1.6%, Asian 0.9% and other 0.2%.

Table 11: Dependency ratio, Census 2011

	0 – 14	15 – 64	65+	Dependency ratio
Ngaka Modiri Molema District Municipality	280,573	512,167	49,958	64.5
North West Province	1,040,364	2,271,734	197,855	54.5
South Africa	15,100,089	33,904,480	2,765,991	52.7

As per Table 11 North West recorded has a dependency ratio of 54.5, which is slightly higher than the national average of 52.7.

5.4 Language

Setswana is the first language for the majority of people living in North West (63.4%). Just less than one-tenth (9.0%) reported Afrikaans as their first language in North West.

5.5 General health

Table 12: Distribution of population aged five years and older by disability status, sex, numbers and percentages, Census 2011

	Disability status	Male	Female	Total	Male %	Female %	Total %
Ngaka Modiri Molema District Municipality	Not disabled	252,239	277,971	530,210	88.9	87.1	87.9
	Disabled	31,632	41,327	72,959	11.1	12.9	12.1
	Total	283,871	319,298	603,169	100.0	100.0	100.0
North West Province	Not disabled	1,137,114	1,148,184	2,285,298	91.1	88.9	90.0
	Disabled	111,094	143,239	245,333	8.9	11.1	10.0
	Total	1,248,208	1,291,423	2,539,631	100.0	100.0	100.0

In Table 12 above the disability status of males and females aged five years and older are shown. The proportion of males with a disability in North West is 8.9% as compared to 11.1% of females. Ngaka Modiri Molema had 11.1% of disabled males as compared to 12.9% of females.

5.6 Education

Table 13: Number of persons aged 20 years and older by level of educational attainment and sex in North West, Censuses 1996, 2001 and 2011

Level	1996		2001		2011	
	Male	Female	Male	Female	Male	Female
No Schooling	294,065	290,805	248,403	256,811	146,056	149,114
Some primary education	352,172	336,877	435,890	415,473	462,999	438,722
Completed primary	86,098	94,677	93,693	96,475	91,284	88,133
Some secondary	296,860	332,691	345,028	361,151	476,218	469,833
Completed secondary	97,103	107,503	167,990	168,997	278,201	281,910
Higher education	38,716	35,051	47,356	53,082	79,955	80,506

In Table 13 above it is shown that the number of persons with no schooling has decreased since 1996. The number of persons that has completed some secondary as well as completed secondary and higher education has increased significantly since 1996. In Table 14 below it can be seen that

in Ngaka Modiri Molema District Municipality only 14.2% of people had completed secondary schooling and 5.3% had attained a higher level of education in 2011.

2.5% of the total population in the NMMDM has not received any form of tertiary education.
Ngaka Modiri Molema District Municipality

Table 14: Percentage distribution of persons aged 20 years and older by level of educational attainment for Ngaka Modiri Molema District Municipality, Censuses 1996, 2001 and 2011

Level	1996	2001	2011
No Schooling	28.7%	23.1%	12.8%
Some primary education	30.7%	33.9%	34.4%
Completed primary	7.0%	6.5%	6.0%
Some secondary	22.7%	22.4%	27.3%
Completed secondary	7.8%	10.6%	14.2%
Higher education	3.1%	3.6%	5.3%

5.7 Labour force

5.7.1 Employment status

The unemployment rate in South Africa is almost 30% and the unemployment rate in North West is 31.5%.

Construction, electricity, manufacturing and transport as secondary sectors and employ only 14.0% of the economically active population. The tertiary sector (social, financial, wholesale etc.) employed 43.8% of the economically active population.
Ngaka Modiri Molema District Municipality

Table 15: Official employment status for Ngaka Modiri Molema District Municipality, Census 2011

Employment status	Ngaka Modiri Molema District Municipality
Number of working age population	512,167
Labour force	225,307
Employed	149,334
Formal sector	96,041
Informal sector	24,669
Private households	26,415
Do not know	2,208
Unemployed	75,973

Not economically active	286,861
Discouraged work-seekers	41,366
Other	245,495
<i>Unemployment rate</i>	33.7%
<i>Absorption rate</i>	29.2%
<i>Participation rate</i>	44.0%

Table 15 shows labour market indicators for the Ngaka Modiri Molema District Municipality. Census 2011 states that labour participation rate shows the percentage of people of working age who form part of the labour force. The labour participation rate for Ngaka Modiri Molema is 44.0% which is lower than that of North West at 54.2%. Absorption rate is the percentage of people of working age who are employed. The absorption rate of North West is 37.1%. Ngaka Modiri Molema has an absorption rate of 29.2%. Unemployment rate shows the percentage of people in the labour force who do not work and are available to work. Ngaka Modiri Molema has the second highest unemployment rate in North West with a rate of 33.7%.

*The Mafikeng Local Municipality has an unemployment figure of 38%. Making it the area with the largest unemployment figure in the district.
Ngaka Modiri Molema District Municipality*

5.7.2 Household income

Table 16: Average household income, Census 2011

	Average annual household income
North West Province	R 69,954.00
Ngaka Modiri Molema District Municipality	R 63,778.00
Mafikeng Local Municipality	R 81,965.00
Ramotshere Moiloa Local Municipality	R 51,026.00

As seen in Table 16 above the average household income that was recorded in 2011 for the North-West province is R69,954.00, which is higher than the average household income for Ngaka Modiri Molema District Municipality of R63,778.00. The average household income for the Mafikeng Local Municipality at R81,965.00 is much higher as the average household income for Ramotshere Moiloa Local Municipality of R51,026.00.

The Ngaka Modiri Molema District Municipality has a total of 554,668 people living under the minimum living income, which is equivalent to 29% of the total number of minimum living income earners in the North-West province, thus, making it the district with the most underprivileged people in the NW Province.
Ngaka Modiri Molema District Municipality

5.8 Average household size

Table 17: Number of households, household size and percentage of female-headed households by census year, Census 2011

	Ngaka Modiri Molema District Municipality	North West Province
Households	1996	592,176
	138,053	
	2001	799,319
	185,342	
Household size	1996	4.61
	5.01	
	2001	3.73
	4.13	
Female headed households	1996	37.7%
	41.2%	
	2001	39.5%
	43.0%	
% Change of number of households	1996 - 2001	35.0%
	34.3%	
	2001 - 2011	37.4%
	25.2%	

Table 17 shows changes in the number of households, average household size and the percentage of female-headed households in North West and Ngaka Modiri Molema District Municipality for 1996, 2001 and 2011. The number of households in North West increased by 35% between 1996 and 2001, and by 37% between 2001 and 2011. Ngaka Modiri Molema recorded the highest household size (3.7 persons) in 2011. The percentage of female-headed households in North West has also decreased from 39.5% in 2001 to 36.5% in 2011.

5.9 Type of dwelling and tenure status

5.9.1 Type of dwelling

Table 18: Percentage distribution of households by type of dwellings by province, Census 2011

	<i>Formal dwelling</i>	<i>Informal dwelling</i>	<i>Traditional dwelling</i>
North West Province	76.9%	21.5%	1.7%
South Africa	78.3%	13.8%	8.0%

According to Census 2011, 76.9% of the households in North West reside in formal dwellings (Table 18). This is slightly below the national average of 76.9%. North West has the highest proportion of households residing in informal dwellings with 21.5%, above the national average of 13.8%.

5.9.2 Tenure status

Table 19: Percentage of households which rent or own their dwellings, Census 2011

	<i>Census 2011</i>	
	<i>Rented</i>	<i>Owned</i>
Ngaka Modiri Molema District Municipality	14.9%	85.2%
North West Province	24.9%	75.1%

In North West, 24.9% of households live in rented dwellings and 75.1% of households own the dwellings they live in (Table 18). In Ngaka Modiri Molema District Municipality, only 14.9% of households live in rented dwellings and 85.2% of households live in dwellings they own.

5.10 Household services

*The Mafikeng Local Municipality and the Ditsobotla Local Municipality are the regions with the highest number of people that have access to basic services.
Ngaka Modiri Molema District Municipality*

5.10.1 Refuse removal

Table 20: Percentage distribution of households by type of refuse removal, Census 2011

	Removed at least once a week	Removed less often	Communal refuse dump	Own refuse dump	No rubbish disposal
Ngaka Modiri Molema District Municipality	35.9%	1.4%	1.6%	54.9%	6.2%

North West Province	49.3%	1.5%	1.9%	40.8%	6.5%
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Census 2011 recorded that 6.5% of the households in North West had no rubbish disposal facilities and that 49.3% had their rubbish removed at least once a week (Table 19). 54.9% of households in the Ngaka Modiri District Municipality removed their own refuse, a further 35.9% of households had their rubbish removed at least once a week.

5.10.2 Toilet facilities

Table 21: Percentage distribution of households by type of toilet facilities, Census 2011

	Flush toilet	Chemical toilet	Other	None
Ngaka Modiri Molema District Municipality	32%	1%	60%	8%
North West Province	46%	1%	47%	6%

Table 21 above shows that less than half of the households in the province used flush toilets (46%). 32% of the households in the Ngaka Modiri Molema District Municipality used flush toilets. However, the majority of the households in other districts used other types of facilities.

5.10.3 Electricity for lighting

As per Table 22 below, more than 84% of households in North West use electricity for lighting, compared to 73% in 2001 and 43% in 1996. Ngaka Modiri Molema recorded the lowest proportion of households with access to electricity for lighting with 80.7%.

Table 22: Percentage of households which use electricity for lighting, Census 2011

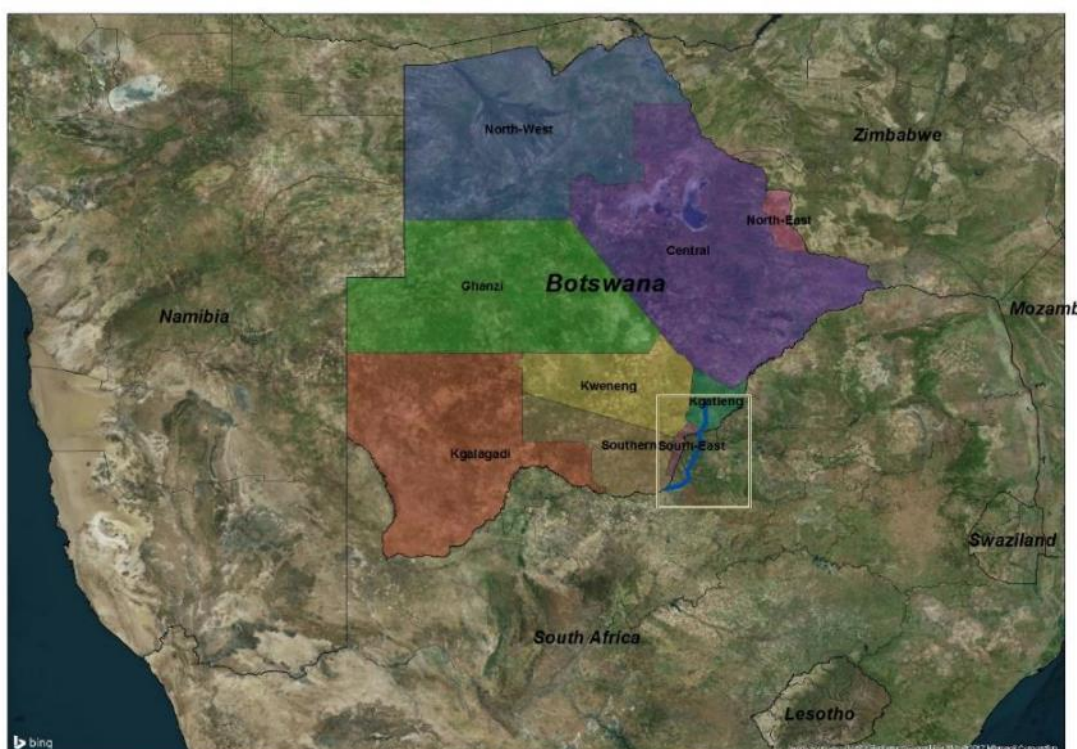
	1996	2001	2011
Ngaka Modiri Molema District Municipality	36.9%	71.0%	80.7%
North West Province	42.8%	72.9%	84.3%

The Botswana social baseline is discussed in the section below.

Botswana

Botswana is a land-locked country situated in southern Africa. It borders South Africa, Namibia, Zambia and Zimbabwe. Approximately two-thirds of the country lies within the Tropics. Botswana covers an area of 581,730 km² – about the size of France or Kenya.

Botswana Tourism



In 1966 Botswana gained independence from the British and its district administration was formed by adapting their previous colonial administration framework. The Ministry of Local Government provides policy direction to local government, working through such services as Tribal Administration, Remote Area Development and Local Governance. Nine district councils and five town councils, including Gaborone City Council, are responsible for local administration in Botswana. District commissioners appointed by central government have executive authority. The Department of Local Government Technical Services develops and maintains roads, village water supplies, schools,

municipal and recreational facilities¹⁵. Botswana has a total population, according to the Population & Housing Census 2011, of 2,024,904, which consist of 988,957 males and 1,035,947 females.

Botswana has been one of the world's fastest growing economies over the past 50 years, allowing the country to move from being among the poorest to upper middle-income status – this has had the effect of pulling the majority of the population out of poverty. At the same time, many Batswana are still poor, inequality is among the highest in the world, and human development outcomes are far below the norms for an upper middle income country. Moreover, the country remains reliant on a diamonds and public sector driven model. This makes it vulnerable both to short term shocks and structural changes.

Botswana Systematic Country Diagnostic. World Bank Group

The proposed development falls within the Kgatleng and South-East Regions in Botswana, which are located in the south-eastern part of Botswana.

Kgatleg District covers an area of 7,600 km² and the administrative capital of Kgatleng is Mochudi and was originally founded in 1871 as the capital of the Bakgatla tribe.¹⁶ Kgatleng District has no sub-districts.

There is only one planning area in Kgatleng District and this was declared a planning area in 1995. This area covers Mochudi, Pilane, Bokaa, Malotwana and Rasesa. In addition, a development plan was developed to cover the villages of Sikwane, Mmathubudukwane, Mabalane, Ramonaka and malolwane. Two service centres, at Artesia and Mmathubudukwane have been established to bring services closer the communities in those areas.

Kgatleg District Council

The **South-East District** is the smallest district in Botswana and is home to Botswana's capital city Gaborone. Ramotswa is the administrative capital and home to the district council of the South-East District. The largest tourist attractions in the South-East District are the Mokolodi Nature Reserve, Gaborone Game Reserve and Manyelanong Game Reserve. South-East District has two sub-districts namely; Ramotswa sub-district and Tlokweng sub-district. The major settlements close to the proposed development are: Monametsana, Malotwana, Mochudi (Figure 9), Dikwididing, Mokatse and Modipane.

