PROPOSED AMENDMENTS FOR THE GRASPAN SOLAR PV ENERGY FACILITY.

Northern Cape Province, South Africa

Social Impact Assessment Statement

August 2023

Prepared for:

Graspan Solar PV (Pty) Ltd
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REPORT DETAILS

Title	:	Proposed Amendments for the Graspan Solar PV Energy Facility Social Statement
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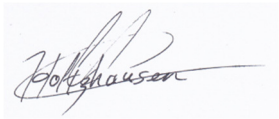
Client	:	Graspan Solar PV (Pty) Ltd
Report Revision	:	Revision 1
Date	:	August 2023

When used as a reference this report should be cited as: Savannah Environmental's (2023) Social Impact Assessment Statement for the proposed Graspan PV Solar Energy Facility, Northern Cape Province.

SPECIALIST DECLARATION OF INTEREST

I, Cornelius Holtzhausen, declare that –

- I act as the independent specialist in this application.
- I will perform the work relating to the application objectively, even if this results in views and findings that are not favourable to the applicant.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity.
- I will comply with the Act, Regulations, and all other applicable legislation.
- I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority, and – the objectivity of any report, plan, or document to be prepared by myself for submission to the competent authority.
- All the particulars furnished by me in this form are true and correct.
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the Act.



Cornelius Holtzhausen
Name

Signature

August 2023
Date

EXECUTIVE SUMMARY

Background

Graspan Solar Project (Pty) Ltd has requested an amendment to an existing Environmental Authorisation (EA) for the authorised Graspan PV Facility (DFFE Reference: 14/12/16/3/3/276/1) and associated grid connection infrastructure (DFFE Ref: 14/12/16/3/3/2/276/2). The project is located on remaining extent of Farm Graspan (No. 172), in the Siyancuma Local Municipality, Northern Cape Province.

The project was authorised in June 2013 ((DFFE Reference: 14/12/16/3/3/276), with various subsequent amendments issued, including the splitting of the EAs for the solar facility (DFFE Ref No.: 14/12/16/3/3/2/276/1) and the grid connection infrastructure (DFFE Ref No.: 14/12/16/3/3/2/276/2) to enable the handover of this infrastructure to Eskom. The following infrastructure is authorised for the PV facility (DFFE Ref No.: 14/12/16/3/3/2/276/1):

- PV solar panels/modules (arranged in arrays);
- PV module mountings;
- DC-AC current inverters and transformers;
- An on-site 132kV Independent Power Producer (IPP) substation to facilitate the grid connection.
- Underground cabling/ overhead power lines;
- On-site buildings (including an operational control centre, office, ablutions, and a guard house);
- Access roads and internal road network; and
- Ancillary infrastructure.

The following infrastructure is authorised for the grid connection infrastructure (DFFE Ref No.: 14/12/16/3/3/2/276/2):

- On-site switching stations. The development includes two onsite switching stations, one approximately 400m^2 and the other of approximately 2 500m^2.
- 132kV overhead power line (to eventually be owned by Eskom) to facilitate the grid connection for the Graspan Solar Facility. The new on-site switching station (portion to be ceded to Eskom) will connect to the existing Graspan Traction Substation by two overhead power lines of approximately 800m in length. Both power lines will be installed on the same steel lattice structure, according to Eskom specifications.
- A dangerous goods storage area for oil, lubricants and hydrocarbons, for the switching station (potion to be ceded to Eskom). The expected total capacity of the storage areas is 80m^3 and will not exceed 500m^3.
- Access roads.

Graspan Solar PV (Pty) Ltd is proposing to amend the Environmental Authorization (EA) for the Graspan Solar Project (Pty) Ltd, by extending the EA validity by an additional two (2) years. Extension of the validity of the EAs will ensure that the EAs remain valid for the undertaking of the authorised activities. The projects are preferred bidder projects under Round 5 of the Renewable Energy IPP Procurement Programme (REIPPPP)and construction is planned to commence in the near future following financial and commercial close.

Savannah Environmental has been appointed as the Registered Environmental Assessment Practitioner (EAP) to prepare the Application. The EA Amendment will be completed in terms of Regulation 29 Amendments to be applied for in terms of Part 1, of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, including additional specialist studies and public participation required by the National Department of Forestry, Fisheries and the Environment (DFFE). This document serves as inputs for an amendment process in terms of the social impacts identified in the original report for the EA in 2012 undertaken by Savannah Environmental (Pty) Ltd.

Updated Socio-Economic Context.

Based on the available secondary data sources, the demographics in the area are similar to the early 2010s, and the same can be said about the baseline economic data, service delivery access, and other facets of society. While there have been a few more solar developments in the area, the cumulative effect of these tends to have a positive impact on the environment and the social status of the area.

Implications Of The Proposed Amendments On Previously Identified Impacts, Including Mitigation & Enhancement Measures

The author sees no reason to doubt or contradict the findings as laid out in the original Environmental Impact Assessment (EIA) and Final Scoping Report that formed part of the EA authorized in April 2013. The author concurs with the impacts and ratings as identified. While mitigation measures were suggested for visual and cultural heritage impacts as a result of the project, other mitigating and enhancing measures were not clearly specified. While this is a shortcoming, it alone does not constitute a reason to dismiss the conclusions of the report regarding the socio-economic impacts of the report.

The rural nature of the project meant that few of the socio-economic indicators related to the project have significantly changed since the undertaking of the original EA. Similarly, no new communities or other developments have been established close to or on the project site. As such, it is unlikely that new social impacts have arisen, similarly, no changes to the original assessment ratings are likely.

The amendment would give the developers more time to bring the project to financial closure and thus for the impacts resulting from the project to occur. The Graspan PV Energy Facility is unlikely to result in permanent damaging social impacts and has the potential to result in significant positive impacts both as a lone project and cumulatively. The project will likely result in a number of socio-economic opportunities for the region, which in turn will result in social benefits. The positive cumulative impacts include the creation of employment, skills development and training opportunities, and downstream business opportunities. The cumulative benefits to the local, and regional economy through employment and procurement of services are more considerable than that of the Graspan PV Energy Facility alone.

