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SOCIAL IMPACT ASSESSMENT:

Sasol New Energy Holdings Solar Projects, Northern Cape

2012/08/13

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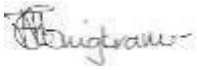
Signature				
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SOCIAL IMPACT ASSESSMENT:

Sasol New Energy Holdings Solar Projects, Northern Cape

2012/08/13

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List of Acronyms

CPV	Concentrated Photovoltaic
CSP	Concentrated Solar Power
FET	Further Education and Training
GWh	gigawatt hours
IDP	Integrated Development Plan
IFC	International Finance Corporation
IPP	Independent Power Producers
IPPPP	Independent Power Producer Procurement Process
IRP	Integrated Resource Plan
LM	Local Municipality
NIRP	National Integrated Resource Plan
SIA	Social Impact Assessment
SNE	Sasol New Energys Holding
SSP	Sasol Solar Projects
REFIT	Renewables Energy Feed-in Tariffs

Executive Summary

1. Introduction

Sasol New Energy Holdings (Pty) Ltd (SNE) is proposing to construct a solar power generation complex near Upington in the Northern Cape. WSP Environmental (Pty) Ltd (WSP) has been appointed by SNE to undertake a Social Impact Assessment (SIA) to determine the socio-economic impact of the proposed project.

SNE's proposed solar power generation complex consists of two facilities namely: a Concentrated Photovoltaic (CPV) facility, and a Concentrated Solar Power (CSP) Tower facility. These two facilities are proposed to be located adjacent to each other on the Van Roois Vley farm, near Upington in the Northern Cape. The SIA has, however, combined the two facilities as one 'project' and site for the purposes of assessing the overall impacts of the proposed projects. This is because both facilities are likely to have similar socio-economic impacts, and therefore, there is no advantage of assessing the facilities as separate entities. The facilities are therefore referred to from here onwards as the Sasol Solar Projects (SSP).

The objective of the SIA was to identify and assess potential impacts of the proposed SSP on the socio-economic receiving environment. The SIA aims to assess both direct and indirect impacts of the proposed project, and establish the significance of these impacts. The study has been undertaken in support of the Environmental Impact Assessment being undertaken for each of the facilities. In addition, the SIA has been conducted in accordance with the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability.

2. Potential Socio-Economic Impacts

Based on the information obtained through the SIA study, the proposed project is likely to have an impact on the socio-economic landscape of Upington and the surrounding towns and communities. The potential socio-economic impacts are likely to include:

IMPACT	SIGNIFICANCE[1] POST MITIGATION	POSITIVE/NEGATIVE
CONSTRUCTION PHASE IMPACTS		
A1. Employment opportunities and skills-base development	Medium	Positive
A2. Local economic development & business opportunities	Medium to High	Positive
A3. Disturbance to communities	Very Low	Negative
A4. Health and increase in communicable diseases	Very Low	Negative
A5. Safety and security	Very Low	Negative
A6. Nuisance (dust, noise, traffic)	Low	Negative
A7. Change in nature of area	Very Low	Negative
A8. Service provision	Low	Negative
OPERATIONAL PHASE IMPACTS		
B1. Employment opportunities	Medium	Positive
B2. Economic development and small business opportunities	Medium	Positive
B3. Change to employment patterns	Medium	Positive
B4. Visual impacts and change in sense of place	Medium	Negative

[1] **No Change**- A potential issue which was found to have no impact when evaluated; **Very Low** - Impacts will be site specific and temporary with no mitigation necessary, **Low** - Impact will have a minor influence on the biophysical and/or social environment, and will not have an influence on the decision; **Medium** - Impact will have a moderate influence on the biophysical and/or social environment, and it should have an influence on the decision unless it is mitigated; **High** - Impact will have a major influence on the biophysical and/or social environment, and would influence the outcome regardless of any possible mitigation

IMPACT	SIGNIFICANCE[1] POST MITIGATION	POSITIVE/NEGATIVE
CUMULATIVE IMPACTS		
C1. Development of employment and business opportunities	Medium	Positive
C2. Large-scale in-migration of people	Low	Negative
C3. Changes in tourism	Low	Negative / Positive
IMPACTS OF THE NO DEVELOPMENT OPTION		
▪ Loss of employment opportunities	Medium	Negative
▪ Loss of business development opportunities	Medium	Negative
▪ Loss of community development opportunities	Medium	Negative
▪ Maintenance of landscape (tourism and aesthetic value)	Medium	Positive
▪ Maintenance of sense of place	Medium	Positive

3. Key Recommendations

The following recommendations are highlighted as the key outcomes of the SIA study in order to mitigate and manage the socio-economic negative impacts and enhance the positive impacts of the of the proposed SSP. It should be noted, that as there are a number of solar project occurring within the area, there may be opportunities for SNE to undertake combine initiatives with other IPPs and Eskom, however existing initiatives were not identified during the SIA.

- Education and Awareness/Skills Development

It is recommended that SNE facilitate basic awareness training through local schools (e.g. Eksteenskuil Eilande, Soverby, Bloemsmond, McTaggerscamp, Curriescamp), tertiary education institutions (FET College), and community structures (Community Trusts, Ward councillors). This should be in the form of education materials, e.g. posters, information sessions and school trips to the solar facility.

- Local Economic Development

There are a number of opportunities for SNE to encourage growth and development of businesses within the study area, and beyond. The Kai! Garib Local Municipality (LM) indicated that opportunities, such as *waste recycling* and *tourism initiatives* would provide sustainable job creation.

It is therefore, recommended that SNE assess the SSP and identify opportunities for local business involvement. Other areas that have been identified through the SIA include:

- *Water pipeline construction;*
- *Water treatment facilities;*
- *Provision of construction materials; and*
- *Tourism facilities associated with the solar facilities.*

- Social infrastructure

A number of the communities within the study area lack basic services, including housing, water, and electricity. There is an opportunity for SNE to assist the LM In providing these services and infrastructure. It is recommended that SNE discuss opportunities with the relevant local authorities (within collaborative governance structures), such as:

- *Constructing housing for labour and staff (in conjunction with the LM), which would be handed over to the LM or relevant communities after construction phase has been completed;*

- *The provision of solar water heaters to disadvantaged communities to promote awareness of energy conservation; and*
- *Provision of health facilities at the SSP for the construction phase for staff (permanent and contract) to promote good health and health awareness programmes.*

- Development of a Community Trust

The development of community trusts is an effective tool for large corporations to assist local disadvantaged communities within the area of influence of a large-scale project, such as the SSP. The setting up of a Trust provides an opportunity for enhancing local socio-economic environment through targeting key disadvantaged communities. The Kai! Garib LM identified the McTaggerscamp Community as being in need of significant socio-economic development. It is therefore recommended that SNE, in collaboration with the LM, aim to set up a Community Trust with the McTaggerscampCommunity.

- Grievance Mechanisms

One of the key requirements of the IFC Performance Standards on Environmental and Social Sustainability is the implementation of a 'Grievance Mechanism' for the duration of the construction and operational phases of the project. This provides a means for the affected stakeholder to communicate any issues or grievances with SNE. The aim of this forum will be to[2]:

1) Receive and register external communications from the public;
2) Screen and assess the issues raised and determine how to address them;
3) Provide, track, and document responses (if any); and
4) Adjust the management programme to meet/respond to the issues raised.

It is recommended that a Community Forum be established, in order to meet the above requirement.

- Water Recovery Initiative

In a water-scarce environment, one of the key service provision requirements for the study area is potable water supply, especially to rural communities. SNE has the opportunity to assist the LM in providing additional water supplies to the local communities within the study area. This is through a water recovery programme.

4. Conclusions

The SIA has identified a number of key socio-economic impacts (both positive and negative) associated with the proposed SSP. These issues pertain particularity to the impacts for the surrounding land users (medium to high, negative), and the benefits to surrounding communities within the study area (medium, positive). Whilst it may not be possible to completely mitigate a number of the negative impacts (i.e. visual, change in sense of place, dust and traffic), these impacts may be offsetthrough provision of business opportunities and ensuring stakeholders are represented on the community forum. The key social benefits are likely to be the development of a Community Trust, small, medium and micro enterprises (SMME) opportunities, and education and awareness programmes. SNE has indicated that they are committed to social upliftment and providing the structures to contribute towards socio-economic development in the affected area. The overall impact of the proposed project could be of a medium positive significance, should these mechanisms be effectively implemented.