¹⁵ Commonwealth Education Online, http://www.commonwealthofnations.org/sectors-botswana/government/regional_local_government/

¹⁶ <http://www.kgatlegdc.gov.bw/index.php?id=12>

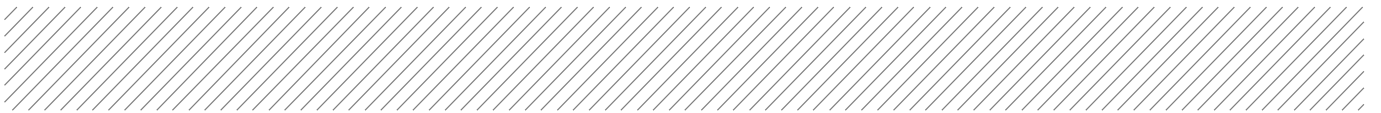


Figure 9: Mochudi - Botswana

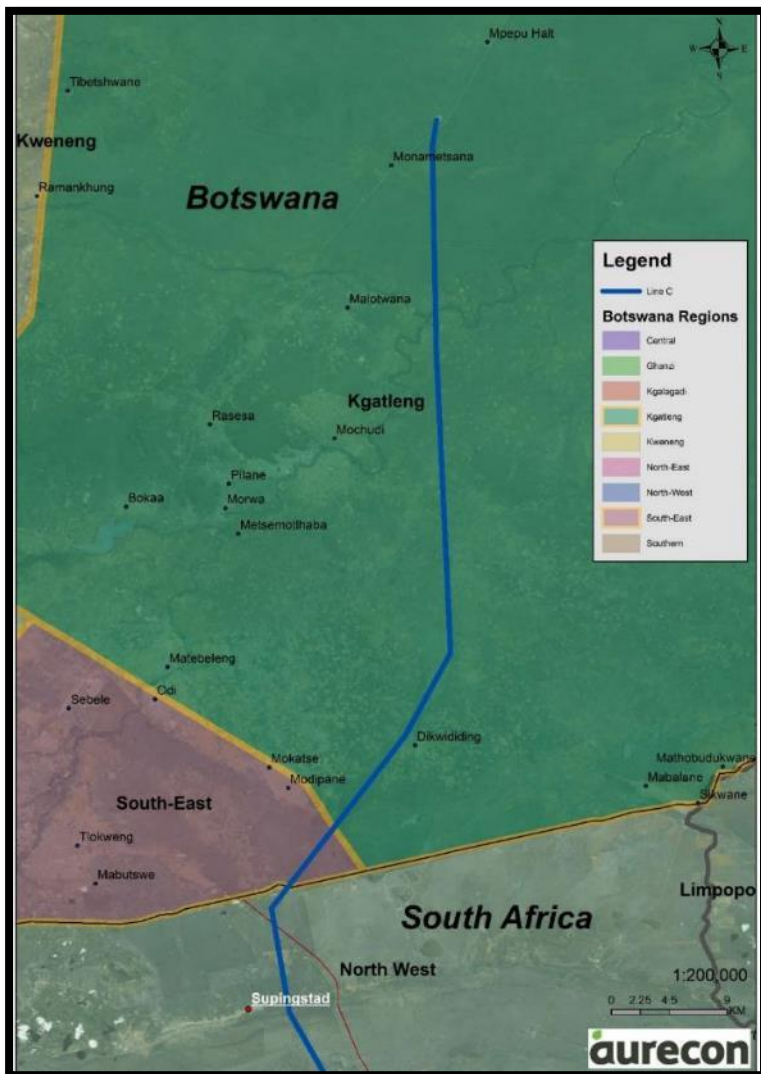


Figure 10: Districts affected - Botswana

5.11 Demographics

The demographics of the affected districts in Botswana were investigated, in order to learn more about the potentially impacted population's characteristics.

The population of Botswana is largely concentrated in the eastern part of the country. Botswana's main ethnic groups are Tswana/ Setswana and Kalanga. Other groups of ethnicities in Botswana include whites and Indians, both groups being roughly equally small in number. Table 23 below shows the population size and distribution by locality type. The South-East District has a total population of 85,014 with 86% of its population living in the urban centres. Kgatleng District has a total population of 91,660 with 61% living in the urban centres and 39% living in rural settlements.

Table 23: Distribution of population by locality type, Botswana 2011

	Urban	Rural	Total
South East	72,912	12,099	85,014
Kgatleng	56,170	35,490	91,660

Most of the population, according to Table 24 below, living in the South-East and Kgatleng Districts are Batswana while only 8% and 5% of the population living in the districts are non-Batswana.

Table 24: Distribution of population by citizenship, Botswana 2011

	Batswana	Non-Batswana	Total
South East	77,852	7,162	85,014
Kgatleng	87,426	4,234	91,660

5.12 Language

In Botswana, Setswana is the national language, and English is an official language. Setswana is the first language for the majority of people living the South-East and Kgatleng Districts. As per Table 25 below, 88% of people in the South-East and 94% of people in the Kgatleng District speaking Setswana.

Table 25: Distribution of numbers of persons aged two years and by language spoken; Botswana 2011

	South East	Kgatleng
Setswana	71,324	81,594
English	3,738	1,453
Sekalanga	1,219	638
Shekgalagadi	407	181
Afrikaans	334	74
Ndebele	871	835
Zezuru / Shona	2,681	1,975
Seherero	111	124
Other African languages	164	91
Other European languages	224	111
Other Asian language	67	56
Other (NEC)	189	30
Not stated	222	9
Total	81,551	87,171

5.13 Education

In Botswana, there are ten years of compulsory education starting at the age of six. Primary school comprises seven years and secondary five¹⁷. Table 26 below is a summary of the distribution of the population aged twelve years and over that ever-attended school, per sex and highest level of education. According to the 2011 statistics, 27% of the population, both for the South-East and Kgatleng District, aged twelve years and over, has attained Form 1 – 3 as the highest level of education. A further 23% of the population in the South-East District and 14% of the population in the Kgatleng District, aged twelve years and over, has attained Form 4 – 6 as the highest level of education.

Table 26: Distribution of Population Aged Twelve Years and Over That Ever-Attended School per Sex and Highest Level of Education; Botswana 2011

	South East			Kgatleng		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Educational attainment for 12	4,996	4,353	9,349	8,746	6,463	15,209
Pre-school	803	869	1,672	727	722	1,449
Non-formal	81	127	208	110	162	272
Standard 1 - 4	3,940	4,285	8,225	5,974	6,541	12,515
Standard 5 - 6	2,069	2,173	4,242	2,993	3,312	6,305

¹⁷ http://commonwealthofnations.org/yb-pdfs/botswana_country_profile.pdf_Education

Standard 7	2,617	3,370	5,987	3,577	4,791	8,368
Form 1 - 3	8,189	9,435	17,624	9,608	11,210	20,818
Form 4 – 6	6,953	7,967	14,920	5,028	5,667	10,695
Educational level unknown	1,550	1,466	3,016	142	117	259
Total	31,198	34,045	65,243	36,905	38,985	75,890

5.14 Current economic activity

Botswana has benefited from a stable social structure and a wealth of natural mineral resources; it has an unbroken record of parliamentary democracy and one of Africa's highest sustained records of economic growth since independence. However, the economy is dependent on mining and agriculture, and has had to cope with the vagaries of the diamond market and frequent droughts¹⁸.

As per the 2011 Botswana statistics depicted in Table 27 below, 53% of the population aged 12 years and over are economically active in the South-East District, 13% is actively seeking work and a further 27.3% of the population is seen as students. 50% of the population aged 12 years and over in the Kgatleng District are economically active, another 11.6% of the population are actively seeking work and 23.2% are in the student category.

Table 27: Distribution of Population Aged 12 Years and Over by District, Sex and Current Economic Activity; Botswana 2011

	South East			Kgatlang		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Current Economic Activity Status						
Employee – paid cash	13,976	13,251	27,227	12,976	10,924	23,900
Employee – paid inked	94	54	148	76	32	108
Self-employed with employees	1,303	922	2,225	1,399	1,218	2,617
Self-employed with employees	887	292	1 179	710	274	984
Unpaid family helper	74	87	161	120	123	243
Working at own land / cattle posts	555	211	766	1,701	864	2,565
Unknown	28	17	45	54	18	72
Total	16,917	14,834	31,751	17,036	13,453	30,489
Current Economic Inactivity Status						
Actively seeking work	3,717	4,091	7,808	3,221	3,836	7,057
Home work	2,257	6,650	8,907	3,666	9,324	12,990

¹⁸ http://commonwealthofnations.org/yb-pdfs/botswana_country_profile.pdf_Economy

Student	7,840	8,485	16,325	7,174	6,958	14,132
Retired	649	561	1,210	565	522	1,087
Sick	528	753	1,281	762	1,201	1,963
Other inactivity (NEC)	164	214	378	212	83	295
Inactivity unknown	15	14	29	1	1	2
Total	11,453	16,677	28,130	12,380	18,089	30,469

5.15 Household Agriculture

Botswana's agricultural potential is, unarguably, limited, even though it is still one of the main economic drivers of the country. The Kalahari Desert occupies a large area of the country, and recent regional droughts have not helped the areas where rain-fed agriculture is the norm¹⁹. In Table 28 and Table 29 below an indication is given of the main livestock and crops farmed by households in the South-East and Kgatleng Districts. Cattle, goats, poultry and donkey/ mules are the main livestock owned by households in both districts. Raising cattle has long been the most profitable farming activity in Botswana. The beef industry is well established, and over 95 per cent of production is exported, much of it to Europe²⁰.

With dry red/sandy soil across much of the country and low rainfall, Botswana's land is generally unsuitable for crops and many foods are imported. However, a narrow corridor on the south-eastern side of the country (leading down to the Shashe, Limpopo and Marico rivers) is more suitable for agriculture. This is where most of the population lives²¹. The main crops planted by households in the South-East and Kgatleng Districts are maize, beans, sweet reeds and sorghum.

Table 28: Distribution of Number of Households by Type of Livestock Owned

	South East	Kgatlang
Cattle	5,213	9,018
Goats	4,912	7,439
Sheep	100	117
Pigs	337	289
Poultry	5,583	10,494
Donkeys/ Mules	1,170	2,282
Horses	236	359
Ostrich	36	31
Game	114	85
None	14,328	9,864

¹⁹ <http://www.new-ag.info/en/country/profile.php?a=845>

²⁰ [http://www.new-ag.info/en/country/profile.php?a=845_Beef and Diary](http://www.new-ag.info/en/country/profile.php?a=845_Beef%20and%20Diary)

²¹ <http://www.our-africa.org/botswana/climate-agriculture>

Total households	9,613	14,873
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Table 29: Distribution of Number of Households by Type of Crops Planted

	South East	Kgatleng
Maize	4,374	7,819
Millet	350	803
Sorghum	1,661	3,338
Beans	3,458	6,350
Water melons	127	825
Sweet reeds	2,541	4,359
Other	24	103
Other plants	11	31
None	13,275	8,733
Total	23,983	24,890

5.16 Household services

Botswana has not only significantly increased access to and quality of their water and sanitation services, but also established an efficient water utility provider. Botswana has also set in place an efficient power distribution utility. Botswana more than doubled its electrification rate between 2006 and 2008, pushing it from 22% to 50%. Between 2004 and 2007, rural access to electricity also doubled, to 44%; which is a major improvement even though still falling short of national targets. Despite recent network extensions, access to electricity remains low as power supply reaches only around 50% of the population.²²

5.16.1 Water supply

Botswana has a high access rate to improved water sources, with more than 90% of the total population having access to an improved water source. Access to improved water supply has increased in both urban and rural areas. As stated in Table 30 below, 30.2% of housing units have access to piped water indoors, a further 39.9% of housing units have access to outdoor piped water. 14.8% of housing units have access to a communal tap and 4.9% of housing units utilise boreholes for their water supply.

Table 30: Distribution of Number of Housing Units for: Town, Urban and Rural (Small Villages and Other Localities) Areas by Principal Source of Water Supply

City / town	Urban village	Rural village	Freehold farm	Mix of lands and cattle post	Camp or other locality type	Total
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²² Botswana's Infrastructure: A Continental Perspective. Cecilia Briceño-Garmendia and Nataliya Pushak

Piped indoors	77,263	64,234	20,289	799	100	3,000	166,445
Piped outdoors	52,345	119,563	43,144	1,407	296	858	219,795
Neighbors tap	3,137	15,186	11,708	136	44	93	31,067
Communal tap	8,129	14,994	43,964	470	1,502	865	81,393
Tanker	387	589	1,053	413	492	444	6,283
Well	15	26	153	88	643	39	5,100
Borehole	96	225	620	2 147	3,168	254	27,036
Rivers / stream	13	354	556	89	581	134	7,657
Dam / pan	13	27	103	103	350	1	3,949
Rain water tank	42	111	82	22	27	31	551
Spring water	-	71	61	-	2	4	200
Other (NEC)	510	211	42	8	43	1	1,439
Unknown	-	2	-	-	-	-	3
Total	141,950	215,593	121,775	5,682	7,248	5,724	550,918

5.16.2 Fuel for cooking

Table 31 illustrates that Census 2011 recorded 17.8% of the housing units in Botswana utilise the electricity grid for cooking. 37.9% of the housing units use gas (LPG) for cooking and 41.9% use wood as the principal source of fuel for cooking. Only 1.7% of housing units use paraffin.

Table 31: Distribution of Number of Housing Units for: Town, Urban and Rural (Small Villages and Other Localities) Areas by Principal Source of Fuel for Cooking

	City / town	Urban village	Rural village	Freehold farm	Mix of lands and cattle post	Camp or other locality type	Total
Electricity grid	39,388	44,843	11,239	1,078	84	1,097	98,005
Petrol	78	166	75	4	3	2	351
Diesel	123	174	105	10	26	35	497
Solar power	121	192	77	3	3	10	426
Gas (LPG)	87,194	94,487	22,444	805	132	2,768	208,748
Bio gas	1,397	2,802	727	29	7	59	5,064
Wood	9,134	68,829	85,566	3,705	6,943	1,617	226,925
Paraffin	4,137	3,389	1,032	34	41	113	9,178

Cow dung	32	100	234	3	5	6	410
Coal	56	82	52	-	3	-	202
Crop waste	22	46	23	1	-	-	93
Charcoal	227	345	112	7	1	7	731
Other (NEC)	41	137	88	3	-	9	285
Unknown	-	1	1	-	-	1	3
Total	141,950	215,593	121,775	5,682	7,248	5,724	550,918

5.16.3 Fuel for lighting

As per Table 32 below, more than 53% of the housing units in Botswana use electricity as the principal source of fuel for lighting, a further 30% of housing units use paraffin. 11% of housing units still use candles as the principal fuel source for lighting and 3.5% of housing units use wood.