Concluding Remarks

To conclude, the specialist assessed the proposed amendments and confirms that there is no significant change to the affected social environment or the scope and nature of the proposed project. Therefore, from a socio-economic perspective, there is no reason why the proposed amendment should not be authorised.

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ACRONYMS

DFFE	Department of Forestry Fisheries and the Environment
DM	District Municipality
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme
ERM	Environmental Resources Management Southern Africa (Pty) Ltd
km	Kilometre
kV	Kilovolt
LM	Local Municipality
MW	Mega Watt
NEMA	National Environmental Management Act (No. 107 of 1998)
PV	Photovoltaic
REIPPPP	Renewable Energy IPP Procurement Programme

1. INTRODUCTION

Graspan Solar Project (Pty) Ltd has requested an amendment to an existing Environmental Authorisation (EA) for the authorised Graspan PV Facility (DFFE Reference: 14/12/16/3/3/276/1) and associated grid connection infrastructure (DFFE Ref: 14/12/16/3/3/2/276/2). The project is located on remaining extent of Farm Graspan (No. 172), in the Siyancuma Local Municipality, Northern Cape Province.

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amendment process in terms of the social impacts identified in the original report for the EA in 2012 undertaken by Savannah Environmental (Pty) Ltd.

It should be noted that the EA for the project has not been lying dormant for 10 years. All specialists undertook a re-assessment of the potential environmental impacts associated with the project in 2021, and the impacts have been reassessed as part of the "Part 2" Application for amendment of the EA processes. The Graspan Solar PV Energy Facility is located in the North Cape Province, the map below (**Figure 1-1**Figure 1-1) shows the proposed location of the development.

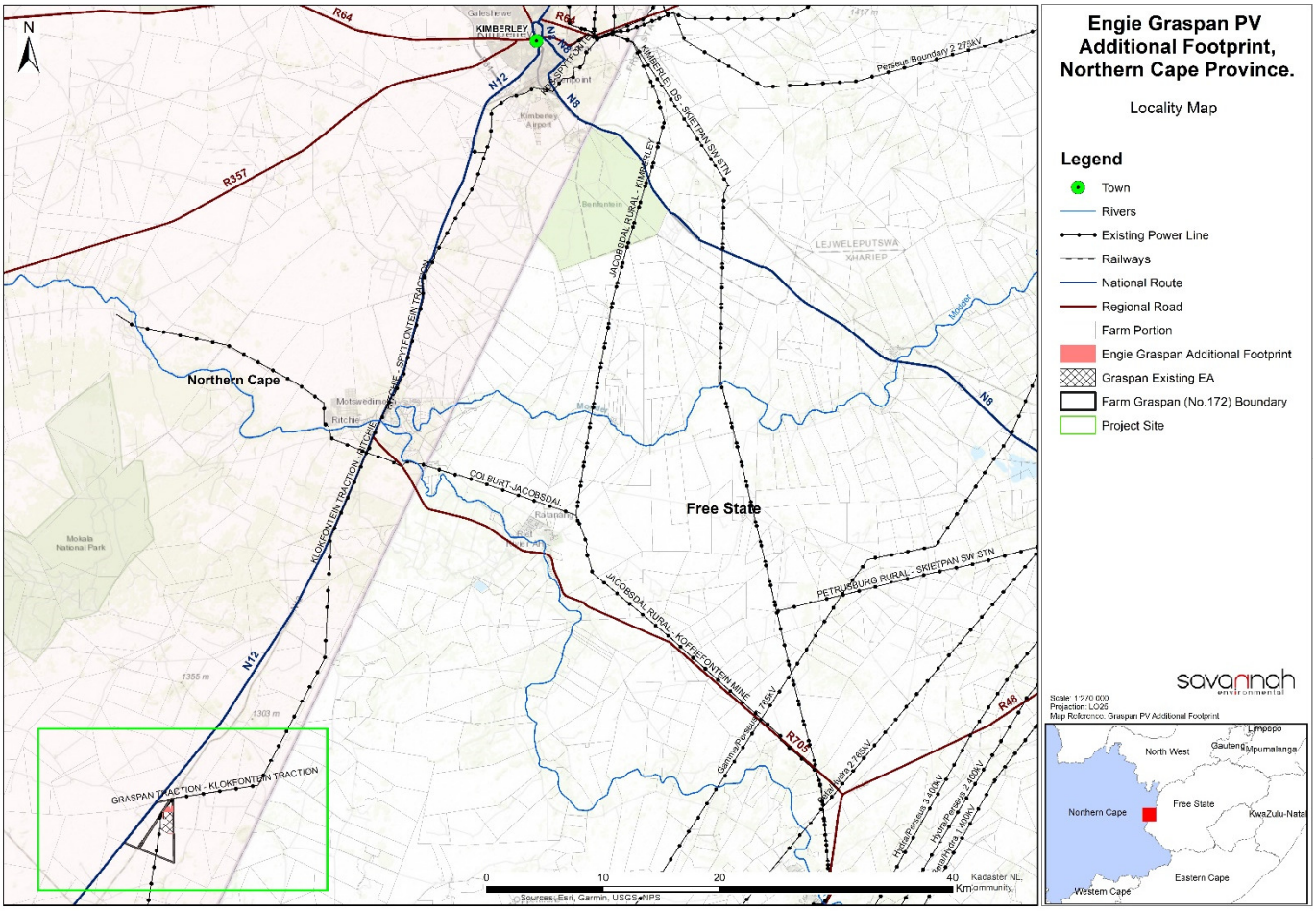

Figure 1-1: Graspan Solar PV Energy Facility Location

2. AMENDMENT APPROACH

In line with the Environmental Impact Statement (EIA) Regulations of 2014 as well as the new National Environmental Management Act (NEMA) GN 320 regulations, this report needs to:

- Confirm the status of the environment compared to that at the time of the original assessment to make a statement as to whether the environment has changed since the original assessment. Since the original report was completed in 2012, and again in 2022, an updated socio-economic profile has therefore been provided.
- Provide an indication as to whether the impact rating as provided in the initial assessment remains valid and if mitigation measures provided are still applicable or if new ones need to be included.
- An indication if any new assessments/guidelines which were not included as part of the initial assessment must be taken into consideration and addressed in the report.
- A description and assessment of any changes to the environment that has occurred since the initial EA was issued.
- A description and an assessment of the surrounding environment in relation to new developments or changes in land use which might impact the project:
  - Within a 30km radium
  - Cumulative impacts