[2]IFC Performance Standards on Environmental and Social Sustainability (January, 2012)

1 Introduction

Sasol New Energy Holdings (SNE) is proposing to construct a solar power generation complex near to Upington in the Northern Cape. WSP Environmental (Pty) Ltd (WSP) has been appointed by SNE to undertake a Social Impact Assessment (SIA) to determine the socio-economic impact of the proposed project.

This facility is being investigated in response to the National Integrated Resource Plan (NIRP) and Integrated Resource Plan (IRP, 2010), which calls for the application of Independent Power Producers (IPP) through the Independent Power Producer Procurement Process (IPPPP) for the development of sustainable energy supply in South Africa. This process was initiated in 2009 to contribute towards the target of 10,000 gigawatt hours (GWh) of renewable energy supply by 2013.

SNE's proposed solar power generation complex consists of two facilities namely: a Concentrated Photovoltaic (CPV) facility, and a Concentrated Solar Power (CSP) Tower facility. These two facilities are proposed to be located adjacent to each other on the Van Roois Vley farm, near Upington in the Northern Cape. Each facility will make use of differing technologies to optimise the available solar energy at the site. SNE has applied for two separate Environmental Authorisations with the National Department of Environmental Affairs (DEA).The SIA has, however, combined the two facilities as one 'project' and site for the purposes of assessing the overall impacts of the proposed projects. This is because both facilities are likely to have similar socio-economic impacts, and therefore, there is no advantage of assessing the facilities as separate entities. The facilities are therefore referred to from here onwards as the Sasol Solar Projects (SSP).

1.1 Aim and Objectives

The objective of the SIA was to identify and assess potential impacts of the proposed SSP on the socio-economic receiving environment. The SIA aims to assess both direct and indirect impacts of the proposed project, and establish the significance of these impacts. The study has been undertaken in support of the Environmental Impact Assessment being undertaken for each of the facilities. In addition, the SIA has been conducted in accordance with the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability.

1.2 Description of the Proposed Project

Solar power technology involves the use of energy from the sun to produce electricity. A brief overview of the two solar power technologies proposed by SNE is provided below.

1.2.1 Concentrated Photovoltaic (CPV) Power

Solar energy can be harnessed via a semiconductor material within photovoltaic cells to produce electricity directly from the suns energy.

CPV technology differs from conventional photovoltaic (solar cells) technology in that it employs a lens to concentrate the suns energy onto the semiconductor material. Due to the size of the semiconductor material used in the CPV cell, accurate tracking of the sun's rays is critical to ensure maximum energy output during the course of the day. The CPV panels are thus mounted on a base that is linked to a computerised system that rotates the panels to track the sun. A CPV facility will typically include the following development components:

- Solar field;
- Connection infrastructure (transmission/substations);
- Access and internal roads;
- Services and resource requirements; and
- Other associated infrastructure.

1.2.2 Concentrated Solar Power (CSP)

CSP has been identified as having the lowest cost for large-scale solar-thermal power production. This technology involves the use of mirrors (heliostats) to reflect sunlight to a focal point (power tower receiver), thereby concentrating the sun's heat in one place. There are three main types of CSP technologies that have been developed and successfully implemented in various places around the world: the parabolic trough system, the central linear Fresnel system and the central receiver (power tower receiver) system (the preferred option for this project).

The proposed CSP facility, as described in Section 3.1.3, will typically include the following development components:

- Solar field;
- Power tower;
- Power block;
- Connection infrastructure (transmission/substations);
- Access and internal roads;
- Services and resource requirements; and
- Other associated infrastructure.

1.3 Alternatives

The Van Roois Vley site was identified by SNE as the most environmentally and technically suitable site.The alternatives have been considered in the EIA. The terms of reference for the SIA was to consider (1) the development on Van Roois Vley site and (2) the no development option.

The "No-Development" option considers the alternative of the development not taking place i.e. maintaining the status quo, in this case continuation of agricultural production.

2 Socio-Economic Profile

2.1 Regional Context

The proposed project is located within the Kai! GaribLocal Municipality (LM), within the Siyanda District Municipality of the Northern Cape Province (Figure 1). The site is located approximately 20km north-west of the town of Upington, on the border of the Kai! Garib and //Khara Hais Local Municipalities.

The Northern Cape is one of South Africa's largest provinces (~30% of total land mass); however, it has the smallest population of 1,096,731[3]. The population density of the province is therefore low (~2 people 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. Kimberly 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 ~47000) 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.

[3] *Statistics South Africa* 2011

The sparse, arid landscape is dominated by sheep and cattle rearing, and mining. 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, dried and preserved fruit.

The Siyanda District Municipality is located towards the north of the province, with the Orange River running near the southern border of the municipality, through the town of Upington. The region has a strong tourism component, which supplements the local economy, and comprises agri-tourism, adventure tourism, as well as scenic and historical tourism.

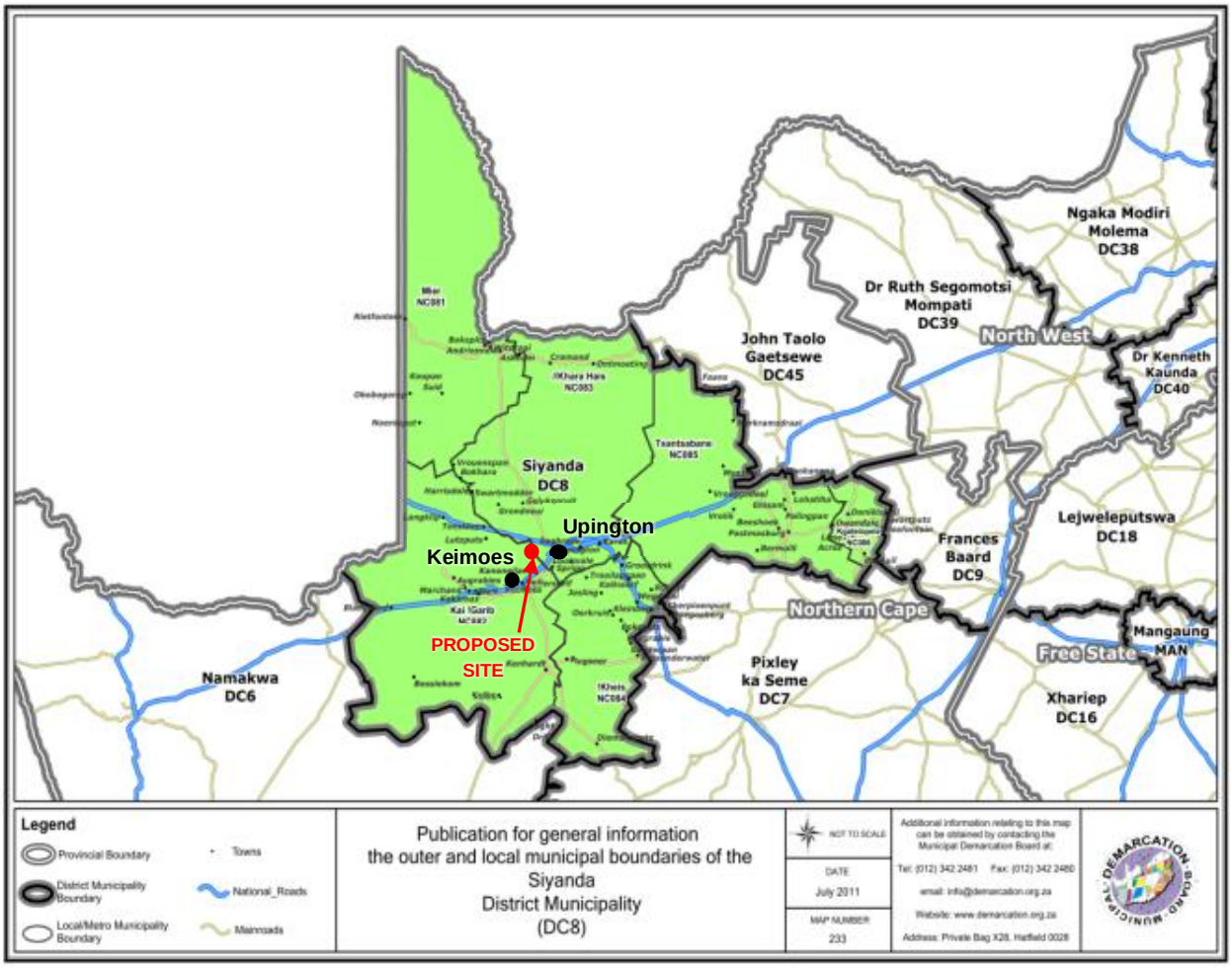


Figure 1. Location of proposed SSP site within municipal boundaries (Municipal Demarcation Board, 2011)

2.2 Local Context

The service levels within the //KharaHaisLM are relatively good, with the municipality providing the majority of households with waste removal, piped water and electricity[4]. This is likely to be due to the concentration of populations within urban areas (Upington) and the linear development corridor and farming areas associated with the Orange River. Education levels are characteristic of many South African municipalities, with 34% having some secondary schooling, 21% with high school qualifications, and 6% with tertiary education.