Table 32: Distribution of Number of Housing Units for: Town, Urban and Rural (Small Villages and Other Localities) Areas by Principal Source of Fuel for Lighting

	City / town	Urban village	Rural village	Freehold farm	Mix of lands and cattle post	Camp or other locality type	Total
Electricity grid	101,820	145,343	39,901	1,888	165	3,319	293,331
Petrol	186	241	174	42	31	35	830
Diesel	50	80	207	678	468	299	4,226
Solar power	166	451	1,089	167	120	87	2,784
Gas (LPG)	499	665	256	21	8	20	1,533
Bio gas	29	47	25	1	1	1	117
Wood	116	1 932	4 894	451	1 825	105	19,626
Paraffin	27,808	48,219	53,694	1,103	3,328	1,182	165,386
Candle	11,129	18,110	20,925	1,238	1,139	628	60,663
Other (NEC)	147	504	610	93	163	48	2,421
Unknown	-	1	-	-	-	-	1
Total	141,950	215,593	121,775	5,682	7,248	5,724	550,918

5.16.4 Fuel for heating

Table 33 below shows that just less than half of the housing units in Botswana use wood as the principal fuel source for heating (47.7%). 33.6% of the housing units do not use any fuel source for heating. Only 16.75% of housing units use electricity as the principal source of fuel for heating.

Table 33: Distribution of Number of Housing Units for: Town, Urban and Rural (Small Villages and Other Localities) Areas by Principal Source of Fuel for Heating

	City / town	Urban village	Rural village	Freehold farm	Mix of lands and cattle post	Camp or other locality type	Total
Electricity grid	44,391	35,951	8,874	724	45	2,051	92,300
Petrol	118	243	89	3	10	6	505
Diesel	18	53	53	5	5	3	157
Solar power	124	345	190	11	6	11	749
Gas (LPG)	2,648	2,239	573	60	8	46	5,626
Bio gas	87	131	65	5	6	4	307
Wood	21,490	90,115	88,741	4,049	6,702	2,090	262,583
Paraffin	375	468	328	12	39	15	1,416
Cow dung	10	66	167	1	1	1	260
Coal	195	340	135	18	8	1	742
Charcoal	262	422	116	7	-	9	846
None	72,201	85,009	22,392	786	418	1,484	185,121
Other (NEC)	31	210	52	1	-	2	304
Unknown	-	1	-	-	-	1	2
Total	141,950	215,593	121,775	5	7,248	5,724	550,918


5.16.5 Type of toilet facilities

Table 34 reflects that in the case of sanitation, Botswana has managed to improve service options by moving people from traditional to improved latrines and by increasing access to flush toilets, therefore reducing the practice of open defecation. Even though these improvements are significant, access to flush toilets is still at 34.1%.

Table 34: Distribution of Number of Housing Units for: Town, Urban and Rural (Small Villages and Other Localities) Areas by Type of Toilet Facilities

	City / town	Urban village	Rural village	Freehold farm	Mix of lands and cattle post	Camp or other locality type	Total
Own	72,790	131,113	65,601	1,413	881	2,802	281,062
Flush toilet	65,928	54,001	15,200	967	115	2,316	139,057
VIP	920	5,645	3,115	27	29	21	10,063
Pit latrine	5,870	71,159	46,781	379	697	465	130,415
Dry compost	72	308	505	40	40	-	1 527
Shared	66,816	64,682	17,699	1,958	342	2,220	156,264

Flush toilet	25,004	16,392	3,249	906	77	1,562	47,371
VIP	3,748	3,028	853	38	21	39	7,876
Pit latrine	38,011	45,148	13,371	998	220	601	100,450
Dry compost	53	114	226	16	24	18	567
Communal	504	1,536	1,529	163	115	321	4,491
Flush toilet	215	156	61	58	26	107	637
VIP	43	124	49	3	-	1	234
Pit latrine	238	1,180	1,250	101	79	209	3 279
Dry compost	8	76	169	1	10	4	341
Neighbours	922	11,612	13,979	39	100	29	27,411
Flush toilet	187	342	143	5	3	11	696
VIP	71	494	492	-	2	-	1,097
Pit latrine	664	10,737	13,254	34	95	18	25,474
Dry compost	-	39	90	-	-	-	144
None	918	6,649	22,967	2,109	5,810	352	81,689
Unknown	-	1	-	-	-	-	1
Total	141,950	215,593	121,775	5,682	7,248	5,724	550,918



6 Gender equality in the region

6.1 Gender equality context in South Africa²³

Poverty is a major problem for women in South Africa. The systematic and socially-engineered location of women in rural areas, and the underdevelopment of infrastructure in these areas, has been directly responsible for the poor conditions under which the majority of South Africa's rural communities live. Apartheid laws, coupled with repressive customs and traditions, disempowered women in ways that will take generations to reverse. While the democratic government has established enabling legislation, it must move towards delivery to alleviate and, eventually, eradicate poverty.

HIV/AIDS is a very serious problem in South Africa. It affects women disproportionately to men. The power imbalances between women and men in interpersonal relations contribute to this growing pandemic.


Violence against women remains a serious problem in South African society. The high incidence of rape cases, as well as other forms of physical and psychological abuse of women and girls, are evidence of this. The Criminal Justice and Safety and Security systems are now beginning to deal with this crisis in a gender sensitive manner. It will continue to be a major challenge especially as it is compounded by its interrelation with poverty and HIV/AIDS.

Access to basic needs such as education, housing, welfare, fuel and water has also been influenced by unequal gender, race and class relations. The inequality of power between women and men has inevitably led to the unequal sharing of resources such as information, time and income as well.

Access to basic resources such as water and fuel has improved since 1994 but women's control over these resources is still not satisfactory. The lack of infrastructure in the rural areas still acts as a barrier for women to gain easy access to basic resources.

Access to employment: Differential access to employment opportunities exists. Whilst theoretically women currently have access to a broader scope of position in the labour market, these new opportunities are accessible to a narrow pool of women who have had access to skills development, education and training. In large measure, women's employment remains either within the traditional

²³ South Africa's National Gender Policy Framework for Women's Empowerment and Gender Equality. The Office on the Status of Women.



female occupations or within the domestic and farming sectors all too often as casual workers. They are concentrated within positions which are low paying and which have high rates of turnover.

Economic empowerment of women: Women constitute the poorest group in South Africa and are more likely to be unemployed or underemployed. The challenge is to ensure that South Africa's macro-economic strategy promotes economic growth and sufficiently addresses the differential impact of macroeconomic policy on various groups of people depending on class, race, age, gender, location and disability.

6.2 Gender equality context in Botswana

A Botswana household is multifaceted and not necessarily defined according to geographical boundaries. Men may not be living directly in the household to which they are contributing; women may not necessarily be making important financial or other decisions within households that they head because of social and cultural norms which define women as incapable of making such decisions and expect them to defer to other men in the extended family.²⁴

Although the government and its partners have made progress in the area of gender equality, there remain challenges to be overcome. One of them is that Botswana operates under a dual legal system: Common Law and Customary Law. The amendments made in the Common Law in line with international instruments/conventions have no effect on the administration of justice under the Customary Law. Consequently, while certain practices have been abolished under Common Law, their application continues under the Customary Law. The endorsement of this dual legal system continues to disadvantage women. The burden of caring for the elderly, disabled and other sick people lies with women and yet there is little support available to them. There are no nursing homes that provide caregiving services for the elderly in the community. Moreover, it is not easy to find housemaids to look after the sickly elderly. This puts working women under pressure as they juggle the roles of employee and caretaker.²⁵

6.3 Preventing gender inequalities in the project

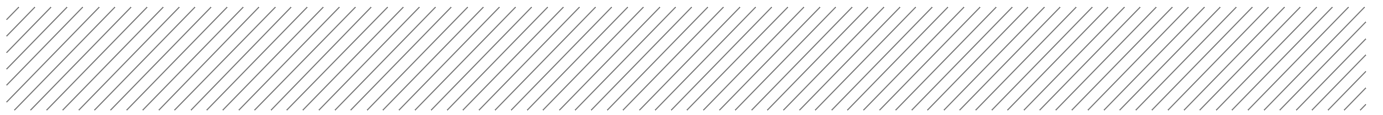
It is important that the project components take into consideration and be sensitive to existing gender inequalities in terms of access to resources (work, money, power, health, well-being, knowledge/education, mobility, time etc.) and their exercise of fundamental rights (civil, social and political rights)²⁶. Gender equality can be promoted by making sure that:

- More equal distribution of income between women and men is promoted;
- Women's perception around security is improved;

²⁴ Gender power relations and the HIV/AIDS crisis in Botswana: some food for thought. Julia Preece. University of Botswana.

²⁵ UNDP. Gender equality and women's empowerment in public administration. Botswana case study.

²⁶ EU: EIGE. Gender Impact Assessment. Gender Mainstreaming Toolkit. 2016



- Women's employment rate is improved;
- Women's gender-based psychosocial health risk be reduced; and
- Strengthen the contribution to the needs of women and men taking into consideration their different interests, roles and positions.

7 Ecosystem services

Water, food, wood and other goods are some of the material benefits people obtain from ecosystems called 'provisioning services'. Many provisioning services are traded in markets. However, in many regions, rural households also directly depend on provisioning services for their livelihoods. In this case, the services value may be much more important than is reflected in the prices they fetch on local markets.²⁷

An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment, interacting as a functional unit. Humans are an integral part of ecosystems. Ecosystem services are the benefits people obtain from ecosystems. As seen in Figure 11 below, these include provisioning services such as food and water; regulating services such as flood and disease control; cultural services such as spiritual, recreational, and cultural benefits; and supporting services, such as nutrient cycling, that maintain the conditions for life on Earth. People seek many services from ecosystems and thus perceive the condition of an ecosystem in relation to its ability to provide desired services.

WHAT DO WE GET FROM ECOSYSTEMS?

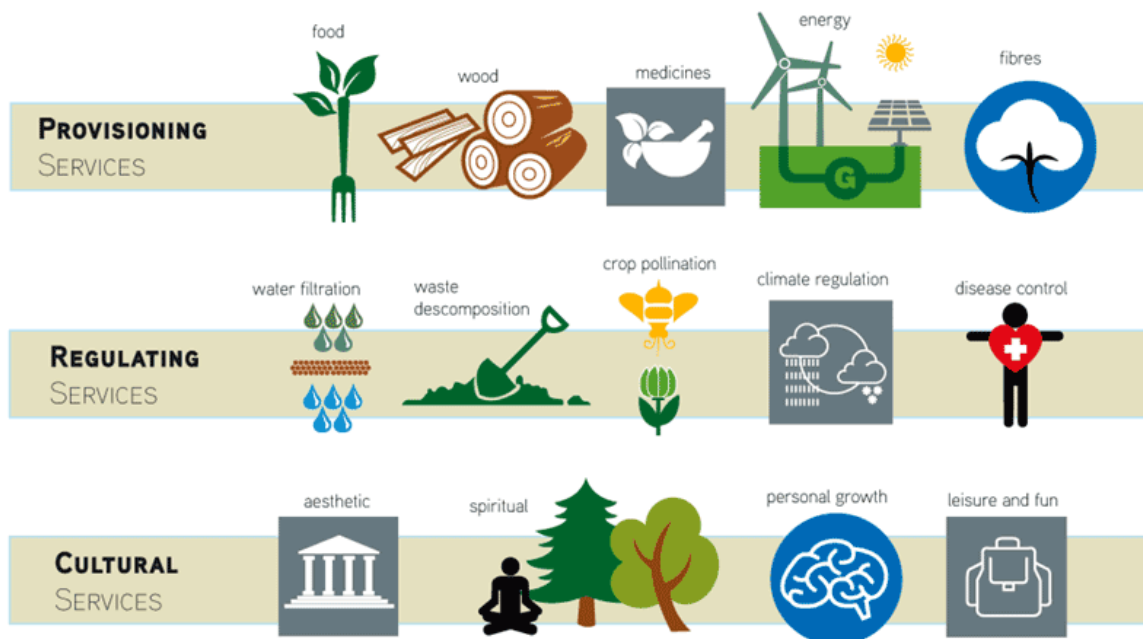



Figure 11: What do we get from ecosystems (<http://www.nerc-bess.net/what-is-bess/what-are-ecosystem-services/>)

²⁷ <http://www.fao.org/ecosystem-services-biodiversity/background/provisioning-services/en/>



The benefits that people obtain from ecosystems include provisioning, regulating and cultural services as well as the supporting services needed to sustain these services as shown in Figure 12 below. Food (for human and animal consumption), raw materials²⁸ and natural medicines are obtained and produced in ecosystems. The fresh water service can be seen as a linkage between the provisioning and regulating service lines. Benefits obtained from the regulation of ecosystem processes include²⁹:

- *Climate regulation.* Ecosystems influence climate both locally and globally. For example, at a local scale, changes in land cover can affect both temperature and precipitation. At the global scale, ecosystems play an important role in climate by either sequestering or emitting greenhouse gases.
- *Water regulation.* The timing and magnitude of runoff, flooding, and aquifer recharge can be strongly influenced by changes in land cover, including, in particular, alterations that change the water storage potential of the system, such as the conversion of wetlands or the replacement of forests with croplands or croplands with urban areas.
- *Erosion control.* Vegetative cover plays an important role in soil retention and the prevention of landslides.
- *Water purification and waste treatment.* Ecosystems can be a source of impurities in fresh water but also can help to filter out and decompose organic wastes introduced into inland waters and coastal and marine ecosystems.
- *Disease regulation.* Changes in ecosystems can directly change the abundance of human pathogens, such as cholera, and can alter the abundance of disease vectors, such as mosquitoes.
- *Biological control.* Ecosystem changes affect the prevalence of crop and livestock pests and diseases.