3. UPDATED SOCIO-ECONOMIC OVERVIEW

The purpose of this section is to provide an update on the previously presented socio-economic context of Pixley Ka Seme District Municipality (DM) and Siyancuma Local Municipality (LM). It is worth noting, that while the project will be located in the Siyancuma LM, the town of Hopetown where local labour is likely to be sourced, is in the neighbouring Thembelihle LM, and will thus be included in the analysis (see **Table 3-1**). This section provides insight into the relative size and structure of the local economy. Various demographic and economic indicators will be discussed and analysed to assess potential impacts that are bearing on the surrounding areas under study. The data available at the time of the original study is compared to the latest available data to identify any specific indicator changes that could have an impact on the socio-economic conditions of the study area.

Table 3-1: Spatial Context of the study area for the Graspan Solar PV Facility and associated infrastructure

Province	**Northern Cape Province**
District Municipality	Pixley Ka Seme District Municipality
Local Municipality	Thembelihle Municipality
Local Municipality	Siyancuma Municipality
Nearest town(s)	Hopetown

3.1. Northern Cape Province

The proposed project is located within Northern Cape Province. This is one of the largest provinces within South Africa's, taking up nearly a third of the country's land area, but has the country's smallest population. The population density of the province is therefore very low with approximately 3 persons per square kilometre. On a geographical basis, the province shares borders with Namibia in the north and stretches as far as the Atlantic Ocean in the west. The Northern Cape also shares borders with the Western Cape to the south, the Eastern Cape to the southeast, and the Free State and the North West Province to the east. The largest centres in the Northern Cape are Kimberley and Upington. Kimberley was founded on the mining industry, but most

mineshafts in Kimberley have been closed, thus the traditional economic base of the city has been eroded, and there is a need to look for alternative activities to sustain its local economy. Upington's (population ~74,800) local economy is based on services, agriculture and agro-industry, and long-term sustainability is not a particular issue. It is, however, an issue in the northern areas of the province where mining has taken over from extensive agriculture.

The sparse, arid landscape is dominated by extensive sheep, goat, and cattle rearing, as well as mining (including diamonds, iron, titanium, zinc, lead, and copper). The Northern Cape mining industry makes up nearly 7% of South Africa's total mining value and contributes 23.4% to the provinces total economy. Farmers in the province contribute to 6.1% to South African agriculture and 6.6% of the province's economy but only makes up 6.6% of the province's economy The Orange River provides a source of fertile land and water within the northern region of the province. The areas immediately adjacent to Orange River are therefore characterised by a concentration of vineyards and other intensive agricultural activities, producing products such as export-quality table grapes, wine, and dried and preserved fruit. The Northern Cape is also home to the world's largest telescope, the Square Kilometre Array (SKA). The province has numerous parks and conservation areas. The Kgalagadi Transfrontier Park is Africa's first cross-border game park and one of the largest conservation areas in southern Africa.

3.2. Pixley Ka Seme District Municipality

The Pixley ka Seme district (**Figure 3-1**) lies in the south-east of the Northern Cape province and shares its borders with three other provinces, namely, the Free State province to the east, the Eastern Cape to the south-east and the Western Cape to the south-west. It is one of five district municipalities in the province and is the second largest covering a total surface area of 102 727 km².

It is a category C Municipality consisting of 8 category "B" municipalities, namely: Emthanjeni, Kareeberg, Renosterberg, Siyancuma, Siyathemba, Thembelihle, Ubuntu and Umsobomvu. Emthanjeni is the largest and Renosterberg the smallest of these municipalities. These municipalities represent a total of 26 towns, which range from medium sized towns with populations of above 30 000 to very small rural towns with populations of below a 1000. The towns are sparsely placed in the vast landscape with long distances between them that hinder the effective delivery of services, high levels of unemployment and poverty with related social and health problems. and limit economic connectivity. The area is known for its Karoo landscapes, friendly people, vast open skylines and productive agricultural sector.

Figure 3-1: Local Municipalities in the Pixley Ka Seme District Municipality

3.3. Thembelihle Local Municipality

Thembelihle LM (formerly known as Oranje-Karoo LM) is a local municipality in the Pixley ka Seme DM of the Northern Cape province of South Africa. Thembelihle is a Xhosa name meaning "good hope", the new emblem depicts the diversity of Thembelihle inhabitants and its surroundings. The municipality covers a total square area of 8 023km². Thembelihle Local Municipality is a Category B municipality situated in the heart of the Karoo in the Pixley Ka Seme District of the Northern Cape Province. It is one of the smaller municipalities of the eight that make up the district, accounting for only 8% of its geographical area. This mostly agricultural landscape is rich in natural resources. The first diamond was discovered in Hopetown and a great part of the Anglo-Boer War was fought in these parts. It is primarily made up of Hopetown and Strydenburg.

The LM finds itself in the midst of the Karoo and is thus surrounded by a great deal of unique natural resources. The region's rich and unique environment, including the Orange River, offers the region a great deal of tourism

opportunities for camping, adventure tourism, and hunting. There are also a number of semi-precious stones, diamonds, Limestone, rock salt, and clay that can be found within the region. This suggests that there are opportunities for small and large mining operations that can benefit local communities.

The area has a low population density, and thus its human resources in the region can be limited. The arid nature of the Karoo also means that there are limited water resources, with the people and agricultural activities relying on water from the Orange River, or from underground sources. The region is vulnerable to droughts and water scarcity.

3.4. Siyancuma Municipality

The Siyancuma LM is made up of three main entities, namely incorporating three urban settlements (Douglas, Griekwastad and Campbell) two restitution areas (Schmidtsdrift and Bucklands), rural areas (Plooysburg, Salt Lake, Witput, Belmont, Graspan, Heuningskloof, Volop), commercial farming areas, small farming areas, the Ghaap Mountain and small private game parks.