[4] *Statistics South Africa (2001) Census Data*

Employment is low by comparison with the national levels, with 35% of the labour force being unemployed[5]. The main employment sectors are: agriculture; wholesale and retail trade; community; social and personal services; and private households[6].

The Kai! GaribLM has a relatively lower service provision rate, when compared with the //Khara Hais LM. There is lower water, refuse removal and electricity provision. Many areas, such as the islands on the Orange River have no access to clean drinking water and areas like Blaauwskop and Bloukamp are provided water through water trucks[7].

This is likely to be a product of the local context, namely the predominantly rural nature of the area, dispersed population, and lack of a major urban centre. The education levels are also fairly low, with 14% having had no schooling, 10% with a grade 10, and only 2% with tertiary education. Employment levels are, however, higher than the //Khara Hais LM, with 82% of the labour force being employed (only 18% unemployment rate)[8]. The key economic sectors, in which the labour force is employed, are skilled agricultural sector (12%) and elementary occupations (63%)[9]. This is reflective of the low education levels and predominantly agricultural nature of the LM.

The site is located within Ward 8 of the Kai! Garib LM. The key urban areas in the LM are Keimoes (20km south west of the site) and Kakamas (50km southwest of the site). Ward 8 is comprised of six communities/areas namely: Eksteenskuil Eilande, Soverby, McTaggerscamp, Curriescamp, Blaauwsekop, and Kanoneiland. The Ward occupies the eastern corner of the LM, and is characterised by the semi-arid landscape, with the Orange River running through the centre of the Ward. The population is concentrated along the Orange River and on the islands in the river.

Upington and Keimoes are the closest urban areas to the site. There are a number of smaller rural communities in proximity to the site, including:

- Kalkstoot (17km south-west);
- Dysons Klip (20km south south-west); and
- Geelkop(20km south south-west).

The site is located in an area of extensive sheepand cattle farming, and has little connection to other features in the area, except for the national highway (N10) which runs near to the north-east border of the site. The N10 links Upington to Nakop on the Namibian border(approximately 100km north-west of the site). Key tourism features in the area include the Augrabies Falls National Park (60km south-west), the Kgalagadi Transfrontier Park (220km north and Upington and the Orange River (20km west and south respectively). The socio-economic impacts are therefore likely to be limited to the nearby towns, surrounding farmers and land owners, and users of the N10 highway.

2.3 Site Context

The site is located on a farm, Van Roois Vley, located approximately 20km north-west of Upington, between the N10 Freeway to Namibia, and the N14 freeway to Keimoes. The land is currently not used by the owner, although sheep grazing has occurred on the site in the past. The site has been identified as low agricultural value[10], and is approximately 18km from the nearest community (MountianView , near Upington). The site is surrounded by similar agricultural land, used predominantly for extensive sheep, cattle and game farming. Figure 2 provides map of the site in context with the surrounding land use, communities and towns.

[5] *Statistics South Africa (2001) Census Data*

[6] *Statistics South Africa (2001) Census Data. http://www.statssa.gov.za/publications/populationstats.asp*

[7] Kai Garib LM IDP, 2012

[8] *Statistics South Africa (2001) Census Data*

[9] *Statistics South Africa (2001) Census Data*

[10] SSI Environmental (2012)

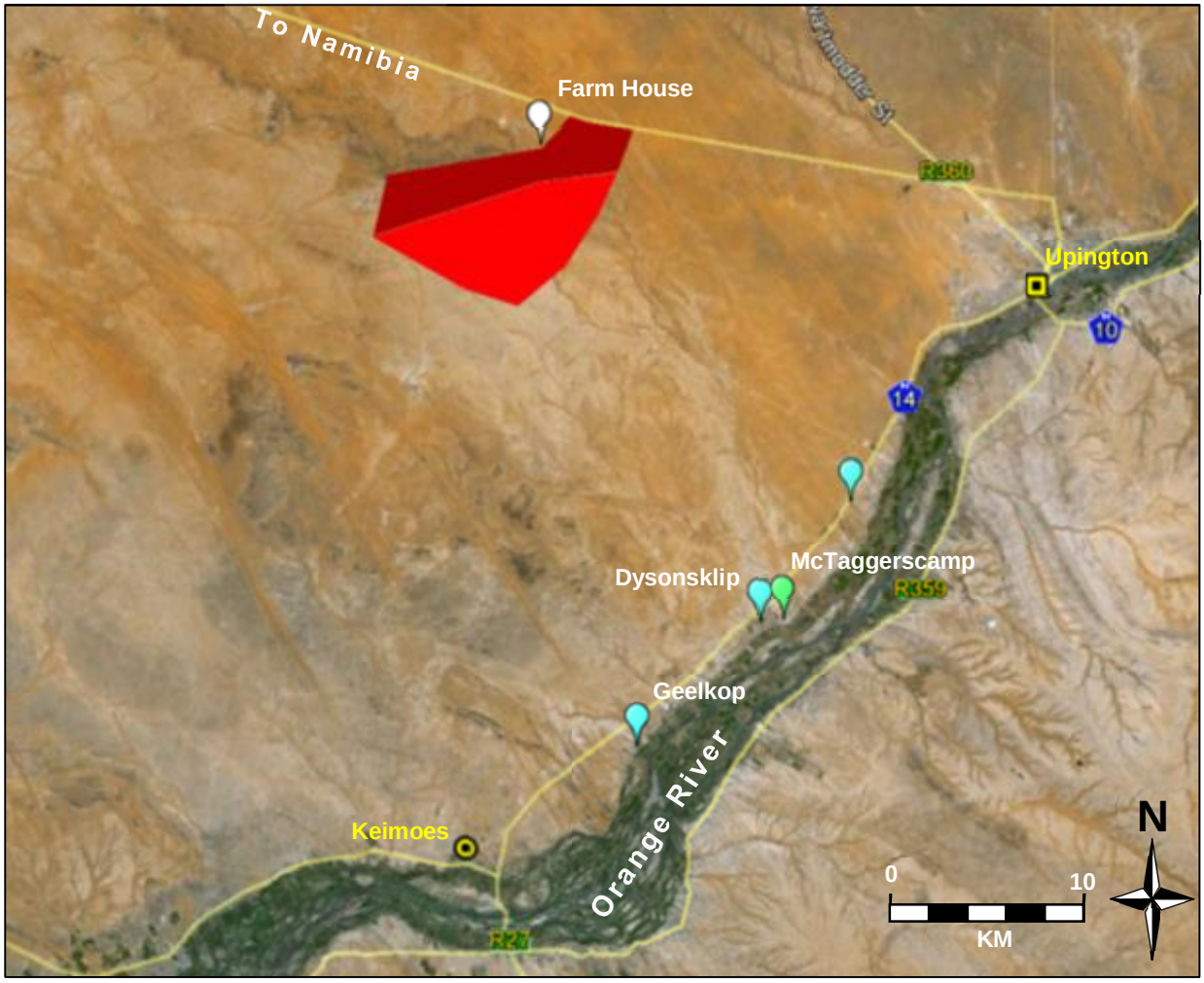


Figure 2. Location and surrounding communities of the SSP (Google Earth, 2012)

2.4 Surrounding Communities

2.4.1 Neighbouring Farmers

There are eleven land owners who are likely to be affected by the proposed project. WSP undertook a survey of these key stakeholders to determine the type of activities surrounding the site. An assets register of this community was not considered necessary, as the project is unlikely to directly affect the farm houses, vehicles, and equipment of these surrounding land owners and users. There is, however, the potential for the activities occurring on these farms to be impacted by the development. Table 1 provides an overview of the activities of land adjacent to the site. Appendix A provides an overview of the location of these farms in relation to the site.