The nonmaterial benefits that people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences includes:

- *Cultural diversity.* The diversity of ecosystems is one factor influencing the diversity of cultures.
- *Spiritual and religious values.* Many religions attach spiritual and religious values to ecosystems or their components.
- *Knowledge systems (traditional and formal).* Ecosystems influence the types of knowledge systems developed by different cultures.
- *Educational values.* Ecosystems and their components and processes provide the basis for both formal and informal education in many societies.
- *Inspiration.* Ecosystems provide a rich source of inspiration for art, folklore, national symbols, architecture, and advertising.
- *Aesthetic values.* Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, “scenic drives,” and the selection of housing locations.

²⁸ <http://www.fao.org/ecosystem-services-biodiversity/background/provisioning-services/en/>

²⁹ Millennium Assessment. Ecosystems and Their Services.
<https://millenniumassessment.org/documents/document.300.aspx.pdf>

- *Social relations.* Ecosystems influence the types of social relations that are established in particular cultures. Fishing societies, for example, differ in many respects in their social relations from nomadic herding or agricultural societies.
- *Sense of place.* Many people value the “sense of place” that is associated with recognized features of their environment, including aspects of the ecosystem.
- *Cultural heritage values.* Many societies place high value on the maintenance of either historically important landscapes (“cultural landscapes”) or culturally significant species.
- *Recreation and ecotourism.* People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area.

Supporting services are those that are necessary for the production of all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are either indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people.



Figure 12: Ecosystem services as adapted from Millennium Assessment. Ecosystems and Their Services

8 Stakeholder engagement

Site visits to the proposed project area and stakeholder engagement in the form of focus group meetings were undertaken during July and August (during the detailed investigations forming part of the impact assessment phase) (Figure 13). For the full stakeholder engagement see the Stakeholder Engagement section in the main ESIA report.

The aim of the scoping and impact assessment interviews was:

- To assess stakeholders' perceptions, concerns and expectations regarding the proposed project;
- To verify baseline socio-economic information collected through the desktop review;
- To identify potential impacts of the proposed project on peoples' lives and livelihoods; and
- To help identify possible mitigation measures to avoid or reduce negative impacts, and to enhance the positive impacts of the project.



Figure 13: Driefontein / Serake meeting

The main comments and issues raised during the focus group meetings are summarised below. For the full stakeholder engagement feedback see the Comments and Response Report as part of the Stakeholder Engagement section in the main ESIA report.

- Compensation related issues;
- Rehabilitation after construction;
- Social Corporate Responsibility;
- Improved electricity supply for the local areas;
- Management of predicted environmental impacts;
- Request for proper consultation in all phases of the project;
- Employment for local community members;
- Long-term benefits for the local community; and
- Communication protocol.



9 Identification of social impacts and mitigation measures

The aim of this section is to identify the socio-economic impacts that are likely to arise because of the proposed developments in proposed project area. In each instance, a distinction is drawn between impacts that are likely to occur during the construction phase, those that are most likely to occur during the operational phase, and those that will only materialise during decommissioning.

9.1 Predicted impacts

Positive impacts associated with the project include:

- The creation of limited permanent and temporary semi-skilled and unskilled employment opportunities;
- Opportunities for local sourcing of goods and services during construction;
- Local and regional economic benefits; and
- Increased availability of electricity through better transmission networks.

Negative impacts that may be associated with this project include:

- Social and cultural disruption and conflict due to population influx;
- Possible social pathologies arising from the population influx;
- Construction-related health, safety and aesthetic impacts;
- Negative impacts related to a construction camp;
- Land use impacts and impacts on common property resources; and
- Displacement.

9.2 Potential positive impacts

Positive impacts are the benefits that the host community may receive from having the project in their area. It can also be a constructive social, cultural and economic change and the host community can be better off after the decommissioning of the project.



9.2.1 Creation of temporary employment opportunities and social benefits

The results of the socio-economic survey indicate that the surrounding environment of the project is characterised by some levels of poverty and underdevelopment, while some of the households in the project area face significant socio-economic challenges. The creation of employment opportunities can therefore be seen as a significant positive impact on the surrounding communities, even if these opportunities are only of a temporary nature and the numbers are fairly limited.

During the household survey, the issue regarding creation of employment opportunities was most frequently mentioned in the area. There is a widespread high expectation that the project should provide employment opportunities to the residents in the local area affected. With increased income-earning capacity the individuals and communities will be empowered.

Construction activities on the proposed transmission line project will create a number of temporary employment opportunities. The magnitude of this impact is related to the number of construction workers to be employed, either by Eskom and BPC, or by contractors. It is recommended that local labour must be used as much as possible to prevent any discontent or protest related to the project.

Sourcing of construction workers from the local labour pool is likely to be limited to unskilled and semi-skilled workers. This could have some economic benefits for surrounding communities, although mostly of a temporary nature. It is recommended that recruitment for new positions be undertaken through the Employment Forum that has been established by the local community.

Marginalised and vulnerable groups are particularly sensitive to social and economic changes in their local area. Special care should be taken to incorporate these vulnerable groups to minimise the potential negative impacts of the project and create positive economic opportunities for them. Women are more vulnerable than men as they are generally weaker and poorer, and most of the times phase the major burden of negative impacts as well as bear the primary responsibility for household survival.

In addition to creating job opportunities for construction workers, the project may also lead to indirect employment creation in the informal sector, for instance in terms of food stalls for the convenience of construction workers. Additionally, more informal employment opportunities may be created through a multiplier effect from the project's activities.

Recommended mitigation measures

Given that communities in the vicinity of the project area will be most affected by the project, it is consistent with international best-practice standards (such as the Performance Standards of the IFC) that they should be given special consideration in terms of the benefits arising from the project. In

order to enhance the benefits of employment creation for these communities, it is recommended that the following measures be implemented:

- The contractor should be required to employ local labour, where possible. The requirement for the employment of local labour should be formalised by incorporating it into the contractor's contract. Follow-up compliance monitoring should also be undertaken.
- Quotas for local employment should be set based on the availability of appropriate local skills as indicated in the skills databases. The contractor's contract should specify that these positions may only be filled by persons outside of these categories if it can be demonstrated that no suitable persons are recorded in the skills register to fill these positions, and no other candidates could be identified through local advertising.
- Tender criteria should require training and skills development of the contractor workforce by the contractor. Where possible, training should be aimed at providing skills to employees that might allow them to apply for permanent positions during the operation of the plant.
- Recruiting by the contractor must be conducted through one or more central office; no on-site hiring should be allowed. The location of these offices will require further investigation.
- Opportunities should be investigated for encouraging indirect employment creation in the informal sector. Such an investigation can either be conducted in-house by SAPP, Eskom and BPC or by a specialist consultant.
- Where possible, labour-based methods of construction should be used (e.g. for the construction of access roads).
- Provide women access to types of work traditionally seen as male.

Impact rating

Table 35: Creation of permanent and temporary employment opportunities

MPACT DESCRIPTION: Job creation				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Short-term	Equal to the duration of the construction phase	Consequence: Slightly beneficial	Significance: Low - positive
Extent	Local	Some positions will be filled by persons living in the local area; some from elsewhere in the North-West Province, Kgatleng and South-East Regions		
Intensity	Moderate - positive	Construction related jobs will be created		
Probability	Very likely	Without appropriate mitigation, forecasts of majority local recruitment might not be achieved		
MITIGATION:				
<ul style="list-style-type: none"> - Maximise and monitor local recruitment (incl. using local skills databases) - Promote employment and training (incl. women and youth) - Where possible use labour-intensive methods of construction - Procurement of materials, goods and services from local suppliers - Encourage indirect employment creation in the informal sector - Liaise with local community structures to identify local labour pool 				
POST-MITIGATION				
Duration	Short-term	As for pre-mitigation	Consequence: Moderately beneficial	Significance: Moderate - positive
Extent	Local	As for pre-mitigation		
Intensity	High - positive	Mitigation will maximise local job creation		
Probability	Certain	Mitigation will maximise probability that local recruitment targets are achieved and local benefits optimised		
Confidence	High			



9.2.2 Opportunities for local sourcing of goods and services

Local communities often have high expectations about participating in new opportunities in their area. Local procurement of goods and services are a manner that these communities can successfully partake in the development project. Local procurement can provide a fundamental linkage between the project implementers and the local communities.

Community contracting describes a number of different methods to implement infrastructure projects at a community level. These range from what is effectively direct implementation by project developers and contractors using community labour, either on a voluntary or a paid basis, to structures where independent community-based organisations act as contractors on a similar basis to a private sector contractor.

Creating a platform where *Local supplier development (LSD)* can take place would not only benefit the local micro, small and medium enterprises as they would be in a better position to win contracts, but the project implementer as well as they would have a bigger and more experienced pool of enterprises to choose from.

Recommended mitigation measures

The measures suggested above to maximise local employment will also serve to maximise the positive impacts of the project on the local economy. In addition, the following measures are recommended to optimise the positive influence on the local economy:

- Where feasible, procurement of materials, goods and services from local suppliers should be encouraged.

Impact rating

Table 36: Local procurement of goods and services

IMPACT DESCRIPTION: Opportunities for local sourcing of goods and services				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Short-term	Equal to the duration of the construction phase	Consequence: Slightly beneficial	Significance: Low - positive
Extent	Local	Goods and services will be sourced locally, regionally and nationally		
Intensity	Moderate - positive	Local procurement will stimulate economy		
Probability	Very likely	Will depend on proportion of locally sourced goods and services		
MITIGATION: Proactively manage: - Local procurement opportunities. - Implement community contracting and training. - Create a platform where development of micro, small and medium enterprises is developed through LSD.				
POST-MITIGATION				
Duration	Short-term	As for pre-mitigation	Consequence: Moderately beneficial	Significance: Moderate - positive
Extent	Local	As for pre-mitigation		
Intensity	High - positive	Mitigation will maximise local sourcing of goods and services		
Probability	Certain	Mitigation will maximise probability that targets for locally sourced goods and services are achieved and local benefits optimised		
Confidence	High			


9.2.3 Local and regional economic benefits and multiplier effects

In addition to the economic benefits derived from employment, the development will also contribute to the local and regional economy in other ways. For instance, local expenditure by employees will have multiplier effects in various sectors of the economy, thereby stimulating business activity and further employment creation.

Commercial enterprises and secondary industries (e.g. catering, security and accommodation for consultants etc.) may develop to meet the need for contract services and goods, as well as the needs of the construction industry and the workforce they employ to construct the power plant. This will create the opportunity for additional local employment and stimulate development in a vast array of smaller secondary industries.

Changes in the local economy structure such as opening of new markets for products and services, increased demand for consumer goods and inflation of local prices can all have some positive outcomes on the local and regional economy, for example profits may be injected into the local and regional markets.

The numbers of customers who are able to purchase more consumable items is also likely to increase as more expendable cash becomes available. This will particularly be the case if workers recruited from elsewhere represent higher-level occupations with relatively high disposable incomes. This will further increase opportunities for local entrepreneurs and businesses that supply commodities and services that are in demand among construction workers.



The project could also have fiscal impacts – in other words, an impact on government revenues and expenditures. In particular, payment of business and personal tax could contribute to government revenue at a national level, while rates and payment for services could strengthen the income base of the local municipality.

Mostly the project will be in remote rural areas where the population is engaged in subsistence production that provide limited opportunities for development and economic growth. Low levels of skills and literacy can restrict communities in their ability to realise opportunities associated with the project.

Human Capital Development investments have both short and long term returns. In the short term, training and skills development can provide a basis for new augmented sources of income for the local population. In the long term, some projects may provide human development in the area through support for education, training and skills development.

Recommended mitigation measures

The measures suggested above to maximise local employment will also serve to maximise the positive impacts of the project on the local economy. In addition, the following measures are recommended to maximise the positive influence on the local economy:

- A clause stipulating the use of Botswanan and South African sub-contractors where possible should be included in the agreement between SAPP and the main contractor responsible for construction. Where possible these local contractors should be recruited from the nearby towns.
- Development of a register of local small-medium, and micro sized enterprises (SMMEs) and the types of goods and services provided by them, as recommended in the previous study. The details of local suppliers may also be obtained from the local municipal office in South Africa and in the relevant office in Botswana.
- Establishment of linkages with other institutions involved in skills development and SMME development. These linkages can then be used to recruit apposite contractors. The performance indicator of this measure shall be minutes of meetings conducted with representatives of these institutions.
- Where appropriate SMMEs do not exist, investigation of the possibility of launching a training/ skills development initiative to develop local entrepreneurial skills should be undertaken.

Impact rating

Table 37: Local and regional economic benefits


IMPACT DESCRIPTION: Local and regional economic benefits and multiplier effects				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Short-term	Will peak during construction period	Consequence: Slightly beneficial	Significance: Low - positive
Extent	Local	Will include micro- and macroeconomic impacts		
Intensity	Moderate - positive	Will derive from increased cash flow from wages, local procurement and stimulating of local SMMEs		
Probability	Very likely	Will depend on proportion of local spending by employees and availability local enterprises to supply required goods/ services		
MITIGATION: As for maximising employment benefits. Also: - Develop register of local SMMEs - SMME skills development as part of CSI programme - Community education				
POST-MITIGATION				
Duration	Short-term	As for pre-mitigation	Consequence: Moderately beneficial	Significance: Moderate - positive
Extent	Local	As for pre-mitigation		
Intensity	High - positive	Mitigation will maximise local sourcing of goods and services		
Probability	Certain	Increased local employment and procurement will enhance likelihood of benefits to local economy		
Confidence	High			

9.2.4 Increased availability of electricity

Increasing power shortages in South Africa and Botswana could pose a serious threat to sustained economic growth and international competitiveness. The continuing uncertainty regarding the status of the transmission and distribution industry is likely to exacerbate the problems of inadequate investment and deterioration of system reliability (Kessides, Bogetic and Maurer. 2007). According to the Renewable Energy Cooperation Programme (RECP), Botswana's the electricity sector is dependent on large scale thermal coal power plants utilising domestic coal from reserves estimated at 200 billion tonnes. However, demand for electricity often exceeds supply resulting in load shedding, use of back-up diesel power plants, and electricity imports through SAPP.

An increased availability of stable and reliable electricity will mean that the region will be able to supply sufficient electricity for its existing economic activities. This will enable the regions to take full advantage of several downstream socio-economic development opportunities with extensive positive socio-economic impacts in different spheres in society, see Table 38 below.

There will be positive socio-economic impacts of increased reliability and stability in electricity supply for regional and local communities. Social benefits might be derived in three interdependent spheres: households, industrial and agriculture. For instance, if sufficient electricity is available for pumping water to households it may yield much-improved water quality and quantity (with their associated health and welfare benefits), as well as freeing household members (often women and children) from what is often many hours spent transporting water from remote and possibly unsafe groundwater



sources. This will allow them to spend their time on more constructive activities like education and earning a livelihood.