The Siyancuma LM is characterised by the confluence of South Africa's largest rivers, the Orange and Vaal Rivers. The area has rich mineral deposits (diamonds, tiger's eye, zinc, lead and copper). The municipality has relatively high levels of basic services, a partially integrated society, some medical facilities in Douglas and Griekwastad, and one of the biggest correctional services in the province. It is also the neighbour to Kimberley, the provincial and legislative capital of the province. The LM still has major inequalities to overcome, a situation that it shares with the rest of the country, as well as a skew and sluggish economy to transform and develop.

3.5. Demographic Baseline for Siyancuma and Thembelihle Local Municipality

3.5.1. Economy

In 2011 there was a recorded employment rate of 34.5% in the Siyancuma LM, the Pixley Ka Seme DM was at a rate of 37.5% at the same time. Around 46% of the population was not economically active in the LM, with 6% being discouraged work-seekers, and14% being unemployed. Close to 59% of all employment came from the formal sector, 19% from the informal sector, 18% considered Private Households, and the remaining 4% portion being unknown. The average annual income (a median estimate) for the LM was R30 000, which was the same as the DM and Provincial amount. In 2018, Pixley ka Seme employed 45 400 people which is 13.98% of the total employment in Northern Cape Province (325 000), 0.28% of total employment in South Africa (16.1 million). Employment within Pixley ka Seme increased annually at an average rate of 0.59% from 2008 to 2018.

In the Thembelihle LM, 72% of the economically active population is employed and 28% unemployed. This is an improvement in light of a 43% provincial unemployment figure. The total number of employed people is 3,861 and the total number of unemployed people is 1,532. The number of discouraged work seekers is 687. The combination of discouraged work seekers and the unemployed population is close to 2,200 workers. A high number of households are in the middle to higher income strata. In this regard, they earn in the ranges of R307 614 400 to R 2 452 601. This means that there is a thriving middle class in the Thembelihle Municipal area. There is a 0,6% of earners in the above R 2 452 601 bracket.

3.5.2. Demographics

From 2001 to 2011, the total population of Siyancuma LM showed a negative growth rate of -5.6% with the population decreasing from 39 275 to 37 076 (StatsSA, 2011). A further negative growth rate of -3.1% was experienced from 2011 to 2016 when the population decreased from 37 076 to 35 938 (Community Survey 2016). The population under the age of 15 decreased from 31.8% of the population to 26.3% from 2011 to 2016, while the population aged 15 to 64 increased from 62.2.% to 67.8% during the same period. The population of persons over the age of 65 remained at 6%. The number of

males per 100 females in 2011 was 100.4, and in 2016 was 100 remaining close to equal. The Siyancuma LM racial profile can be broken down as 67.8% Coloured, 25.3% Black African, 6.69% White, and 0.21% Asian.

The population in Thembelihle LM has been on the rise. The population of Thembelihle has increased from 14,467 in 2001, to 15,701 in 2011 and 16,231 in 2016. The percentage distribution of the population of Thembelihle in 2016, where the Coloured population group accounts for 70.5% of the population in the Thembelihle LM, followed by the White (14.8%), Black African (13.9%), and Indian/Asian (0.7%) population groups. The vast majority of the population speak Afrikaans (94.2%) in households as of 2016. There are 3.2% of the population that speak IsiXhosa, followed by 1.2% speaking Sepedi. There are also 0.2% that speak Khoi. The population in Thembelihle LM is young, consisting mainly of children and youth. There is however a greater proportion of males compared to females for ages 25 to 54 years, and the female population shows a slightly greater proportion in numbers compared to males for ages 75 and above. The Median age in Thembelihle LM is 27 years old as of 2016

3.5.3. Education

For the population above the age of 20 in the Siyancuma LM, there was an increase in matric and higher education qualifications from 2011 to 2016. Those with no schooling went down from 12.7% to 9.7% from 2011 to 2016. Persons with matric increased from 16.8% to 20.4% over the same period. Persons that can claim a higher education rose from 5.4% to 8.9% during the same period. More females (7,369) than males (6,979) completed grades 9 to 12, while slightly more males (1,134) than females (1,123) have a post-matric qualification. People with no schooling stood at 2,483 females and 2,642 males in 2016, which is 14,2 % of the total population in the Siyancuma LM.

In the Thembelihle LM, there has been an improvement in the level of education over the period from 1996 to 2016, where there was a decline in the number and proportion of persons aged 20 years and above with no schooling (from 35.9% to 11.3%). There was a decline in the proportion of persons with higher education, from 5.6% in 1996 to 5.3% in 2016. A higher proportion of the Black African population in the Thembelihle LM has no schooling when compared to other population groups (17.0%), followed by the Coloured population (13.3%). A little more than 54.2% of the population completed grade 9 or higher, and 27.3% completed Matric or higher in the Thembelihle LM.

3.5.4. Households

There were 9,578 households in the Siyancuma LM as of 2011, increasing to 10,191 in 2016. The average household decreased from 3.8 to 3.5 from 2011 to 2016. There was an increase in female-headed households from 35.7% to 36.4% during the same period. The percentage of formal dwellings increased from 73% to 82% from 2011 to 2016. During the same period, the percentage of persons who owned or are paying off their homes increased from nearly 40% to just over 50% in the Siyancuma LM.

The number of households in the Thembelihle LM increased by 1,798 households over the period from 1996 to 2016, from 2,939 to 4,737 households. It shows a significant increase in the number of two-person households, from 528 in 1996 to 1,192 in 2016. In 2016, there was a higher percentage of two-person households when compared to other household sizes at 25.2%. This is followed by single-person households at 17.6% of the total number of households in the Thembelihle LM. There was a significant increase in the number of female-headed households when compared to male-headed households in the Thembelihle LM over the period from 1996 to 2016. Female-headed households increased from 671 households in 1996 to 1 533 households in 2016, whilst those headed by males increased marginally from 2 257 in 1996 to 2 836 in 2016.

Amongst the reasons why people had moved to their current place of residence in the Thembelihle LM, was mainly to live with or be closer to a spouse, followed by those moving because of a job transfer or take up a new job opportunity at 22.5% and 16.9% respectively. Other reasons include looking for paid work (16.1%) and those moving as a household with a household member (for health) at 4.2%.