Table 1. Activities register for surrounding land uses

Farm	Extent (ha)	Years (active on farm)	Activity	No. Employees
Van Roois Vley (Primary site)	15781	41	Livestock	4
Van Roois Vley (Adjacent)	15500	-*	Sheep	4
Colston	4000	65	Livestock	3
Rooisdam - west	9000	38	Livestock	2
Rooidam	6000	8	Livestock and game	2
Droogenhout 442/4	3000	11	Livestock	-*
Droogenhout 442/5	2000	-*	Droogenhout Crusher (surface mining)	27
Dysonsklip	5500	20	Sheep, cattle, game, vineyards	50-60
Geelkop	4700	23	Cattle	12-65
Rooipunt and Olyfenhout Farm	11000	-*	Cattle	-**

**Information not available*

***No labourers required on this farm (brought on from another farm)*

2.4.2 McTaggerscamp Community

Discussions with the local Ward Councillor (Ward 8) revealed that one of the key communities that should benefit from the proposed project is the McTaggerscamp community. This is a rural community located approximately 20km south of the site (Figure 2). This community is unlikely to be directly affected by the project, however aspects have been identified that could benefit this community. Appendix B provides detailed statistics of the skills, education and other aspects of the McTaggerscamp community. Key aspects include:

- Education/Skills Development
  - Many residents have Grade 12 Education; little/no tertiary education
- Employment
  - High rate of unemployment; lack in skills and experience.
- Access to potable water

  There is no formal water system in the community; the LM provides water by tankers.
- Access road to community
  - The current access road is highly degraded, and public transport (taxis) is not willing to drive to the community, therefore residents have to walk to the N14 (~2km) to get transport.
- Community clinic/healthcare facility
  - The closest clinic is located in Kalkstoot (6km away)

2.4.3 Blocuso Community Trust[11]

There are currently two Community Trusts which have been set up within the LM. These communities are unique to other communities within the LM, as they have assistance of the South African government. There have been significant improvements in social services and general conditions within these communities as a

[11]Kai Garib IDP, 2012

result of the trusts which have been established, although may still be affected by certain socio-economic issues, such as unemployment and lack of education.

The Blocuso community is located within the Orange River "green belt" within Ward 8 of the LM, and consists of three farms, namely: Bloemsmond, Curriescamp and Soverby. These farms were forcibly sold to White farmers in the early 1900s, and the previous workers became farm labourers. Between 1914 and 1934, the Independent church of Gordonia assisted the community is buying back these farms, and in 2000 the community was assisted by the government to purchase the farms from the church. This community consists of 466 families, who make use of government funds to provide basic services.

2.5 The Future of the Receiving Environment

The town of Upington is a small, but developing urban area, isolated from the major economic hubs within South Africa. According to the //KharaHais IDP, future development plans for the town include the development of the central business district and the secondary commercial areas in and around Upington[12]. The identification of the Northern Cape Solar Corridor (of which Upington is a part) as a key location for solar energy generation (in line with the IPPPP initiative), together with the existing business and service infrastructure at Upington and a key source of water (Orange River), is likely to result in large-scale change to the area.

A concentration of solar facilities within the Upington region could have a significant impact on the nature and size of the town of Upington, including industrial, business and related service growth. The growth of the solar sector in the Northern Cape, and the plans to develop Upington as a service and transport hub for the region[13], could result in the rapid expansion of the physical size of the town over the next 10 to 15 years. This in turn could push less advantaged communities away from the centre of the town. This sprawl is unlikely to be constrained, or significantly affect the surrounding land uses in the area, as there is sufficient land available for this level of growth[14].

3 Methodology

WSP have undertaken a SIA investigation in order to identify and assess the socio-economic impacts associated with the proposedSSP. A description of the SIA methodology is provided below.

3.1 Development of a Social Profile

In order to develop a social profile of the project area, WSP undertook a desktop review of existing information on the Upington and Kiemoes areas, and a site orientation visit was undertaken to verify desktop findings. The desktop review included consideration of the following documents:

- Siyanda District Municipality - Integrated Development Plan
- Kai! GaribLM - Local Integrated Development Plan
- //KharaHaisLM:
  - Local Integrated Development Plan
  - Spatial DevelopmentFramework
- The Arid Areas Programme Volume 1: District Socio-economic Profile and Development Plans (University of the Free State, Centre for Development Support)

[12] //KharaHais Spatial Development Plan: 2005 - 2012

[13] //KharaHais IDP

[14] //KharaHais Housing HOD, Pers. Comm.

In addition, the following data and information was reviewedto provide background information for the project area:

- Statistics South Africa Census 2001 data
- Statistics South Africa Community Survey, 2007
- Topographical Map (1:50 000) and aerial photography

An initial site visit was undertaken in order to establish the existing socio-economic landscape through ground-truthing and discussions with local authorities. Aspects observed included identification of local communities, spatial layout of communities and amenities, surrounding land uses. Meetings with local authorities provided insights into local socio-economic challenges, issues and priorities.

3.2 Data Collection

Primary data collection was deemed necessary to contribute to the evaluation of the potential impacts of the proposed SSP. Primary data was collected through a process of interviews with key local stakeholders so as to determine the magnitude and extent of the socio-economic impact at a local level. The aim was to obtain data which will assist with the identification and description of the key socio-economic issues and impacts associated with the project.

WSP developed a range of formal, open-ended questionnaires which were implemented through an interview process with the representatives of local organisations, authorities, land owners and other key stakeholders. All interviews and discussions were documented and kept on record for assessment and identification of the key socio-economic issues. The following stakeholders were consulted with:

- Kai! GaribLM
  - Town Planner
  - IDP Manager
  - Ward Councillor – Ward 8
- //KharaHaisLM
  - Environmental Manager
  - Housing - Head of Department
- Siyanda District Municipality
  - Environmental Manager
- Surrounding farmers

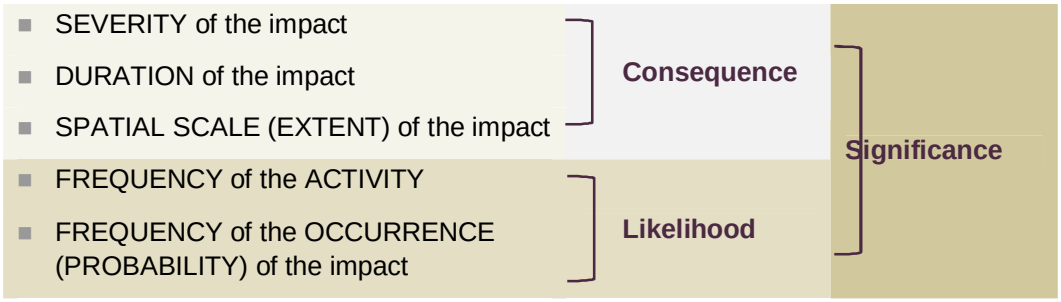
3.3 Data Analysis

The socio-economic issues were analysed from the information collected through the primary data collection and desktop phases. The issues would be considered in two streams. The first of these was the potential negative issues associated with the solar project and associated infrastructure. The second would be to look at the potential positive issues associated with the development.

In addition a sensitivity map showing those communities and/or resources that will be most affected by the proposed solar project, for example: - disadvantaged communities, potentially affected near-by towns, and the rating of the positive and negative impacts on these communities.

3.4 Impact Assessment

Potential socio-economic impacts associated with the project have been evaluated using a recognised risk assessment methodology. This methodology has been developed to ensure all procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment as set out in National Environmental Management Act (107 of 1998) 24(4b) are met. In addition, the impact assessment methodology must ensure that all information requirements of the EIA Regulations (2010) 22(2)(i) and 31(2)(l) are provided and it is aligned with the IFC performance standards. In order to assess the significance as objectively as possible, the following method has been used:



This system derives environmental significance on the basis of the consequence of the impact on the environment and the likelihood of the impact occurring, as described Appendix C.

3.5 Reporting and Recommendations

This SIA report provides a culmination of the above phases. The report includes an assessment of the key socio-economic impacts associated with the proposed project, as well as the “no development” alternative. The report makes recommendations for mitigation measures to be considered in the design and operation of the project. These recommendations are in line with the IFC requirements for social consultation, risk avoidance and management measures.

3.6 Study Area

The SIA study area is defined as the area over which the proposed project is likely to have influence. This area is therefore limited to a 30km radius of the site[15], and encompasses the two key urban areas, Upington and Keimoes, McTaggerscamp and other settlements discussed above, and the farms lands immediately surrounding the site. The SIA has not identified any socio-economic transboundary impacts, i.e. beyond the border of South African. Refer to Appendix B for a map of the study area.

3.7 Study Limitations

3.7.1 Secondary Data

The demographic data used in the development of the socio-economic context of this study was sourced predominantly from Statistics South Africa data. This included: Census 2001 (this is the most comprehensive set of population data available for South Africa at a Ward level); Community Census 2007 (limited information available); and the 2011 mid-year population predictions. This information was considered sufficient to inform this study. Community-specific information was obtained from the local ward councillor.