Reliable and stable electricity also has educational benefits. For example, the enhanced availability of high quality light will allow more opportunity for studying, evening classes, home businesses and information media appliances such as television and computers. This positive relationship between standard of living and access to stable and reliable electricity has been well-established internationally (Energypedia, 2011).

An improved power supply also results in positive spin-offs for the industrial sector in the regions. The improvement of the reliability and stability of electricity can lead to more efficient production (e.g. processing plant can run over-night) and this can increase production and turnover. Furthermore, the anticipated development in the region (particularly in the minerals sector) will be severely constrained by a lack of electricity. This will ultimately affect individuals with regard to employment and poverty alleviation.

Finally, the diagram presented above shows that the number of grid connections and the price of electricity will act as mediating variables in the relationship between energy supply and its social benefits. If electricity prices are out of reach of the majority of people who would derive social benefits from it, then obviously the increase in electricity stability and reliability will have minimal social benefits for them. Several measures can be recommended to enhance the possible benefits of improved electricity supply.

Recommended mitigation measures

- SAPP, Eskom and BPC should take steps to ensure that the benefits and costs of the proposed project are shared equitably. This may require implementing special measures to ensure that the communities hosting the proposed project or other infrastructure related to grid interconnection also benefit from it, e.g. in terms of rural electrification programmes, job creation and/ or corporate social investment. A possible rural electrification project could be, to provide solar panels to schools that do not have access to electricity. This can have a positive impact on the whole community as schools can be used by different members of the community. Eskom normally has a community support initiative for all their community-based projects. The community initiative for this particular project will be discussed and agreed upon with the relevant traditional authorities, councillors and local municipality as they have a better understanding of the community needs. In this context, it would also be necessary to ensure that specific individuals and groups do not end up taking more than their share of benefits.
- The project's construction and operation should be planned to maximise social benefits and avoid social costs.
- It is recommended that SAPP, Eskom and BPC should establish a local Stakeholder Liaison Committee. This committee should involve communities and stakeholders who will experience the impacts of the proposed project. The committee could take up where the stakeholder engagement process of the ESIA left off. During construction and operation, the committee could help to ensure that stakeholders/ communities are kept up to date on planned construction activities, job opportunities, and other relevant issues. This committee

could serve as a channel of communication between SAPP, Eskom, BPC and neighbouring communities/ stakeholders.

Impact rating

Table 38. Rating impact - Influx of job seekers

IMPACT DESCRIPTION: Increased availability of stable electricity				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Long-term	Electricity benefits will continue during the entire life of the line	Consequence: Highly beneficial	Significance: Moderate - positive
Extent	Regional	Will benefit regional communities		
Intensity	High - positive	Will improve availability of stable electricity and other services		
Probability	Fairly likely	Depends on detailed planning		
MITIGATION:				
<ul style="list-style-type: none"> - Establish a Stakeholder Liaison Committee - Plan the project in such a way to minimise social costs and maximise the benefits discussed 				
POST-MITIGATION				
Duration	Long-term	As for pre-mitigation	Consequence: Extremely beneficial	Significance: High - positive
Extent	Regional	As for pre-mitigation		
Intensity	Very high - positive	Mitigation will maximise social benefits of the proposed electricity interconnection line		
Probability	Very likely	Mitigation will maximise the probability of benefits occurring		
Confidence	High			


9.3 Potential negative impacts

Negative impacts can be classified as the social consequences of a project intended or unintended, direct or indirect that impact the local community as well as the regional population negatively and leaves the project affected population worse off than that they were. Negative impacts that may be associated with this phase is discussed below.

9.3.1 Social and cultural disruption and conflict due to population influx

Large projects offer people a unique opportunity for employment as well as access to better services and infrastructure. Such opportunities are rare in the north-western rural areas in South Africa and south-eastern rural areas in Botswana and job seekers travel from their place of origin to perceived sources of employment in the central and coastal regions. This trend results in substantial economic migration within South Africa and Botswana. As news regarding the proposed project spreads, expectations regarding possible employment opportunities may also take root. Consequently, the area surrounding the site may experience an influx of job seekers.

The magnitude of this impact depends on the severity of unemployment in surrounding areas. It could be expected that migrant labourers will flock to the area. Furthermore, poverty is a widespread problem in the South Africa, with an unemployment rate of more than 28% and given these figures, it is likely that a large enough number of job seekers will flock into the area to have a fairly significant



population impact on the immediate social environment. This population increase may impact on the area in terms of additional demand for services and infrastructure.

An influx of newcomers seeking opportunities associated with the project could also create various social problems. Tension or conflict can be created as a result of religious or ethnic rivalries. Since part of the construction workforce will probably originate from outside the local area (due to the short supply of appropriately skilled workers and adequately resourced construction contractors), their presence will constitute an additional influx of people. The influx of job-seekers and construction workers is expected to have a variety of social consequences.

Firstly, it is possible that conflict might arise between the newcomers and local residents. One possible reason for such conflict would be the perception among locals that the outsiders are taking up jobs that could have gone to unemployed members of the local community. If any outsiders instigate sexual relationships with wives, daughters or girlfriends of locals, this would certainly exacerbate the problem. Construction workers are sometimes inclined to target high school girls as their romantic interests.

A substantial population influx will also place significant pressure on local infrastructure and services, such as water, sanitation, electricity, health care and education. The increase in migrants may result in an increased demand for shelter and possibly exacerbate the existing housing shortages in the affected areas.

Escalating demands will also be placed on health services with the predicted influx of people to the area. Given that the health care facilities are already stressed it is predicted that indicators such as the number of people per health care practitioner and the number of people per hospital bed will increase.

Recommended mitigation measures

In order to reduce the risk of conflict or competition between locals and newcomers, it is recommended that:

- The recruitment policy used to employ people on the project is fair and transparent;
- The intention of giving preferential employment to locals is clearly communicated, so as to discourage an influx of job-seekers from other areas;
- Liaise with local community structures to identify mutually acceptable means of controlling the influx of job seekers or, if this is not possible, to mitigate the negative effects of such an influx;
- Recruitment is to be conducted via the Employment Forum and not within the project area itself;

- Involvement of local community structures to assist in communicating the intention of SAPP, Eskom and BPC to give preference to local labour, and also to assist by developing a skills database and residents' status for the labour pool in their community: and
- Put in place measures to monitor & evaluate impact on gender relations.

In order to mitigate the effects of increased pressure on local services and infrastructure, it is recommended that:

- SAPP, Eskom and BPC or the appointed construction contractor should provide the local municipalities with information on the number of jobs that will be created, so that potential changes in influx trends can be planned for; and
- Services for the construction camp be sourced from the local municipalities, who must be informed well in advance of the anticipated timeframe and of the nature of services that will be required.

Impact rating


Table 39: Rating impact - Influx of job seekers

IMPACT DESCRIPTION: Population influx				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Short-term	Could continue after construction is complete	Consequence: Moderately detrimental	Significance: Moderate - negative
Extent	Local	Will affect surrounding communities		
Intensity	High - negative	High unemployment in the area is likely to engender intense competition for jobs and an increase in population from job seekers may place extra pressure on services		
Probability	Very likely	Very likely that some workers would have to be recruited from elsewhere		
MITIGATION:				
- Fair and transparent recruitment policy - Use of community structures to identify local labour pool - Inform local municipalities well in advance of the anticipated timeframe and of the nature of services that will be required				
POST-MITIGATION				
Duration	Short-term	As for pre-mitigation	Consequence: Slightly detrimental	Significance: Low - negative
Extent	Local	As for pre-mitigation		
Intensity	Moderate - negative	Regulation of employment will decrease intensity on influx		
Probability	Fairly likely	Regulation of employment will decrease the likelihood of the impact		
Confidence	High			

9.3.2 Possible social pathologies arising from the population influx

It is assumed that the biggest percentage of the construction workforce for the BOSA Transmission Interconnection Project will be locals, while the remainder will have to be housed reasonably close to the construction site. It is possible that conflict might arise between the newcomers and local residents. One possible reason for such conflict would be the perception among locals that the outsiders are taking up jobs that could have gone to unemployed members of the local community. An influx of unemployed job seekers (which was discussed in the preceding sections) could add to the potential for conflict.

One of the potential social pathologies that may arise from a rapid increase in population numbers in an existing underdeveloped area is an increase in crime levels. The extra strain that the influx of job



seekers will place on limited employment opportunities in the area will potentially increase the unemployment rate, which will increase the crime rate. Even if particular instances of crime are not as a result of the newcomers, they may still be attributed to them by local communities.

Another possibility is that a population influx will contribute to alcoholism, drug abuse, prostitution and the spread of sexually transmitted diseases in the local population. This impact may be aggravated by the presence of a temporary construction workforce. With a predominantly male population, construction camps often become a focal point for promiscuous sexual activities. Furthermore, the transport of building materials via roads is expected to increase. Truck drivers are often associated with prostitution and this, together with the influx of new work seekers, increases the risk that the prevalence of human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/ AIDS) will increase. The same factors apply to tuberculosis (TB) and other communicable diseases. An influx of newcomers can overburden the health services and infrastructure, inadequate sewage and waste management and can increase some health risks.


Another major concern for communities in the area relates to the management of housing for the construction workers who are employed by the contractors. Construction contractors also reportedly do not construct adequate housing facilities for their workers, resulting in the expansion of informal settlements and other social pathologies, such as increased crime levels.

The construction of additional housing units for construction workers will increase the pressure on the service infrastructure. In addition, there is an existing perception among community members that construction workers from contractors move into the area and stay there even after construction activities have completed. The construction of additional housing units for construction workers might reinforce this perception and cause resentment.

Recommended mitigation measures

Measures to combat HIV/ AIDS and other social ills:

- The contractor implement HIV/ AIDS, alcohol abuse, drug abuse, and domestic violence prevention and awareness campaigns in the communities.
- SAPP, Eskom and BPC and the appointed construction contractor should ensure the health of its employees and their dependants by adopting rigorous health programmes, which should, at a minimum, include programmes to combat HIV/ AIDS and TB.
- The contractor should make HIV/ AIDS and STD awareness and prevention programmes a condition of contract for all suppliers and sub-contractors.
- The contractor should provide an adequate supply of free condoms to all workers. Condoms should be located in the bathrooms and other communal areas on the construction site.
- A voluntary counselling and testing (VCT) programme should be introduced during the construction phase and continued during operations.

- 
- The contractor should undertake a HIV/AIDS and STD prevalence survey amongst all workers on a regular basis. It will involve a voluntary test available to 100% of the workforce. The results of the survey will help to determine the HIV/ AIDS and STD strategy. When, and if, statistically representative results are obtained, the results of the survey should be made available to management and workers at the same time. Results should be presented in statistical terms so as to ensure confidentiality.
 - SAPP, Eskom and BPC and the appointed construction contractor should align awareness campaigns with those of other organisations in the area. These campaigns should use various common-practice methodologies in order to ensure social and cultural sensitivity.
 - Access at the construction site and camp should be controlled to prevent sex workers from either visiting and/ or loitering at or near these locations.

Measures to address crime:

- Cease construction activities before nightfall, if possible.
- Construction workers should be clearly identifiable by wearing proper construction uniforms displaying the logo of the construction company. Construction workers could also be issued with identification tags.
- The appointed contractor should establish clear rules and regulations for access to the construction site and offices to control loitering. Consultation should occur with the local police branch to establish standard operating procedures for the control and/ or removal of loiterers.
- Liaison structures are to be established with local police to monitor social changes during the construction phase. Liaison should also be established with existing crime control organisations.

Impact rating

Table 40: Social pathologies arising from population influx

IMPACT DESCRIPTION: Increased social pathologies				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Long-term	Would be most pronounced during construction but could continue into operational phase	Consequence: Extremely detrimental	Significance: Very high - negative
Extent	Regional	Will affect surrounding communities		
Intensity	Very high negative	Could severely affect well-being of communities, especially as cumulative impacts		
Probability	Certain	Evidence from other large projects indicates that this impact is very likely to occur if not mitigated		
MITIGATION:				
- Extensive HIV/AIDS, drug abuse and domestic violence awareness campaigns - A voluntary counselling and testing (VCT) programme should be introduced for workers - Align awareness campaigns with those of other organisations in the area - Provision of sufficient entertainment facilities in construction camps (e.g. lounge with TV, pool table, etc.) - Control of access to construction camp - Cease construction activities before nightfall, if possible - Liaison with police, community policing forum and security stakeholders - Housing of construction workers in a construction village site - Maximisation of the proportion of job opportunities allocated to locals, thus reducing the need for outsiders - Demolishing construction village after construction activities have finished, or donating the construction camp to the local municipality for formal housing				
POST-MITIGATION				
Duration	Long-term	As for pre-mitigation	Consequence: Highly detrimental	Significance: Moderate - negative
Extent	Regional	As for pre-mitigation		
Intensity	High negative	Mitigation measures should be effective in reducing severity of impacts		
Probability	Fairly likely	Mitigation measures would reduce probability of impacts occurring to the extent predicted		
Confidence	High			


9.3.3 Construction-related health, safety and aesthetic impacts

Impacts related to noise, visual aspects, air quality and the like are discussed under this heading, as all these impacts are related to the physical presence of project-related infrastructure and the intrusion this imposes on surrounding communities. Such intrusion could impinge on the lives of surrounding communities by affecting the area's sense of place. The impacts of the construction activities on the immediate physical environment include:

- Noise and dust generated by vehicles and machinery;
- Safety impacts (not only because of increased traffic, but also due to the risk of community members and animals wandering onto the construction site); and
- Visual intrusion by the construction activities and constructed structures, which may impact negatively on the aesthetic character of the pristine desert landscape.

Several factors should be borne in mind when assessing the potential magnitude of such an impact. One of these factors is the current state of the landscape in which the development is situated. Most of the landscape already bears the marks of development and as such sense of place will not be such a major issue.

Another factor to take into account when assessing the impact on sense of place is the meanings that people who live or work in an area attach to the anticipated changes. If a development promises to



offer tangible benefits to surrounding communities (in terms of job creation, etc.), it is unlikely that its impact on the character of the landscape will be perceived in a negative light – even if that impact is substantial from an aesthetic point of view.

Dust generated by construction activities, and by vehicles moving on access roads during construction could affect air quality in the area. Construction activities may also increase noise pollution in the area.

Visual impacts of the project are likely to be more significant. This specific impact will not, however, be limited to construction. Detailed assessment of the project's impact on such activities is discussed in more detail in the Visual Impact Assessment Report.