3.5.5. Health, Security, and Service Delivery

The Siyancuma LM is currently facing a big challenge in terms of electricity bulk supply due to the expansion of informal areas. Another challenge is the fact that electrical infrastructure, e.g. transformers, are dilapidated and need to be repaired or replaced at very high costs. According to the Community Survey of 2016, most households (7,381) are using in-house prepaid meters, followed by in-house conventional meters (1,334). A new trend is taking root where people are installing solar home systems, and 357 such systems were already installed in 2016. Just over 86% of houses are getting water from a regional or local services provider, which is a little less than the 91.7% access at the DM level, and 92% access at the provincial level as of 2016.

Those with no access to electricity in the Siyancuma LM stands at 5%, while the DM average is at almost 6% and the Northern Cape Provincial Average is 6.67%. Households that have access to flush or chemical toilets stand around 67.6%, significantly lower than the district average of 83%, and provincial average of 71.4%. A significant portion of households still make use of pit toilets (12%) and the bucket system (18%). There are 78.7% if households in the LM that are getting their refuse removed from a local authority, private company or by a community member. Transport includes activities such as providing passenger or freight transport by rail, road, water or air, auxiliary activities such as terminal parking facilities, cargo handling and activities, and postal activities and telecommunication. The majority of people in Siyancuma LM do not have their own transport and walk on foot to their places of employment or businesses in town. A small percentage are dependent on other modes of transport like minibus taxis and bicycles. There are two hospitals in the LM, one being in nearby Douglas, and the other in Griekwastad. There are five clinics in the LM, two in Douglas, one in Griekwastad, one in Campbell, and lastly one in Schidsdrift.

Just over 88% of households in the Thembelihle LM are getting water from a regional or local service provider, similar to the 91% of the Pixley Ka seme DM, and 92% of the Northern Cape Province. There are 47% of households have piped water inside the yard, while 38% have piped water inside the house. Around 3% of households make use of Borehole outside their yard. The LM has a relatively high amount of people who have no access to electricity at 11.2%, which is almost double the amount of people with no access at the district (5.83%) and provincial level (6.67%). Around 72% of households have in-house prepaid meters, and 15% have conventional meters. Those that have access to flush or chemical toilets stand around 73.4%, while 8.5% have no access to any toilets, and a further 11% make use of a pit toilet. Around 66% of households are getting refuse disposal from a local authority, private company or community members. The LM has around two clinics, one each in ward one and ward three.

3.5.6. Site Details

The proposed Graspan Site is located within a rural setting along the N12 and is approximately 75 km south of the town of Kimberley and 45 km northwest of Hopetown and Steynville (adjacent to Hopetown). The Site is situated on farm Graspan 172, the farm is 1 346 Ha in extent. Long sections of the N12 are currently being upgraded and re-surfaced, as a result, the N12 is in good condition. The main road through Hopetown is a paved tar road but has many potholes, particularly around the entrance to the town. The roads in Steynville are gravel and appear to be in fair condition. The topography of the area and proposed PV site are characterised by a flat and gently sloping topography. The terrain slopes up towards dolerite koppies around Klein Kareelaagte to the southeast of the project site.

As per the Visual Impact Assessment, there have been no changes in land use for the proposed development site, no new developments have been constructed on or near the development site, and the land use zonation (agriculture) remains the same.

The main farm dwelling and labourer's cottages are located on the western portion of the site and are not part of the development area. There are a number of farm dams located on site. There is an existing 132kV overhead transmission line that traverses the site and links into an existing substation on the site. There is a railway line that traverses the site in a north-south direction. The fencing and gates on site are well maintained.

3.5.7. Cumulative Impacts

As indicated in **Figure 3-2** the Graspan PV Energy Facility is one of four similar projects that have been identified in a 30km radius namely the Brankfontein Solar Plant Project, Carodex Solar Park, and Solar Capital De Aar projects. The cumulative effect of these kinds of projects also has the potential to exasperate the negative impacts associated with the project considered in isolation. The increase in job seekers that are likely to be attracted to the region could result in numerous negative social impacts and would be multiplied considering other similar projects close by. This would likely increase risks such as security, and safety and put pressure on local resources and facilities.

Similarly, however, the cumulative effect of these projects is likely to significantly enhance the positive impacts related to the project such as an increase in direct and indirect job opportunities, and an increase in business opportunities for the local and regional area. Further, the increase in skills development and work experience. Lastly, the cumulative impacts related to clean energy production have relevance to stabilising the energy grid, as well as lessening the reliance on dirty energy-producing methods. The impacts related to the last have various implications for the health and socio-economic situation of the people of the local and regional community, if not further afield.