[15] The area of influence has been limited to 30km of the site, as although there are likely to be positive benefits on a national scale (economic, electricity supply, employment), the immediate area of impact is limited to the communities likely to benefit from the project.

3.7.2 Primary Data

Alimited number of municipal representatives were not available to partake in the study. Meetings were arranged with specific individuals; however they did not attend on the day. These individuals included ward councillors in charge of wards surrounding the site (the ward councillor for the site was consulted), and certain representatives of the two local municipalities. It should be noted, however, that key representatives were consulted during the SIA process (as above), and therefore the study is considered to be complete.

3.8 Specialist Details

Danielle Michel is a qualified social scientist with a Masters of Social Science in Environmental Management obtained from the University of KwaZulu-Natal in 2006. She has 4 years' experience in social assessment. Refer to abridged CV in Appendix D.

Hilary Konigkramer is a qualified social scientist with a Bachelor of Social Science Honours in Environmental Management obtained from the University of Natal in 1998. She has 10 years' experience as a consulting social and environmental scientist. Hilary has undertaken a number of SIA studies over the past few years. Refer to abridged CV in Appendix D.

3.9 Declaration of Independence

Please refer to Appendix E for the Declaration of Independence form

4 Socio-Economic Assessment

4.1 Alignment with Policy and Planning

4.1.1 National

In response for an increasing need for energy for industry and economic development across South Africa, the national Department of Energy initiated the renewable energy policy to subsidise the existing coal-fired energy production, which currently dominates South Africa's energy production. As a result, the Renewables Energy Feed-in Tariffs (REFIT) policy was developed and the National Integrated Resource Plan (NIRP) and Integrated Resource Plan (IRP2010), incorporating the IPPPP. This process was initiated in 2009 to contribute towards the target of 10,000 gigawatt hours (GWh) of renewable energy supply by 2013.

An integral part of this of this policy is the socio-economic benefits of the renewable energy and the development of renewable power generation plants, including:

- Social benefits of reduced pollution concerns, improved human and ecosystems health, and climate conscious and sustainable development[16];
- Back-up supply for social services centres, schools, clinics, telecommunications, and small businesses and other such facilities vital for poverty alleviation and socio-economic development[17];
- Allowing for an equitable platform for IPP's to qualify for the generation of renewable energy;
- Employment opportunities for local communities (3.5 jobs – related to construction, manufacture and installation - per megawatt for CSP)[18]; and

[16] National Energy Regulator of South Africa (29 March 2009) South African Renewable Energy Feed-in Tariff (REFIT): Regulatory Guidelines

[17] National Energy Regulator of South Africa (29 March 2009) South African Renewable Energy Feed-in Tariff (REFIT): Regulatory Guidelines

- Opportunities for local economic development, with 45% local content (as per qualifying criteria for the third phase of IPP procurement process)

The above aspects are driven by past and present policy and legislation developed for the governing and guidance of energy generation within South Africa. These include:

1) *White Paper On The Energy Policy (December 1998):* - which indicates that the government has committed to "the promotion of access to affordable and sustainable energy services for small businesses, disadvantaged households, small farms, schools, clinics, in our rural areas and a wide range of other community establishments".
2) *White Paper on Renewable Energy (November 2003):* - supports the White paper on Energy Policy and sets out the government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa.
3) *The National Energy Act (34 of 2008):* - which promotes the diversification of the supply of renewable energy and its sources, including the development of solar, in the support of economic growth and poverty alleviation.

4.1.2 Provincial

The Northern Cape Provincial Growth and Development Strategy (2004 – 2024) (NCPGDS) highlights the key challenges and priorities for reducing poverty within the province. The NCPGDS identifies key objectives for growth and development as:

- Promoting growth, diversification and transformation of the provincial economy; and
- Poverty eradication through social development.

The key sectors, identifiedfor the promotion of growth and development, are:

- Agriculture and Agro-processing;
- Fishing and Mari culture;
- Mining and mineral processing;
- Manufacturing;
- Tourism;
- Knowledge Economy (including BPO&O); and
- Energy.

In order to promote sustainable economic development in these sectors, however, the NCPGDS notes that the following aspects need to be promoted:

- Creating opportunities for lifelong learning;
- Improving the skills of the labour force to increase productivity; and
- Increasing accessibility to knowledge and information.

This is of particular relevance to the SIA, as there may be development opportunities for the above aspects, which could be promoted through recommendations of the SIA.

[18] Edkins, M.; Marquard, A.; and Winkler, H. (2010) South Africa's renewable energy policy roadmaps: Final Report – June 2010, For the United Nations Environment Programme Research Project. Enhancing information for renewable energy technology deployment in Brazil, China and South Africa

4.1.3 District Municipality

The Siyanda District Municipality (DM) provides a local context for the national and provincial strategies for development. In accordance with the National Spatial Development Perspective[19], the Siyanda District area has been classified as a "medium" importance area which means that no significant national government investment is concentrated in the region.

The IDP identifies that through the Accelerated and Shared Growth Initiative for South Africa (AsgiSA), national government is planning to invest an estimated R372bn in economic growth through focussing on releasing prohibiting factors for economic growth. The "mega-projects", which have been identified on a national level, for the Northern Cape include[20]:

- A diamond and gemstone jewellery project in the Northern Cape;
- A biofuels initiative; and
- A national livestock project.

These projects, however, are unlikely to impact on the urban economy of the DM[21]. The lack of national frameworks for the DM is highlighted within the IDP, which indicates that it would be beneficial for the DM to locate itself strategically as a transport and service hub for the northern region of the country.

The IDP identifies the key priority needs for the local municipalities. These are as follows:

Kai! GaribLM

1. Lack of proper Housing
2. Crime, Drug and alcohol abuse
3. Lack of water, electricity, sanitation and sewerage, roads and storm water
4. Lack of proper internal and external communication
5. Lack of municipal capacity to implement the IDP and provide proper services
6. Increase in HIV/AIDS Poverty and unemployment
7. Lack of sport and recreational facilities
8. Lack of proper and sufficient health services to all communities

//KharaHaisLM

1. Poverty and unemployment
2. Sewerage and Sanitation
3. Road and Transport Infrastructure
4. Water
5. Electricity
6. Lack of proper housing
7. Lack of proper communication between government and communities
8. Lack of sport and recreational facilities and services
9. Lack of sufficient and proper health services and facilities to all communities
10. Increase in HIV/AIDS

Despite the general acknowledgement of these issues, the DM has not identified any of the communities within the study area as priority areas. These aspects could, however, be served by the implementation of effective socio-economic plans through the proposed project within the study area.

4.1.4 Local Municipality

The Kai! Garib LM has identified the following threats to growth and development within the municipality:

[19] Siyanda District Municipality, Integrated Development Plan, 201/11 - 2012

[20] In addition, the National Government has identified the Northern Cape as a key area for the establishment of solar parks. The project is a partnership between government, state power utility Eskom and the Clinton Climate Change Initiative, and is proposed to involve various IPPs. This has not been identified in the DM IDP.

[21] Siyanda District Municipality, Integrated Development Plan, 201/11 - 2012

- Social Issues in communities, i.e. unemployment, Drug and alcohol abuse, crime and HIV/AIDS;
- Constraints that directly impacts on the growth of the agricultural sector, i.e. poor road infrastructure;
- Upington attract economic activities and developers hesitate to develop in surrounding areas;
- Low population density;
- Low levels of skills development; and
- Heavy floods that destroy agricultural sector.

The IDP identifies the following issues for the LM:

1. Lack of proper housing / existing informal settlements/ Lack of Land Ownership
2. Lack of Basic Services
3. Poverty & Unemployment, Lack of youth development and social issues contributing thereto (Local Economic Development) / Lack of farming land/ commonage
4. Lack of proper internal and external communication (Good Governance)
5. Lack of Municipal Capacity to implement the IDP and provide basic services
6. Lack of sport and recreational facilities and services
7. Lack of sufficient and proper health services (HIV/AIDS)

The IDP acknowledges the development and suitable physical environment for solar power generation to be located within the LM. The area is becoming increasing known for the availability of land for industrial and business development, as well as land for solar power facilities. The IDP supports this through the need for sustainable development planning and stimulating the local economy through utilising local resources and creating sustainable job opportunities.