Construction activities may cause disruptions in daily movement patterns. For example a disruption in travelling patterns may result from the fencing-off of the construction site, especially if foot paths used by locals run through the proposed site. When a fence is erected, workers using such paths will be forced to walk around the site, thus adding several hundred metres to the distance they must travel. However, such impacts are unlikely to occur in the context of this project.

As indicated above, the impact of a development on the character of the landscape may not be experienced as negative if that development offers tangible benefits. To the extent that the project benefits local communities, it is therefore unlikely that they will experience it as a significant negative impact on the area's sense of place.

Recommended mitigation measures

- The implementation of adequate rehabilitation measures to return the landscape and other changes to at least its original state when the construction period has ended.
- It is anticipated that communities' negative experience of the nuisance impact of construction activities can be further mitigated through the benefits derived from local job creation on the project and by clear communication of the long-term positive impacts that the intended project will have.
- The implementation of good housekeeping measures included in the environmental and social management plan (ESMP) will assist in mitigating the negative impacts associated with the project.

Traffic:

- Safe travelling speeds must be determined for access routes close to populated areas, and measures implemented to ensure that these restrictions are enforced.
- Such measures may include monitoring vehicle speeds, erecting speed limit signs and installing speed humps.
- Roads must be adequately maintained and rehabilitated after use to previous state or better if needed, to prevent deterioration of road surfaces due to heavy vehicle traffic.

- Junctions of access roads and public roads must be regulated at all times, with construction vehicles yielding to oncoming traffic.
- Where possible, construction traffic should make use of alternative access routes not involving public roads.

Unauthorised access:

- Unauthorised access to the construction site must be prevented through appropriate fencing and security.

Community education:

- It is recommended that a community awareness campaign be implemented in the community to sensitise the community members to traffic and other construction-related safety risks.
- Activities undertaken as part of the awareness campaign and the education/ communication programme should be recorded and reflected in a formal progress report compiled on a quarterly basis.
- Mechanisms must be established to ensure that problems are dealt with promptly. In this regard, it is recommended that a team of community liaison officers (CLOs) be appointed from all affected communities. The CLOs should be local residents, as they will serve as points of contact between the community and the environmental control officers (ECOs) responsible for monitoring construction activities.
- Feedback sessions should be arranged with community leaders and ECOs to assess the impact of this programme in terms of knowledge, attitudes and behaviour.

Impact rating

Table 41: Physical intrusion

IMPACT DESCRIPTION: Construction-related health safety, and aesthetic impacts				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Short-term	Will occur during construction phase	Consequence: Moderately detrimental	Significance: Moderate - negative
Extent	Local	Will affect surrounding communities		
Intensity	High - negative	Will affect the quality of life of neighbouring communities and could place their lives at risk		
Probability	Very likely	Impacts on the visual environment, noise, vibration, air quality, traffic and safety have been quantitatively assessed in separate specialist studies		
MITIGATION:				
- Implement measures to regulate and monitor traffic to decrease threat to community safety - Implement mitigation measures mentioned in the ESMP - Maintain and rehabilitate roads - Unauthorised access to the construction site must be restricted - Implement community awareness campaign to sensitise community members to safety risks - Rehabilitation measures to return the landscape and other changes to its original state. - For impacts on visual environment, noise, vibration, air quality and traffic mitigation measures are discussed in separate specialist study: as per relevant specialist reports.				
POST-MITIGATION				
Duration	Short-term	As for pre-mitigation	Consequence: Slightly detrimental	Significance: Low - negative
Extent	Local	As for pre-mitigation		
Intensity	Moderate - negative	Mitigation will reduce impacts to some extent		
Probability	Fairly likely	Mitigation will reduce the probability of the impact occurring as predicted		
Confidence	Medium			

9.3.4 Land use impacts and impacts on common property resources

There is a probability that the project will result in impacts on traditional land rights, occupations and production systems, which can result in increased and unsustainable utilisation of local natural resources as well. There may be a loss or reduction in existing land use, potential land use, access to or quality of natural resources on which communities depend now or in the future.

Access to common property resources are at risk with linear projects, as access to water, grazing, hunting and fishing areas, timber and fuel wood, medicinal and herbal plants, craft materials and seasonal uses may all be under threat. It is not just access to and availability of these communal resources that are threatened but the construction phase poses an imminent risk to the quality of these resources, especially water resources. Another impact associated with physical intrusion is the loss of access to property (homestead). The social impacts associated with the loss of access could include and influence the quality of people's living environment, on material wellbeing and on family, community and social networks.

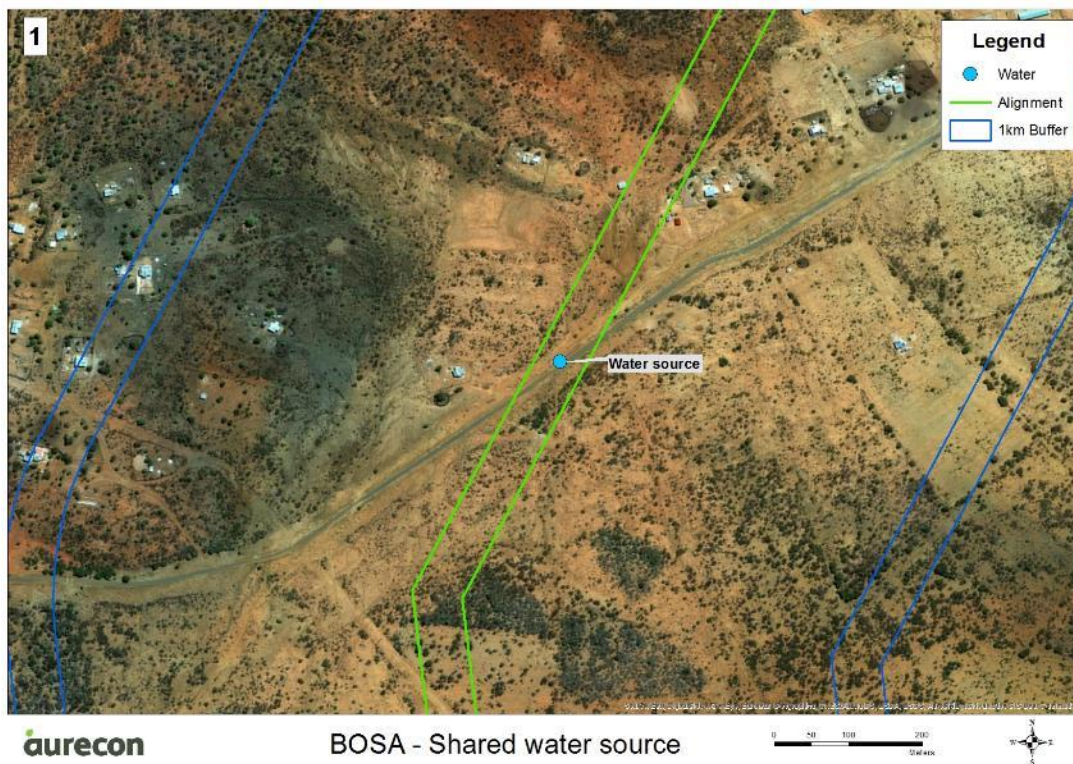


Figure 14: Map of shared water source in the corridor area



Figure 15: Impacted shared water source

Recommended mitigation measures

The proposed alignment must be designed within the approved corridor in such a way as to avoid common resources and other important points, such as where a cemetery was identified in the design phase and the route was adjusted to avoid the cemetery (see Figure 16 below).

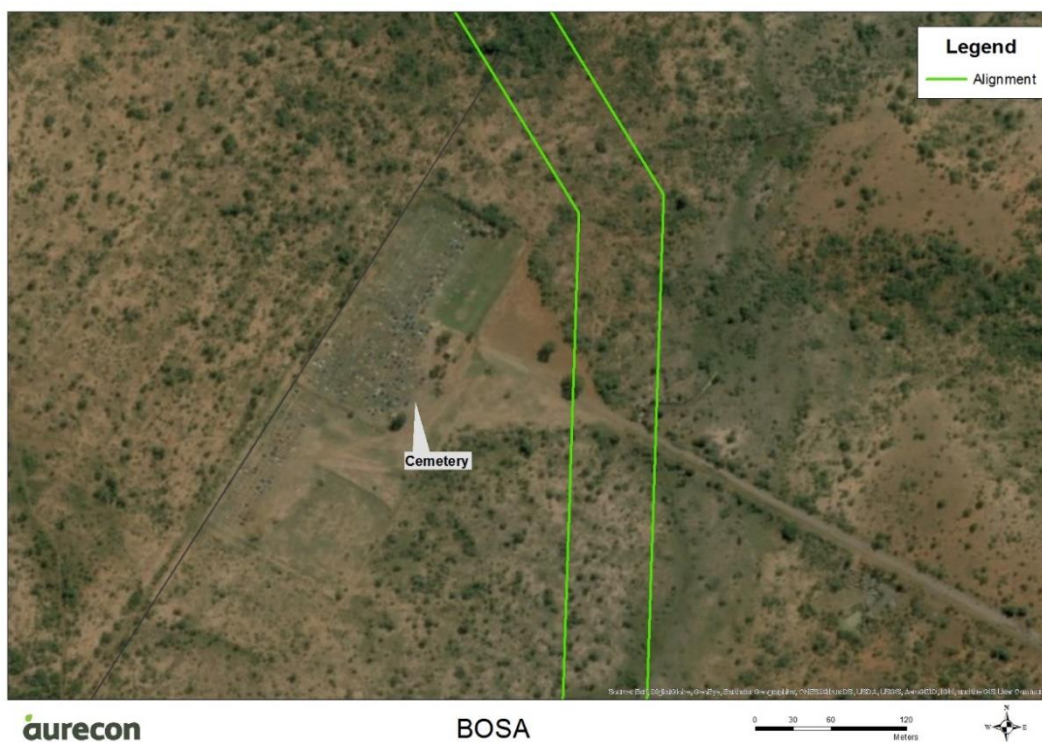


Figure 16: Avoidance of cemetery in design phase

While only the pylons will physically disturb the resources (the lines will pass overhead), it will not be advisable to have communities accessing water points under the line itself for a number of reasons. To help mitigate these impacts and effects. In such a case alternative access roads (vehicle) should be provided to the affected households and alternative water points should be provided.

Impact rating

Table 42: Land use impacts and impacts on common property resources

IMPACT DESCRIPTION: Land use impacts and impacts on common property resources				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Long term	Will be permanently impacted	Consequence: Moderately detrimental	Significance: High - negative
Extent	Site-specific	Will impact on surrounding landowners and communities		
Intensity	High - negative	Impact on shared resources may lead to negative effects		
Probability	Certain	Preferred alignment took the path of least impact but could not avoid all farm dams and water bodies		
MITIGATION:				
<ul style="list-style-type: none"> - Avoid shared resources where possible; - Provide alternative access and water points if needed. 				
POST-MITIGATION				
Duration	Short-term	While constructing new access points	Consequence: Slightly detrimental	Significance: Low - negative
Extent	Site-specific	As for pre-mitigation		
Intensity	Moderate - negative	Mitigation measures will reduce severity of impact		
Probability	Certain	As for pre-mitigation		
Confidence	Medium			



9.3.5 Displacement

The concept of *development induced displacement* in Southern Africa is generally negatively perceived by communities as historically project affected persons were relocated without proper consultation and compensation. This left the people affected scared and others wary of development projects and the potential consequences. With the proper mechanisms for addressing the relocated person's grievances, it is possible to restore the affected households' livelihoods and prevent them from feeling helpless or powerless.

Any project with a substantial physical footprint inevitably requires a land acquisition process. One of the most significant social impacts that may result from such land acquisition is the displacement of persons residing on or making use of that land. Displacement-related impacts encompass both physical displacement (the loss of a home and the necessity of moving elsewhere) and/ or economic displacement (the loss of productive assets such as cultivated fields or business stands).

Physical and economic displacements have the potential to give rise to severe negative impacts for resettled communities. These have been well-documented internationally (Krech, McNeill & Merchant, 2003; World Bank, 2001) and include:

- Landlessness;
- Joblessness;
- Homelessness;
- Marginalisation;
- Food insecurity;
- Loss of access to common property resources;
- Increased morbidity and mortality; and
- Community disarticulation.

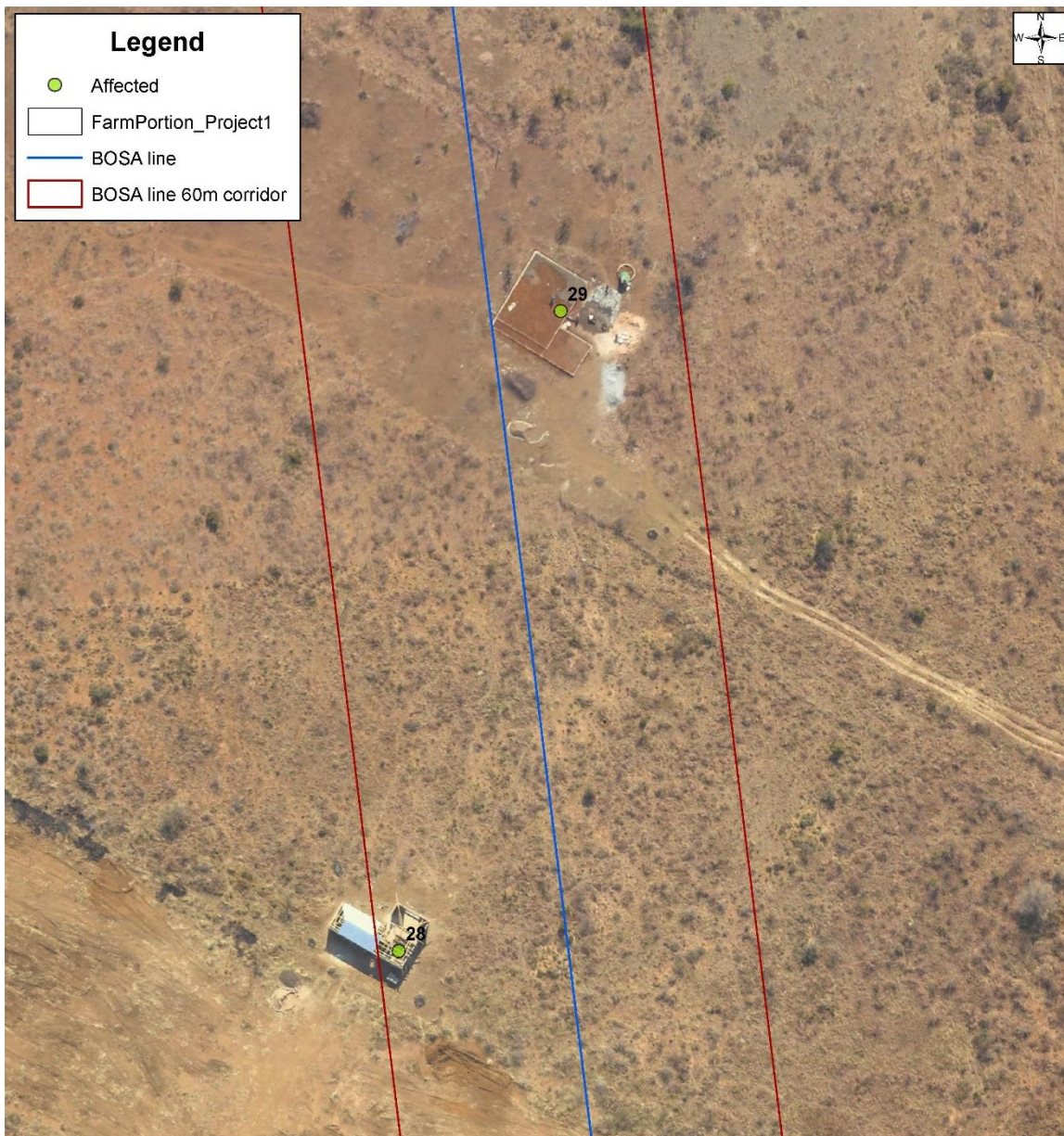


Figure 17: Affected households in the Dinokana area

Figure 17 above shows some of the households that will be affected by the proposed project. There will be a permanent loss of life-long social and emotional investment as well as livelihood resources for the households that need to be relocated. Special care should be taken to relocate the affected households back into their own communities through using the infill method. This method will minimize the effect of displacement and promote cohesiveness in the community.