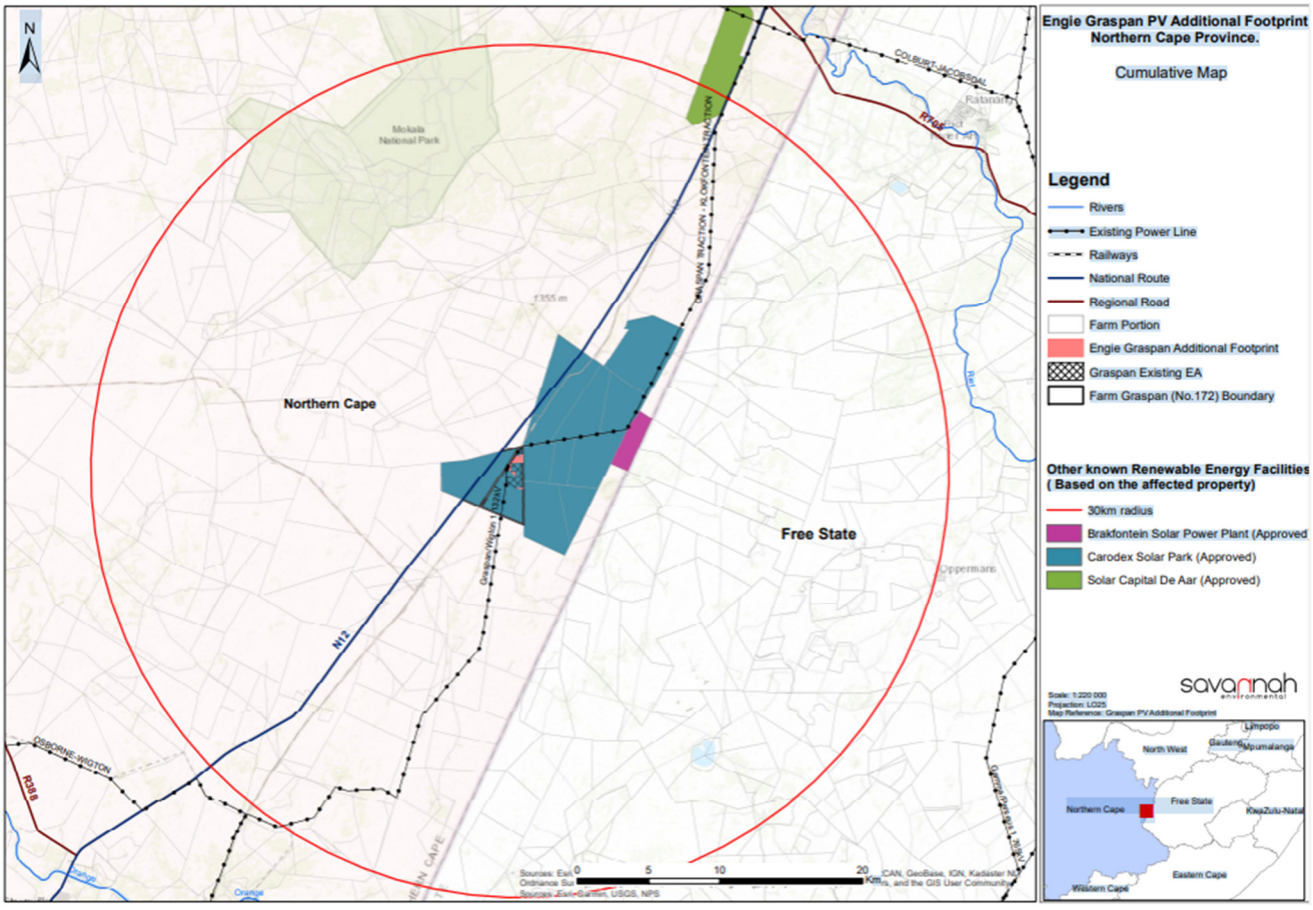

Figure 3-2: Cumulative Impacts Related to the Graspan PV Energy Facility

4. PREVIOUSLY IDENTIFIED IMPACTS

The Final Scoping Report and Environmental Impact Report released in 2012 as part of the original EA granted in April 2013, identified, assessed and suggested the mitigation/enhancement of the following Socio-economic impacts.

4.1. Construction phase

The 2012 Final Scoping Report identified the following potential impacts related to the project. During the construction phase, construction vehicles including delivery trucks and minimal excavation equipment may produce a slight increase in noise disturbance. Impacts are likely to be minimal due to the methods of construction to be used, i.e. poles will be hammered or rammed into the ground. Delivery vehicles may create some noise and vibration along access routes. The site, however, is located in a rural setting with few or no receptors considered sensitive within close proximity to the site. Increased noise levels are not anticipated during the operational phase of the development. Potential noise impacts will be addressed in the EIR and appropriate mitigation measures if considered necessary will be included in the Environmental Management Plan (EMP).

Limited dust generation may occur during vegetation clearance, transportation of materials for construction, cable trenching and the construction of buildings. Dust will be a temporary impact associated with the construction phase of the project. Taking into consideration the distance of sensitive receptors to the site, impacts from increased dust are not likely to be significant. No dust generation is expected to occur during the operational phase of the project, except for minimal dust created by maintenance vehicles along gravel roads, which is expected to be infrequent. Appropriate measures to manage impacts associated with dust generation will be developed during the EIA phase of the project and identified in the EMP, if necessary.

The 2012 Environmental Report identified and assessed the following impacts related to the project during the construction phase.

- The negative impacts on fauna due to noise, pollution, potential poaching and disturbance caused by construction activities will be of Minor residual significance.
- A negative visual impact will occur during construction as a result of the presence of construction vehicles, equipment and project components. This impact is considered to be of Moderate residual significance.
- The positive impact of the creation of direct employment and training opportunities, and for indirect employment and procurement for the local economy, will be of Moderate residual significance. The positive impact from
- induced economic benefits as a result of an increase in disposable income in the local economy will be of Minor residual significance. The positive impact of community investment through the Community Trust to be established is considered to be of Moderate-Major residual significance.
- During construction, the negative impact of inflation and an increased cost of living as a result of increased demand for goods, services and accommodation will be of Minor residual significance. The possible negative
- impact due to social nuisances, such as increased levels of crime, drug and alcohol abuse, increased incidences of sex workers, domestic violence, and the additional pressure on the existing infrastructure and services as a result of an influx of workers is considered to be Negligible. The potential negative impact on the socio-economic aspects of agricultural activities is considered to be of Negligible residual significance. Any potential impact on tourism is considered to be Negligible.

4.2. Operation phase

The 2012 Environmental Report identified the following impacts related to the project during the operation phase.

- The potential impact on the agricultural potential of the site due to the installation of the PV arrays and loss of land for agricultural purposes is considered to be of Negligible residual significance, primarily as a result of the low rated existing agricultural potential of the site.
- The negative visual impact of the PV power facility on the landscape is considered to be of Moderate residual significance.
- The negative cultural heritage impact on the landscape and sense of place due to the presence of the PV power facility in a currently rural and remote area is considered to be of Minor residual significance.
- The positive impact from the creation of direct employment and training, and for indirect employment and procurement for the local economy during operations is considered to be of Minor residual significance owing to the relatively lower number of job opportunities compared to the construction phase. The positive impact from induced economic benefits as a result of an increase in disposable income is considered to be of Negligible residual significance, due to relatively fewer jobs during the operational phase. The Moderate-Major residual significance for the positive impact of community investment derived from the establishment of a Community Trust will continue through the operational phase.
- The negative impact of inflation and an increased cost of living as a result of increased demand in the local economy for goods, services and accommodation is considered to be of Negligible residual significance. The possible negative impact of social nuisances, such as increased levels of crime, drug and alcohol abuse, increased incidences of sex workers, domestic violence, and the additional pressure on the existing infrastructure and services as a result of an influx of workers is considered to be Negligible. Any potential negative impact on the socio-economic aspects of a loss of agricultural activities during operations is considered to be Negligible. There will be a Negligible impact on tourism in the area.