4.2 Potential Socio-Economic Impacts

Based on the information obtained through the SIA study, the proposed project is likely to have an impact on the socio-economic landscape of Upington and the surrounding towns and communities. The potential socio-economic impacts are likely to include:

A. Construction Phase Impacts

A1. Employment opportunities and skills base development

A2. Local economic development opportunities

A3. Disturbance to communities

A4. Health and increase in communicable diseases

A5. Safety and security

A6. Nuisance from noise, dust, and traffic disturbance

A7. Change in nature of area

A8. Service provision

B. Operational Phase Impacts

B1. Employment opportunities

B2. Change to employment patterns

B3. Economic development and small business opportunities

B4. Visual impacts and change in sense of place

C. Cumulative Impacts

C1. Development of employment and business opportunities

C2. Large-scale in-migration of people

C3. Changes in tourism

A. Construction Phase Impacts

A1. Employment opportunities andskills base development

Background:

It has been indicated that approximately 600 jobs (highest peak, with numbers varying throughout the construction phase) are likely to be created during parts of the construction phase of the solar facilities.This is likely to provide a limited number of job opportunities to the local communities, as there are limited skills available at the local level. Labour may, therefore, be sourced from outside the Northern Cape.

The degree to which labour opportunities and associated downstream economic impacts provide local stimulus to the economy is based on, among other things the following[22]:

- The number of construction workers recruited locally;
- The degree to which value added services can be locally sourced;
- Where the additional people would be accommodated;
- The existence of sufficient accommodation and related facilities for these people;
- The rate of influx of persons due to construction activities and whether it will be a phased-approach; and
- The timeframe of the construction phase.

Impact Statement:

Employment associated with the construction phase of SSP is limited to a period of 24-36 months.The extent is likely to be predominantly at a national level, with a moderate severity, medium-term duration, a high rate of probability. The overall impact is therefore likely to be of medium significance. The opportunity for providing employment on a local and regional level is likely to have a ***low, positive impact*** on the local economy and socio-economic environment.

Mitigation:

- Employment of local labour

It is SNE's intention to employ local labour, in line with the IPP requirements. This is likely to have a positive impact on local communities and have downstream impacts on household income, education, and other social aspects.

- Skills development

With the implementation of specific skills training for local communities, however, SNE has the opportunity to develop local employee potential. These costs could be offset against the cost of relocating people from outside the region (i.e. higher labour costs, transport, relocation costs, etc.). In addition, it was highlighted that awareness training for the youth would assist in vocational guidance and the long-term development and skills base in the region. This is crucial to the long-term

[22]Adapted from Kathu Solar Project SIA, 2010.

development of skills and education in the area, as firstly, there is no university in the region (the only high-education institution is the rural Further Education and Training college in Upington), and secondly, the youth are not aware of what training they require to make use of the employment opportunities offered by the SSP. These skills would be transferrable to other sectors, and potentially result in long-term employment, beyond the construction phase, resulting in a high significance rating and a medium positive overall impact

Overall significance:

With the implementation of the above mitigation measures, the overall significance could be increased to ***medium, positive impact***, especially for the local communities and economy.

A2. Local economic development opportunities;

Background:

There are likely to be opportunities for local businesses to provide services and materials for the construction phase of the SSP. The degree to which local business opportunities and associated downstream economic impacts provide local stimulus to the economy is based on, among other things the following[23]:

- The degree to which value added services can be locally sourced;
- The level of assistance SNE can provide in setting up these businesses;
- The level of assistance SNE can provide skills and awareness training provided;
- Planning and accommodation of industry development by the LM;
- The economic feasibility of sourcing materials and manufacturing components locally.

Currently, however, industry and businesses in the Upington and Keimoes areas are limited to agricultural, light industry, small-scale construction and tourism related sectors. The increase in demand for new materials and services by the SSP may stimulate business and local economic development. The introduction of a large-scale manufacturing that is likely to be required for the construction phase of the SSP will require local investment, which could be facilitated by SNE.

Impact Statement:

The severity of the impact is likely to be moderate, as there is likely to be a direct increase in industry and indirect increase in secondary businesses, e.g. services, hospitality, etc. The impact is limited to the medium-term (construction phase only), and has a regional influence, as locally sourced materials and services will be limited, but could impact the Northern Cape. The overall likelihood is high, as SNE is required to use 45% locally sourced materials and services, in line with IPP requirements.

Business and local economic development is likely to be a ***medium positive impact***associated with the proposed SSP. As it will be a local extent, with some regional and national level opportunities, and is likely to have a high significance in terms of the local economic development.

Mitigation:

Thispositive impact of the construction phase business development could therefore be extended beyond the construction phase by implementation of enhancement measures, such as:

1) Ensuring that contractors have a local SMME policy and they act upon this policy;
2) Investment in local business development; and
3) Partnering with, or at least obtaining cooperation, from the local and district municipalities.

Overall significance:

The implementation of the above aspects could increase the impact to ***medium to high significance***.

[23]Adapted from Kathu Solar Project SIA, 2010.

A3. Disturbance to communities

Background:

The construction phase is likely to lead to the influx of workers from outside the region. This could lead to social conflict over the resources and employment, and between those perceived as 'local' and 'foreign' communities and individuals. This in-migration may also have an impact on the LM and their ability to service additional people within the immediate areas (Upington, Keimoes, and communities along the Orange River in between the two centres).

Impact Statement:

This impact is likely to be limited to the construction period, and local communities surrounding the site, but is could result in a moderate severity on a daily basis, and is probably going to occur. The significance is therefore likely to be a ***low, negative impact*** if not managed effectively.

Mitigation:

Mitigation to reduce this issue could include the formalisation of housing and services for the outside labourers, and the prioritisation of local labour through contractor policies and implementation of these policies.

Overall significance:

The mitigation described above could reduce the overall significance of the impact to a ***very low, negative impact***.

A4. Health and increase in communicable diseases

Background:

The influx of labour to an area such as Upington and surrounding communities could potentially have a negative impact on their general health status. This may include communicable diseases, such as:

- *Tuberculosis (TB) – spread through living in close and unsanitary quarters; and*
- *HIV/AIDsand other sexually transmitted diseases – spread through influx of male labourers and potentially an increase in the number of sex workers in the area.*

The impact on the existing communities could be fairly high if mitigation is not put in place.

Impact Statement:

The impact is likely to be significant in severity, as this may affect a portion of the population, but not all communities, and be limited to the construction phase. The influence of the impact is likely to go beyond the boundary of the site (local communities), however, is unlikely to have a regional impact, but could have a daily impact on these communities. The probability of the spread of communicable diseases is medium, as health issues are likely to be limited to disadvantaged communities. The overall significance is therefore likely to be ***medium, negative impact***.

Mitigation:

Mitigation could include health and safety measures included in the contractors' terms of reference, to be included in a Health and Safety Plan and communicated to the labour force[24]:

- The Contractor should, in consultation with local HIV/AIDS organisations and government structures, design and implement HIV/AIDS awareness and prevention campaign. This campaign should use various common practice methodologies in order to ensure social and cultural sensitivity;

[24]Adapted from Kathu Solar Project SIA, 2010.

- The Contractor should make HIV/AIDS awareness and prevention program a condition of contract for all suppliers and sub-contractors;
- The Contractor should provide free condoms to all workers. Condoms should be located in the bathrooms on the construction site;
- The numbers of condoms made available should be calculated using the numbers of employees resident at each site as a basis;
- A Voluntary Counselling and Testing program should be introduced during the construction phase and continued during operations; and
- The Contractor should undertake a HIV/AIDS 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 strategy. When and if statistically representative results are obtained then the results of the survey should be made available to management and workers at the same time. Results should be presented as statistical returns that ensure confidentiality.

Overall significance:

The mitigation described above could reduce the overall significance of the impact to a ***very low, negative impact***.

A5. Safety and security

Background:

Safety and security is a key potential impact of the proposed project for local stakeholders, especially the immediately surrounding landowners and farmers. This is mainly due to the rural (and therefore unmonitored) nature of the area. In addition, local farmers have raised the issue that the influx of labourers from outside the area may result in an increase in petty crime, such as stock theft, and may be a threat to female residents.

Impact Statement:

This is likely to only be for the duration of the construction phase, and only affect the area immediately surrounding the site. The frequency and probability are moderate, as this impact is likely to be a sporadic issue during the construction phase and as stakeholder perception may be higher than the actual risk. The overall significance is therefore ***low, negative impact***, however, could become more significant if unmitigated.