However, the loss of agricultural land for communities (traditional land) as well as for private farm owners cannot be avoided, and as such compensation is applicable to areas within the proposed alignment, and the area part of the servitude that the Project Proponent will buy out.

Compensation of assets and infrastructures to be lost to the project should be based on appropriate consultation and engagement with representatives of the affected communities as well as private owners. In compliance with IFC PS 5 the project should take into account:

- Category 1 - people who have formal legal rights to the land they occupy;
- Category 2 – people who do not have formal rights to the land but who have a claim to land that is recognised under the national law;
- Category 3 – those who have no recognisable legal rights or claim to the land they occupy, and are not recognised by the law.

Assistance should be provided to category 2 to acquire a formal legal status before relocation. For category 3, in case of physical displacement, some form of social housing must be provided.

In Figure 18 below an example of economic displacement can be seen, where compensation will be paid out for the loss of productive assets such as cultivated fields and grazing areas.

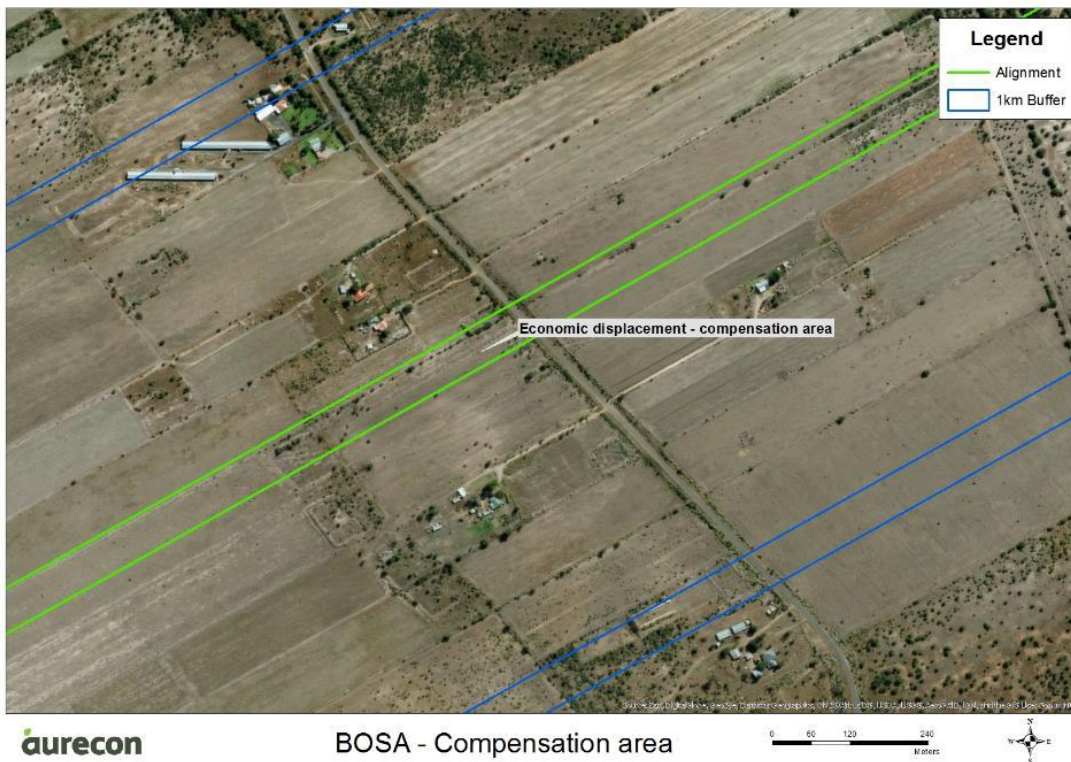


Figure 18: Compensation area

Recommended mitigation measures

It is recommended that a suitable Resettlement Action Plan be drafted to minimize the adverse effects of displacement. IFC recommends that project sponsors undertake the following actions on behalf of all affected people, including members of the host communities in which displaced people will be settled:

- Inform affected people of their options and rights concerning resettlement. A clear and coherent information and sensitisation campaign is a crucial component of the resettlement process;
- Provide technically and economically feasible options for resettlement based on consultation with affected people and assessment of resettlement alternatives;
- Whether physical relocation is required or not, provide affected people with prompt and effective compensation at full replacement value for loss of assets due to project activities;
- Where physical relocation is necessary, provide assistance with relocation expenses (moving allowances, transportation, special assistance and health care for vulnerable groups);
- Where physical relocation is necessary, provide temporary housing, permanent housing sites, and resources (in cash or in kind) for the construction of permanent housing—inclusive of all fees, taxes, customary tributes, and utility hook-up charges—or, as required, agricultural sites for which a combination of productive potential, locational advantages, and other factors are at least equivalent to the advantages of the old site.
- Provide affected people with transitional financial support (such as short-term employment, subsistence support, or salary maintenance); and
- Where necessary, provide affected people with development assistance in addition to compensation for lost assets described above such as land preparation, agricultural inputs, and credit facilities and for training and employment opportunities.
- The payment of compensation should be monitored and verified by representatives of the Eskom as well as representatives of the affected communities.
- Eskom should establish a method for delivering compensation (either cash payments or in-kind allocations, as in the case of land-for-land compensation).

Impact rating

Table 43: Displacement

IMPACT DESCRIPTION: Displacement of current land uses				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
PRE-MITIGATION				
Duration	Long-term	Displacement of land uses will be permanent	Consequence: Highly detrimental	Significance: High - negative
Extent	Site-specific	Will affect land uses in project footprint		
Intensity	Very high - negative	Displacement may lead to negative effects		
Probability	Certain	Preferred alignment took the path of least impact but could not avoid all		
MITIGATION:				
Avoid settlements, if unavoidable, proactively manage:				
- A clear and coherent information and sensitisation campaign is a crucial component of the resettlement process				
- Adequate compensation				
- The payment of compensation should be monitored and verified by representatives of the Eskom as well as representatives of the affected communities.				
- Eskom should establish a method for delivering compensation (either cash payments or in-kind allocations, as in the case of land-for-land compensation).				
- Proper grievances measures.				
- Suitable Relocation Action Plan.				
- Engagement with affected households.				
POST-MITIGATION				
Duration	Long-term	As for pre-mitigation	Consequence: Moderately detrimental	Significance: Moderate - negative
Extent	Site-specific	As for pre-mitigation		
Intensity	High - negative	As for pre-mitigation		
Probability	Very likely	Mitigation will reduce the probability of the impact occurring to the extent predicted		
Confidence	High			



9.4 Cumulative Impacts

The aim of this section is to highlight the nature of the cumulative socio-economic impacts that are expected to occur as result of the combined effect of the proposed project and other current or planned operations in the area. Three possible cumulative impacts were identified: impacts related to population influx, impacts on the visual surroundings and sense of place and impacts on ecosystem services.

Mitigation of cumulative impacts, due to the nature of such impacts, can seldom be mitigated by the project proponent alone, and require coordinated efforts between role players to ensure management of impacts.

9.4.1 Impacts related to population influx

9.4.1.1 Creation of spontaneous and informal settlements


One of the contributors to the expansion of informal settlements is the influx of job seekers into the area, as these job seekers tend to settle in the informal settlements. However, many other factors are also responsible for the growth of informal settlements, which cannot all be attributed to the proposed railway line project. Therefore, this expansion in informal settlements is the result of many cumulative impacts, such as influences of other mines and factories in the area, current socio-economic conditions in the country and region and so forth.

Many impacts also arise from the expansion of informal settlements, especially an increase in associated social pathologies. The informal settlements are highly underdeveloped in terms of infrastructure. Most houses have no electricity supply, buy bottled water and have no refuse disposal systems. These informal settlers are also mostly unemployed as they are job seekers who migrate to the area.

In most instances, the local communities would claim that the informal settlements are contributing directly to a number of problems. In particular, the community believes that these settlements lead to a higher crime rate in the area.

It is therefore clear that there is a cumulative impact of various preceding factors that influence the extent of this impact. It is possible that an influx of job-seekers moving into the area because of the project will cause informal settlements to expand even more, and thereby exacerbate the social problems mentioned above.

Measures to mitigate or control the expansion of informal settlements will have to be implemented with considerable sensitivity so as not to infringe on people's constitutionally guaranteed right to freedom of movement. To this end, it is recommended that SAPP, Eskom and BPC and the appointed construction contractor facilitate the establishment of a "Community Safety Committee"



with the aim of monitoring and controlling illegal squatting. The suggested membership of such a committee would include:

- The Community Relations Department of SAPP, Eskom and BPC and the appointed construction contractor;
- Respective local municipalities;
- Local landowners;
- Representatives of local community; and
- Local police and the Community Policing Forum.

The functions of this committee would include:

- Frequent monitoring of the area to detect the establishment of new informal settlements. (It is foreseen that this function could be carried out by Community Relations Department of SAPP, Eskom and BPC and the appointed construction contractor in cooperation with the local Community Policing Forum, as well as other stakeholders in the area);
- The establishment of a “hotline” at a local police station or at the local municipality for reporting of illegal squatting. The number of this hotline should be widely disseminated among local communities and landowners to ensure that the erection of new informal settlements is reported as soon as possible, thereby allowing for timeous response; and
- The formulation, in consultation with all relevant stakeholders, of an appropriate plan for responding to illegal squatting.

9.4.1.2 Increased pressure on local services/ resources

The capacity of service delivery infrastructures is under threat in Southern Africa and this is exacerbated by in-migration due to the mines and other development projects, which are also currently exerting pressure on service delivery in this area and nationally. It is likely that this existing trend will be aggravated in the region once it becomes known that recruitment for the BOSA Transmission Interconnection Project has started.

When the construction phase of the project is finished and people fail to secure alternative employment, they may move to nearby towns to search for employment and place additional pressure on service delivery. The same is possible for job-seekers who migrate to the project area and fail to secure a job during the construction phase. The expected influx of job-seekers into these areas, combined with the presence of a construction workforce and the influx already caused by mining activities and other development projects will place substantial pressure on local infrastructure and resources, such as schools, clinics, and water. To mitigate these impacts, it is recommended that the SAPP, Eskom and BPC and the appointed construction contractor liaise with appropriate bodies to ensure that the measures listed in Section 9.2.1 are applied in collaboration with stakeholders from within the industrial and governmental spheres.



9.4.2 Impact on the visual surroundings and sense of place

The more “alien” elements that are added to a landscape, the more the character of the landscape will be altered. Thus, the effect of the BOSA Transmission Interconnection Project on the area’s sense of place cannot be considered in isolation from other current and planned activities. For example, existing mining activities in the area have left their mark on the landscape, and future mining activities, other development projects and the transmission lines add to the impact on the area’s sense of place.

The incremental change in the visual character of the area that will be brought about by the project can thus be interpreted as a cumulative impact on the sense of place stemming from the combined effect of the project, mining operations and other development projects. It is expected that this impact will be experienced most acutely by the tourism industry. Tourism by nature is complex and diverse and also inherently linked to concepts of brand, image and perception. These concepts are very difficult to quantify but have a tremendous impact on the industry. The success of a tourism destination is determined by the competitive choice that exists between various destinations. The choice, in turn, is based on the perceptions of those destinations held by potential tourists specifically in terms of the degree of attraction and the ultimate satisfaction of their visitation requirements. These requirements are as diverse as the tourists themselves, ranging from location to environment to cost. Specific tourism visitation or value statistics are neither systematically collected in, nor available for, the reserve areas.³⁰

Although the implementation of project level mitigation measures can ameliorate the negative impact of the proposed project on tourism it will not reduce the impact that other developments are exerting on the areas tourism sector. It is suggested that SAPP, ESKOM and BPC and the appointed construction contractor and other appropriate bodies (e.g. stakeholders from within industrial and governmental spheres) should liaise and align their efforts to implement mitigation measures that will effectively manage the negative impact that local development is exerting on the tourism sector. For example, current and future industrial developments in the area should share infrastructure wherever possible to minimise the need for additional service infrastructure like roads, pipelines and transmission lines which may detract from the area’s sense of place.

9.4.3 Impact on ecosystem services

Table 44 below, as taken out of Section 5 of the Aquatic and Terrestrial Ecological Assessment Report describes some the ecosystem services identified for the proposed project area. The impact that the project has on the relevant ecosystem services is mainly low, because of the nature of the project and the measures put in place to avoid major and important ecosystems.