4.3. Previously Recommend Mitigation and Enhancement Measures

The previous recommendations stated that The mitigation measures described were developed with a view to reduce the visual impact of the facility on the nearby battlefield and the negative impacts associated with the damage to or destruction of possible human remains on site.

Design Phase

- The proposed facility should not be visible from the koppies of the Graspan and Enslin battlefield, on the adjoining farm. Other considerations include visibility from the N12.

Construction Phase

- If any human remains are uncovered during the construction of the site, development should cease and SAHRA and HNC should be notified. SAHRA or HNC will investigate and propose a way forward.

Residual

The previous recommendations indicated that the proposed PV power facility is approximately seven kilometres from the Graspan and Enslin battlefield site. According to the visual specialist study undertaken, the PV power facility will be Hardly Visible from more than four kilometres away (see Annex H). Considering that the Graspan battlefield is approximately seven kilometres from the PV power facility it is unlikely that the PV power facility will be visible. It is not definite that the PV power facility will be hidden from all areas of the battlefield and there will be some impact on the general sense of place of the area. Therefore, the residual

impact significance remains Minor. If human remains are discovered on the Project site during construction, and the mitigation described above is followed, SAHRA will decide on appropriate

As the original report stated, ERM is confident that every effort has been made by the developer to accommodate the mitigation measures recommended during the EIA process to the extent that is practically possible, without compromising the economic viability of the proposed PV power facility. The implementation of the mitigation measures detailed in the report and listed in the Environmental Management Programme (EMP), including monitoring, will provide a basis for ensuring that the potential positive and negative impacts associated with the establishment of the development are enhanced and mitigated to a level which is deemed adequate for the development to proceed.

4.4. Cumulative Impacts

The previous EIA report noted the following:

Benefits to the local, regional and national economy through employment and procurement of services could be substantial should all the renewable energy facilities proceed. This benefit will increase significantly should a critical mass be reached that allows local companies to develop the necessary skills to support construction and maintenance activities and that allows for components of the solar energy facilities to be manufactured in South Africa. Over time, as businesses develop locally to meet the needs of the solar energy sector, levels of procurement may increase.

The potential for the proposed Graspan PV Power Facility and other future projects to result in greater impacts on the local and national economy as a whole is primarily dependent on economies of scale. Initially, import content will be high. However, if the sector grows in size it should provide opportunities for growth of the local supply chain and the additional benefits that would flow from this. The introduction of large numbers of PV plants could provide local economic opportunities for component manufacture, and with an appropriate industrial policy, it would be possible to leverage South Africa's relatively cheap steel resources. The distance from other international manufacturers will also present a competitive advantage, especially for less specialised large-scale components such as PV array support structures.

The cumulative impact in terms of loss of agricultural land could potentially be extensive due to the large land take required for PV solar plants and considering the number of plants planned in the Northern Cape. However, the agricultural potential of the land is classified as low and therefore these impacts are not considered to be significant.

As the original EIA report concludes the cumulative effects and benefits on various environmental and social receptors will occur to varying degrees with the development of solar power plants in the Northern Cape. The alignment of renewable energy developments with South Africa's National Energy Response Plan and the global drive to move away from the use of non-renewable energy resources and to reduce greenhouse gas emissions is undoubtedly positive. The economic benefits of renewable energy developments at a local, regional and national level have the potential to be significant. Should impacts be managed and appropriate monitoring implemented, cumulative effects on environmental receptors as a result of the proposed Graspan PV Power Facility are not considered to be significant.

4.5. Specialist Opinion on Previously Identified Impacts

B on the available secondary data sources, the demographics in the area are similar to the early 2010s, and the same can be said about the baseline economic data, service delivery access, and other facets of society. While there have been a few more solar developments in the area, the cumulative effect of these tends to have a positive impact on the environment and the social status of the area.

The author sees no reason to doubt or contradict the findings as laid out in the original EIA and Final Scoping Report that formed part of the EA authorized in April 2013. The author concurs with the impacts and ratings as identified. While mitigation measures were suggested for visual and cultural heritage impacts as a result of the project, other mitigating and enhancing measures were not clearly specified. While this is a shortcoming, it alone does not constitute a reason to dismiss the conclusions of the report regarding the socio-economic impacts of the report.

The rural nature of the project meant that few of the socio-economic indicators related to the project have significantly changed since the undertaking of the original EA. Similarly, no new communities or other developments have been established close to or on the project site. As such, it is unlikely that new social impacts have arisen, similarly, no changes to the original assessment ratings are likely.

The amendment would give the developers more time to bring the project to financial closure and thus for the impacts resulting from the project to occur. The Graspan PV Energy Facility is unlikely to result in permanent damaging social impacts and has the potential to result in significant positive impacts both as a lone project and cumulatively. The project will likely result in a number of socio-economic opportunities for the region, which in turn will result in social benefits. The positive cumulative impacts include the creation of employment, skills development and training opportunities, and downstream business opportunities. The cumulative benefits to the local, and regional economy through employment and procurement of services are more considerable than that of the Graspan PV Energy Facility alone.

4.6. Assumptions and Limitations

- It is assumed that information on the project and the proposed changes provided by Environmental Resources Management Southern Africa (Pty) Ltd is accurate and up to date.
- Based on the experience of the consultant there are no limitations that have a material impact on the social statement.

5. CONCLUSION

To conclude, the specialist assessed the proposed amendments and confirms that there is no significant change to the affected social environment or the scope and nature of the proposed project. Therefore, from a socio-economic perspective, there is no reason why the proposed amendment should not be authorised.