Mitigation:

Measure to reduce safety and security risk would include the following[25]:

- The construction sites should be fenced off to prevent access into these sites;
- Fencing is to be inspected weekly and maintained properly until closure;
- Trespassing on neighbouring properties must be forbidden and measures to incorporate transgression into a disciplinary code must be taken and explained to the workforce;
- The Contractor is to ensure that signs, which should be pictorial and in the vernacular, are erected on all boundary fences warning against entering the construction area; and
- Public awareness programmes should be developed by the Contractor with the community to identify areas of particular risk and approaches to reduce risk. This is expected to include awareness programmes at schools along roads leading to the site to advise children of the dangers of traffic as well as other frequent users.

Overall significance:

[25]Adapted from Kathu Solar Project SIA, 2010.

The mitigation described above could reduce the overall significance of the impact to a ***very low, negative impact***.

A6. Nuisance from noise, dust, and traffic disturbance.

Background:

In accordance with the noise, traffic and air quality specialist study reports[26], the proposed construction phase is likely to have a number of impacts on the area immediately surrounding the site, as well as on the neighbouring farms. Discussions held with neighbouring land owners indicated, that the majority of them are not particularly concerned. This is with the exception of one farmer whose house is located 2km north of the proposed site. The visual, dust and noise intrusion may have a direct negative impact on his family and quality of life.

Impact Statement:

This nuisance is limited to the construction phase, but is highly likely to occur. The significance is therefore fairly high, as the area is typically a quiet, extensive farming community, with very little construction, industrial or other activities occuringwithin this landscape. The overall significance is therefore likely to be a ***medium, negative impact*** in terms of nuisance from the construction phase.

Mitigation:

The impact could be mitigated by implementing the recommendations provided in the specialist reports[27], however is unlikely to be mitigated below a low impact in general.

Overall significance:

Should the recommendations provided by the specialist studies be implemented during the construction phase, the overall significance could be reduced to a ***low, negative impact***.

**It must be noted that the specialist studies referred to above had not been completed at the time of this report, and will be verified once the studies have been completed.*

A7. Change in nature of area

Background:

The proposed site is located in a rural area, dominated by extensive agriculture, and scenic landscapescharacteristic of the Karoo and Orange River environments. The construction of a large facility, such as the proposed SSP, is likely to have an impact on the nature of the area. This could result from a number of aspects, including:

- Permanent:
  - Visual (the increase in number of vehiclesand people in the area, change in landscape, erection of the tower); and
  - Expansion of the local towns and communities (increased industrial activities, housing and number of people moving into the area).
- Temporary:
  - Noise and traffic increase (construction machinery, vehicles, construction activities); and
  - Migrant labour (social implications, housing and service needs).

Impact Statement:

[26]WSP (2012); WSP (2012); WSP (2012); Visual Resource Management Africa (2012)

[27]WSP (2012); WSP (2012); WSP (2012); Visual Resource Management Africa (2012)

A change in the nature of the area will probably to have a moderate impact the local communities over the construction phase, and may also have a secondary impact on the tourism in the Upington area. The significance of the change in nature of the area is, therefore, likely to be ***low, negative in impact***.

Mitigation:

Good planning at a local and district municipal level, by SNE and its contractors, as well as and effective management procedures may assist in curbing the overall impact on the change in nature of the area.

In line with IFC standards, a grievance mechanism, such as a community forum, is recommended, to ensure that any issues raised by stakeholders are heard by SNE (or relevant contractor), and addressed in the most appropriate manner to mitigate the impact on these stakeholders. It is thought that the key communities involved in this forum would be the surrounding farmers and communities in Upington, Keimoes, McTaggerscamp, Bloemmond, etc. Refer to Section 5.2.1 for further details on grievance mechanisms.

Overall significance:

The above mitigation measures could minimise the impact, to ***very low, negative level***. However, even if the impact is constrained to the project site, and visual, noise and service impacts are managed in the region, there is still likely to be some impact, as this is an unavoidable consequence of the development in an area of this nature.

A8. Service provision

Background:

During the construction phase, it is likely that a large number of people will be required on site and for the business that will service the project. This is likely to have a secondary impact on the provision of services to local communities.

Currently the LM has difficulty meeting the demand for housing and services, including waste removal, water and electricity provision. The influx of people and economic development to the Upington and surrounding areas is likely to put additional pressure on local resources, which could become a permanent impact for the local communities if not managed effectively. Without mitigation, this impact could cause significant impact on local communities. There is, however, an opportunity for the project to alleviate some of these impacts in the short and long term.

Impact Statement:

The level of severity of this increased pressure could have a moderate impact on local communities within two local municipalities, which could extend beyond the lifespan of the SSP, as labourers will require housing and services during the construction phase. This pressure on service provision, which could have a daily impact on communities, is highly likely to occur given the current state of service provision in the local municipalities. The potential significance is therefore likely to be a ***medium, negative impact*** before mitigation.

Mitigation:

Alleviation of service pressure could be achieved through a number of means.

1) Community Trusts

- The development of Community Trusts within identified local communities (specifically the McTaggerscamp community, as identified by the LM) could assist with the provision of services, housing and skills training. Refer to Section 5.2.2 for further details on Community Trusts.

2) Housing

- Should labourers be required to be housed in Upington (one potential scenario), SNE (or their relevant contractor) have an opportunity to discuss opportunities with the LM to provide formal housing for labourers, which could be handed over to the municipality to manage in the long-term (post-construction). The LM has indicated that they would be willing to provide land for housing,

as this is available. There are, however, no services to many of these areas. These would have to be put in place by the relevant contractor. It may also be possible to enter into a "joint-venture" arrangement with the municipality to meet these housing needs.

3) Services

- Service provision for the SSP during construction would need to be provided by SNE, or relevant contractors. There are opportunities to form cooperative agreements with surrounding farmers. And other businesses in the area, to provide services such as water, waste removal and sewage disposal/treatment. This was indicated by stakeholders during the SIA study. These services could also be offered to neighbouring communities in order to alleviate pressure on service delivery in the rural area of the local municipalities.

Overall significance:

The mitigation described above could reduce the overall significance of pressure of service delivery to a ***low, positiveimpact***, and thereby improving conditions in the local area.

B. OPERATIONAL PHASE IMPACTS

B1. Employment opportunities

Background:

During the operational phase the impacts of the project will be more noticeable on the wider environment than on the local environmental. It is unlikely that the project will provide a significant number of jobs during the operational phase but the jobs that are provided will probably be of a high level maintenance and on-going management variety.SNE has indicated that these jobs are likely to be fulfilled by people from outside the area, possibly relocated from other Sasol operations. In total, approximately 60 jobs are likely to be created during the operational phase. These are likely to be mainly management and maintenance level opportunities, with limited unskilled and semiskilled jobs created for the cleaning and security aspects of the facility.

Impact Statement:

The severity of this impact, although positive, is likely to be negligible, as the numbers of opportunities are small. The management and maintenance jobs are likely to be sourced predominantly from outside the study area however there may be opportunities for local residents to be in low-skilled jobs, such as security and cleaning. These are likely to be long-term opportunities, and definitely will be required in order to operate the facility. The overall significance is therefore likely to be a ***low to medium, positive impact***.

Mitigation:

Although this is positive impact on the regional/national economy, it is likely to be of low significance to local communities. Although it is unlikely to change the overall impact, SNE could initiate a local educational and awareness programme to potentially develop skills within the local area required for operational phase jobs over the next five to ten years. Implementing skills development policies through contractors would provide for a more stable workforce with greater employment possibilities.

Overall significance:

The overall impact remains at ***medium, positive impact***, despite mitigation discussed above.

B2. Economic development and small business opportunities

Background:

The SSP is likely to require additional services during its operational phase. There are therefore likely to be opportunities for local businesses to enter the market and grow, where this would not have been possible previously.

Impact Statement:

This is likely to have a regional impact for the Northern Cape, as tertiary service sector improves over time, with a moderate severity over the long-term. Although this is likely to occur, as support businesses will be required for the operation of the project, the extent to which this alters the local economy is dependent on a number of factors. The significance is therefore likely to be a ***low, positive impact***.

Mitigation:

This positive impact of the operational phase for business development could be improved by implementation of enhancement measures, such as:

- Ensuring that contractors have a local SMME policy and they act upon this policy;
- Investment in local business development; and
- Partnering with, or at least obtaining cooperation from, the local and district municipalities for planning business development in the local municipalities.

Overall significance:

If the above measures and their implementation are optimised, there is the potential for the impact to be a ***high, positive*** one.