³⁰ Tourism Impact Assessment Study. Imani Development (SA) (Pty) Ltd. 2010

Table 44: Ecosystem services

Hydrogeomorphic type (HGM)	Ecosystem service	Social Importance	Regional importance of this HGM type
Rivers and streams.	Hydrologic function in the maintenance of catchment base flow.	Where surface water flows exist, rural communities will use as a water resource, but more important for livestock watering.	Low – limited or mostly ephemeral flows within study area.
Open water bodies/lakes.	Surface water storage and important for water flow and facultative vegetation.	Livestock watering and recreational use.	Low – as most are outside of the study area or very small.
Wetlands.	Hydrological store within catchments, and passive treatment of water quality, while providing specialised habitat.	Limited use of wetlands within the region as they are sparse and very small.	Low – sparse and have limited resources.
Endorheic pans/depressions.	Represent the highest proportion of aquatic habitat within the study area, and are important as ephemeral refugia for birds and unique wetland associated plants.	Highly ephemeral and only used for short periods by livestock.	High – due to habitat uniqueness and the high numbers of these systems.
Springs/eyes.	Hydrologic function in the maintenance of catchment base flow.	Important water source for rural communities.	High, due to baseflow maintenance but these are sparse within study area.
Artificial waterbodies.	Restrict catchment baseflow and can result in sedimentation erosion.	Livestock water and recreational use.	Low – due to impact on natural hydrological regime.

(BOSA Aquatic and Terrestrial Ecological Assessment, Scherman Colloty & Associates. 2017)



10 Assessment of alternatives

The terms of reference for this assignment stipulate that the impact assessment should consider practical project alternatives. The 'No-go' option is the only alternative to consider for the proposed project (namely, Botswana-South Africa (BOSA) Transmission Interconnection Project).

The implication of the 'No-go' alternative on the socio-economic environment of the study area will simply be that none of the positive or negative impacts identified in Section 9 will materialise. The 'No-go' option will also mean increased instability of power distribution in South Africa and Botswana leading to negative socio-economic consequences to society in general.



11 Recommendations and conclusion

Based on the discussion presented in the previous sections, it can be concluded that many of the significant socio-economic impacts of the proposed BOSA Transmission Interconnection Project will occur during their construction phase, with the enhanced reliability of electricity resources regionally during the operational phase.

Positive impacts include temporary and permanent creation of employment opportunities as well as associated economic benefits and possible creation of opportunities for local sourcing of goods and services as well as anticipated positive impacts on local micro, small and medium enterprises and increased availability of electricity.

Negative impacts include the potential influx of job seekers, possible social pathologies arising from the influx of construction workers and job seekers, construction-related health, safety and aesthetic impacts, and displacement.

Cumulative impacts include impacts related to population influx such as the creation of spontaneous and informal settlements and the increased pressure on local services/ resources and further the impact on the visual surroundings and sense of place as well as impacts on ecosystem services.

The pre- and post-mitigation ratings assigned to the various impacts discussed in Section 6 are summarised in

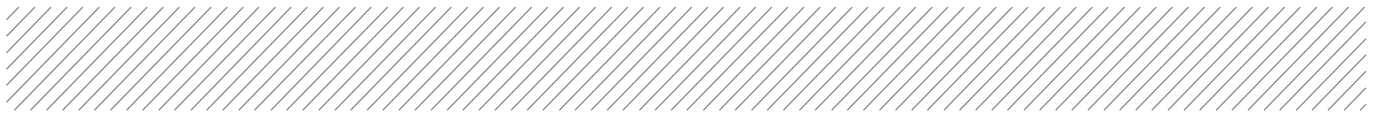


Table 45 and graphically represented in Figure 19 and Figure 20 below. In the figures, the entries in the various coloured cells correspond to the codes given for impacts in the second column of

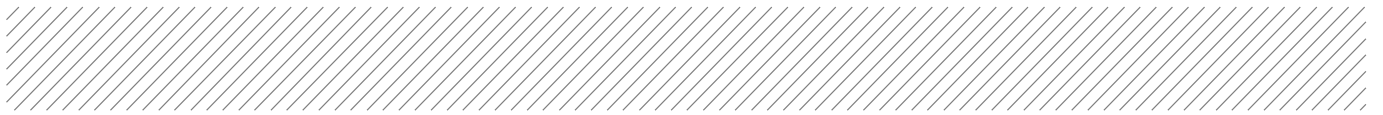


Table 45.

Table 45: Pre- and post-mitigation impact ratings

Code	Impact	Pre-mitigation:						Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance	Duration	Extent	Intensity	Consequence	Probability	Significance
1	Job creation	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
2	Opportunities for local sourcing of good and services	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
3	Local and regional economic benefits and multiplier effects	Short-term	Local	Moderate - positive	Slightly beneficial	Very likely	Low - positive	Short-term	Local	High - positive	Moderately beneficial	Certain	Moderate - positive
4	Increased availability of stable electricity	Long-term	Regional	High - positive	Highly beneficial	Fairly likely	Moderate - positive	Long-term	Regional	Very high - positive	Extremely beneficial	Very likely	High - positive
5	Population influx	Short-term	Local		Moderately detrimental	Very likely	Moderate - negative	Short-term	Local	Moderate - negative	Slightly detrimental	Fairly likely	Low - negative
6	Increased social pathologies	Long-term	Regional	Very high - negative	Extremely detrimental	Certain	Very high - negative	Long-term	Regional	High - negative	Highly detrimental	Fairly likely	Moderate - negative
7	Construction related health, safety and aesthetic impacts	Short-term	Local	High - negative	Moderately detrimental	Very likely	Moderate - negative	Short-term	Local	Moderate - negative	Slightly detrimental	Fairly likely	Low - negative
8	Land use impacts and impacts on common property resources	Long-term	Site-specific	High - negative	Moderately detrimental	Certain	High - negative	Short-term	Site-specific	Moderate - negative	Slightly detrimental	Certain	Low - negative
9	Displacement	Long-term	Site-specific	Very high negative	Highly detrimental	Certain	High - negative	Long-term	Site-specific	High - negative	Moderately detrimental	Very likely	Moderate - negative

Legend

Significance:	Negative	Positive
Very high		
High		
Moderate		
Low		
Very low		

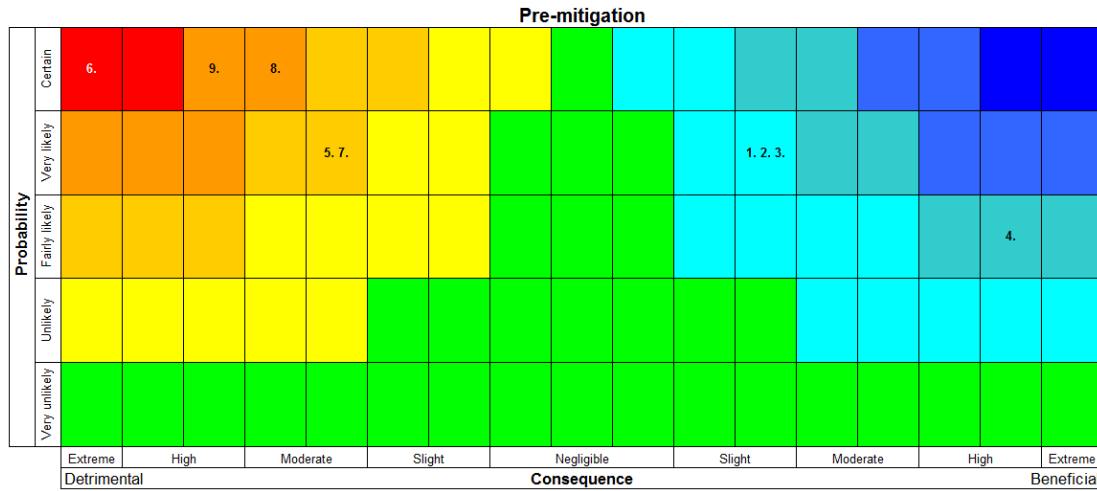
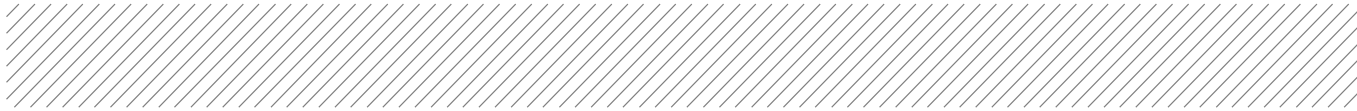


Figure 19: Impact rating Pre-mitigation and maximisation measures

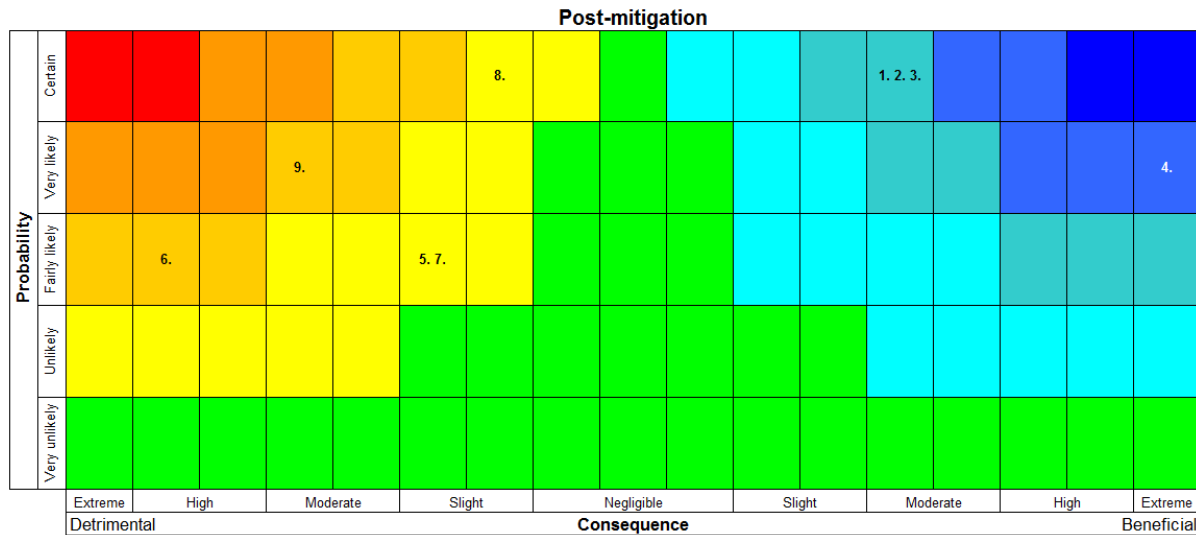



Figure 20: Impact rating Post-mitigation and maximisation measures



The socio-economic environment in general poses no significant adverse socio-economic impacts of the construction of the proposed BOSA Transmission Interconnection Project. It is recommended that the mitigation and maximisation measures included in the report be implemented to decrease the effect of negative impacts on communities and maximise the effect of positive impacts on communities. It will be important that local employment opportunities are maximised, local community is fully engaging in decision making processes, recommended mitigation measures are followed by other specialists and maximising opportunities for income creation for local people.

It is further recommended that labour should be sourced locally as far as possible during construction and operation of the project. This will minimise the risk of conflict among local residents and newcomers and better relationships for workers housed in temporary housing for construction workers.

Furthermore, new construction workers in the area must be urged to refrain from abusing resources and infrastructure of the existing adjacent communities. There should be closer cooperation between the affected Municipalities, Farmers Association in the area, SAPP, ESKOM and BPC and the appointed construction contractor to ensure that identified negative impacts are dealt with in a coordinated manner. This information should be conveyed to all relevant construction workers and affected communities.

In conclusion, the proposed BOSA Transmission Interconnection Project poses a number of potential positive and negative social impacts. With appropriate measures, the negative impacts can be reduced to acceptable levels while the positive impacts can be maximised to provide significant benefits to the region. Measures must also be put in place to monitor and evaluate implementation of these mitigation measures and to take corrective action where necessary.



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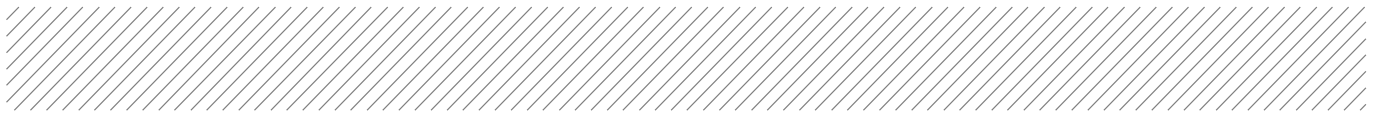
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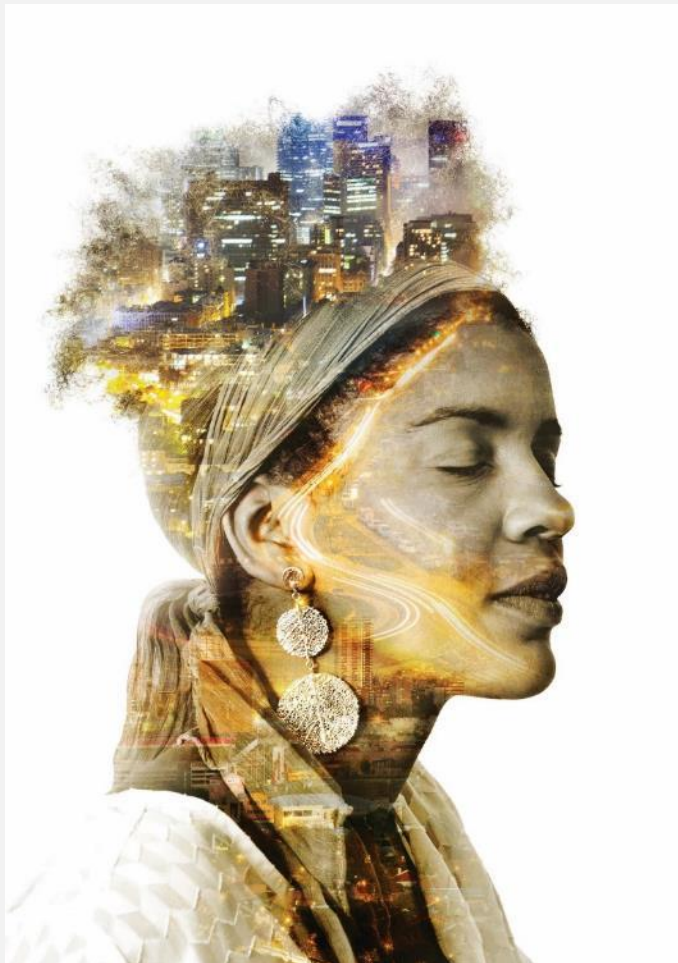
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