Cornelius Holtzhausen

Public Participation and Social Consultant
Email: publicprocess@savannahsa.com

APPENDIX A: EXTERNAL PEER REVIEW LETTER

EXTERNAL PEER REVIEW

SOCIAL IMPACT ASSESSMENT STATEMENT FOR THE PROPOSED AMENDMENTS FOR THE GRASPAN SOLAR PV ENERGY FACILITY

REVIEW REPORT

August 2023

Prepared by:

Dr Sithandiwe Khoza
Senior Independent Social Consultant

Pretoria, South Africa
(Cell) 071 350 3859
(E-Mail) sithandiwe.khoza@yahoo.com

INTRODUCTION

Savannah Environmental appointed Dr Sithandiwe Khoza to undertake an independent Peer Review of the Social Impact Assessment (SIA) Statement prepared for the proposed amendments for the Graspan Solar PV Energy facility in the Northen Cape Province of South Africa. This document presents the outcomes of the Peer Review of the mentioned statement.

The sub-sections below provide an overview on the terms of reference as provided by Savannah Environmental, the reviewing approach employed by the independent reviewer and independent reviewer's professional experience.

TERMS OF REFERENCE AND APPROACH

The terms of reference as provided by Savannah Environmental where to undertake an independent review of the SIA amendment statement for the Sannaspos Solar PV Project to ensure that the report meets the following;

- The general acceptable standards for technical report writing including the contents of the amendment document; and
- General acceptable standards for preparing SIA amendment statements.

The approach used by the independent reviewer entailed the following key aspects:

- Technical review, which entailed reviewing the following;
    - Structure and flow of the document;
    - Quality of the amendment document contents
- Approach used to prepare the SIA amendment statement

INDEPENDENT REVIEWER PROFESSIONAL EXPERIENCE

Dr Khoza is an independent social consultant with practical experience associated with undertaking Social Impact Assessments and associated review for quality assurance, a copy of Dr Khoza's CV has been attached as Annexure B. From 2013-2017, she has provided agricultural services to government beneficiaries in the agricultural sector with the mandate of improving food and nutrition security in rural communities. During this period, she has also conceptualized, implemented (using qualitative and quantitative research methods) and managed a number of socio-economic research projects, including Social Impact Assessments. From 2018-present, she has worked and currently works in the environmental consulting space providing social services to clients in Africa, who are in the financial, infrastructure, mining, energy and oil & gas sectors with the mandate of either obtaining environmental authorisation, obtaining investment funding from international financial institutions (*World Bank, African Development Bank and*

European Bank for Reconstruction & Development) or maintaining their environmental and social license to operate as per in-country legislation and regulations, while contributing positively to the local economic development of the communities in which they operate. As such, undertaking Social Impact Assessments (SIAs) is one her core skills.

FINDINGS OF THE PEER REVIEW

This section presents the outcomes of the review, taking into consideration the technical and adopted approach findings.

TECHNICAL FINDINGS

STRUCTURE AND CONTENTS OF THE DOCUMENT

- **Acronyms:** Some acronyms are missing from the list, update accordingly. Acronyms should be written in full; 1st use.
- **Executive summary:** The specialist should also mention that the proposed amendments trigger Part 1 amendments, also provide context on previous authorised project.
- **Numbering:** Not consistent, fix as indicated.
- **NEMA Regulations:** The specialist refers to Section 30 of the EIA regulations to motivate for a Part 1 amendment, however, Section 30 details the process and consideration of the application for amendment and decision. The specialist should refer to Section 29 of the EIA regulations instead.

AMENDMENT STATEMENT APPROACH

The approach adopted by the specialist is of an acceptable standard, the following is recommended for consideration;

Baseline data
The specialist has provided sufficient overview on the socio-economic profile of the study area. Although outdated sources are also used, it is assumed that this is the latest available data otherwise the specialist should consider revising the baseline to include latest data.

Previously identified impacts
The specialist refers to impacts as identified in the draft reports. The specialist should provide an overview of previously identified impacts as per the final reports (SIA/EIA/BA) which informed the granted Environmental authorisation.

Also, the specialist should remember that these are previously identified impacts, as such, the specialist should be mindful of the tense.

Previously identified mitigation measures

The specialist indicates that previously identified mitigation measures were not clearly specified but doesn't mention how this can be improved/ recommend measures which could be considered going forward.

The specialist should remember that these are previously recommended measures, as such, the specialist should be mindful of the tense.

Conclusion

The approach adopted by the specialist is of an acceptable standard, it is however recommended that the specialist should action the recommendations made by the independent reviewer.

ANNEXURE B: REVIEWER DETAILS/CV

Dr Sithandiwe Khoza
Senior Independent Social Consultant
Pretoria South Africa
(Cell) 071 350 3859
(E-Mail) sithandiwe.khoza@yahoo.com

Background

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EDUCATION

Higher education:

- PhD (Research), UKZN, 2018
- MA (Research), UKZN, 2015
- PGDip (Research), UKZN, 2014
- BSS Geography and Environmental Management, UKZN, 2013

Certificates:

- Sustainability Reporting with GRI standards 2021 update, 2023
- ESG (Environmental, Social and Governance), Corporate Finance Institute, 2021
- Certificate of Merit (Research methods), UKZN, 2015

EMPLOYMENT RECORD

2022-Present: Senior Independent Consultant

2022- Present: Zutari Pty Ltd, Senior Social Consultant

2020-2022: Senior Independent Consultant

2018-2020: Golder Associates Pty Ltd, Social Consultant

2018-2018: Digby Wells Environmental Pty Ltd, Social Consultant
2015-2017: Agricultural Research Council, Researcher
2013-2015: CEDARA FET college of agriculture of the KwaZulu-Natal department of Agriculture and Environmental Affairs, socio-economic development specialist

COUNTRY EXPERIENCE

South Africa, Democratic Republic of Congo, Angola, Ghana, Mozambique, Kenya, and Sierra Leone.

EXTERNAL PEER REVIEW

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Findings of the peer review

This section presents the outcomes of the review, taking into consideration the technical and adopted approach findings.

Technical findings

Structure and contents of the document

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Amendment statement approach

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