B3. Change to employment patterns

Background:

There is potential for the change in nature of the businesses, and economic development in the area to give rise to a change in nature of employment patterns in the area. The potential economic investment, business development in the area, and an overall awareness of different types of employment opportunities could result in people changing employment sectors. This could be from the currently predominantly agricultural based sectors to manufacturing and even tertiary services sectors, although agriculture is likely to remain as the dominant sector in the region. This may impact the agricultural sector in the short-term, however, there is high unemployment in the area, and therefore unskilled and semi-skilled agricultural opportunities could potentially be replaced from the unemployed labour force.

Impact Statement:

The overall impact is therefore likely to be positive, as the local economy should adapt to absorb this change in sectors. The severity is therefore likely to be minor, as the change in the type of employment is not likely to have a significant impact on the socio-economic environment. The impact is likely to last beyond the lifespan of the project, as changes in employment patterns are likely to be permanent due the up-skilling of communities, both locally and regionally. The likelihood of this occurring is high, as past events of development in the area (e.g., road construction) has shown that people are likely to change to new employment opportunities and therefore learn different skills. The overall significance is therefore likely to be a ***low, positive impact***.

Mitigation:

This impact could be enhanced should SNE implement education and awareness development programmes within the local area, schools, and tertiary education institutions (e.g. FET College in Upington).

Overall significance:

This awareness and potential up-skilling could raise the significance to a **medium, positive impact**.

B4. Visual impacts and change in sense of place

Background:

There is likely to be a visual impact resulting from the CSP facility of the SSP, as the central receiving tower is proposed to be approximately 200m high. In addition to the visual aspect, other aspects of the operational phase, such as the construction of an access road to from the N10 (north of the site) to the northern border of the site, may change the sense of place. This is likely to impact the farmers situated immediately north of the Van Roois Vley farm, and communities and tourism activities within the study area.

Impact Statement:

Although the visual impact during the operational phase is likely to be limited to the immediately surrounding land users, the impact is not likely to be high beyond this[28]. The severity is therefore likely to be minor, although it is a definite impact that could have a daily influence on receptors. The significance is therefore likely to be a ***medium, negative impact***.

Mitigation:

It is not possible to mitigate the visual impact and alteration to the landscape that the operation is likely to bring, without altering the nature of the area further (e.g., placing screens or trees in front of receptors). Should this be required, however, measures, such as trees and other methods could be implemented (as per the Visual Impact Assessment),

Overall significance:

As options to mitigate are limited, the impact is likely to remain if ***medium, negative significance***.

C. CUMULATIVE IMPACTS

The cumulative impacts of the project are related to the construction and operational phases. There are, however, a large number of solar projects (including CSP and CPV) that are proposed for the Northern Cape, which all fall within the IPP process currently underway on a national level. The identification of the Northern Cape as a key are for solar power generation could have a positive permanent impact on the economy, business development, employment and education in the province. There may, however certain negative impacts on other sectors, such as tourism, which need to be considered.

C1. Development of employment and business opportunities

Background:

As discussed in the construction and operational phases, the opportunity for increasing employment potential within the project area is likely to be fairly high when compared to the current situation. The type of employment is, however, likely to change significantly. This is due to the skilled nature of most jobs associated with the solar project.

Impact Statement:

The construction and operation of a number of these types of projects within the Northern Cape is likely to be concentrated within the //Khara Hais and Kai! Garib local municipalities, as they are located along the key water source in the province, the Orange River. The cumulative impact of these projects on the local economy is likely to have a significant impact on increasing the number of employment opportunities, and the development of skills and local businesses. The overall impact is likely to be of a ***low, positive significance***.

Mitigation:

There is the threat of a large number of labourers and businesses from other provinces moving into the area to take advantage of these opportunities. It is therefore vital that the skills are developed locally to

[28] Visual Impact Assessment (July 2012)

cope with this change in the local economy, and ensure the benefits of the investment and development are gained by the local population. The SSP could contribute towards this positive cumulative impact by implementing policies that will enhance local involvement, education and economic development.

Overall significance:

The overall impact is likely to remain of a ***medium, positive significance***.

C2. Large-scale in-migration of people

Background:

With the development of large-scale solar projects throughout the Northern Cape, it is likely that construction and operational phases will draw a large number of labour, businesses, and job-seekers to the area. The impact of this on services and resources is likely to impact the current communities and the municipalities' ability to meet basic needs of these potential new communities. The poor communities are likely to be the most vulnerable to loss of service provision and suffer the negative impact of large-scale in-migration.

Impact Statement:

The impact is likely to be significant, as there is the potential for the influx of migrants to significantly change the local receiving environment, and is likely to have a permanent impact in the region. The overall impact is therefore likely to be of a ***medium, negative significance***.

Mitigation:

In order to alleviate this potential cumulative impact, it is the responsibility of each solar project developer (and its contractors) to provide services (such as housing, water and sewage) for the labour related to their projects. This could be done through a number of means, such as:

- Develop a recruitment policy/process (to be implemented by contractors), which will source labour locally;
- Working together with local government agencies to ensure service provision is in line with the development needs of the local area; and
- Forming joint ventures with community organisations, through Trusts, which can provide local communities with benefits, such as employment opportunities and services.

Overall significance:

Should the local government assist with the above mitigation measures, the overall significance could be reduced to a ***low, negative impact***.

C3. Changes in tourism activities

Background:

The visual impact of the SSP is likely to change the immediate landscape of the Upington area. The cumulative impact of a number of solar projects in the area could alter the nature of the visual landscape, and thereby impact on other aspects, such as tourism. The Upington area relies significantly on tourism (after agriculture), and a large part of this is the aesthetic value of the Karoo landscape.

Impact Statement:

The impact of these facilities on tourism is not considered to be highly significant, as the duration is low (not a prime national tourism area) and the severity is moderate. The impact may become regional with the further development of solar facilities and tourism in the province. The significance is therefore likely to be a ***low, negative impact***.

Mitigation:

This only mitigation is to ensure that solar (specifically CSP) facilities are constructed away from major routes, such as the N10 towards Namibia. Solar facilities could, however, become points of interest, if tourism facilities are put in place, and therefor enhance the tourism value of the Northern Cape. This could mitigate a negative impact to a positive one, if implemented correctly.

Overall significance:

Should the above mitigation measures be implemented, in conjunction with the local government and authorities, the impact could be improved to a ***low, positive significance***.

4.3 Decommissioning phase impacts

It is recommended that a socio-economic assessment is undertaken at the time of decommission, as it is not possible to predict the impact that may occur, as solar facility of this nature is likely to exceed 20 years.

As a broad overview, there are unlikely to be many socio-economic impacts associated with the decommissioning of the SSP facility. The positive impacts of the proposed project are likely to have a long-term or permanent impact on the socio-economic landscape of the area. Impacts may include:

- ***Loss of permanent employment*** - There are few permanent opportunities during the operation al phase
- ***Gain of short-term employment*** - Decommissioning is likely to require few labourers, and is short-term.
- ***Loss of service maintenance*** - Should SNE chose to maintain housing, water, sewage roads and other services in the area; it is likely that this maintenance will not be maintained by the local municipalities. This could have a minor impact on the local communities. All other procedures, such as trusts, that may be put in place should have been handed over to the relevant communities or municipalities by the decommissioning phase.
- ***Improved visual and aesthetic value of the area*** - The removal of the CSP tower and rehabilitation of the site is likely to have a positive impact on the landscape.

The overall significance of the above positive and negative impacts is likely to be low.

4.4 No-Development Option

Should the proposed SSP not go ahead, there are a number of social and economic benefits that are unlikely to occur. The development of services, provision of employment opportunities, and associated opportunities are unlikely to occur without external investment from this project.

The impact of the “No Development” option is therefore likely to be negative. It should, however, be noted that there are a number of solar project planned for the Upington area, and therefore it is likely that these opportunities could be provided by another developer or investor. The key potential impacts have been evaluated as follows:

- Loss of employment opportunities– ***Medium, negative***
- Loss of business development opportunities - ***Medium, negative***
- Loss of community development (services & trusts) - ***Medium, negative***
- Maintenance of Landscape (tourism and aesthetic value) - ***Medium, positive***
- Maintenance of sense of place- ***Medium, positive***

5 Key Outcomes and Recommendations

5.1 Summary of Socio-Economic Impacts

Table 2 to 5 provide a summary of the socio-economic impact assessed within this study. Refer to Appendix

Table 2. Summary of socio-economic impact – A. Construction Phase

IMPACT	SIGNIFICANCE POST MITIGATION	POSITIVE/NEGATIVE
A1. Employment opportunities and skills-base development	Medium	Positive
A2. Local economic development & business opportunities	Medium to High	Positive
A3. Disturbance to communities	Very Low	Negative
A4. Health and increase in communicable diseases	Very Low	Negative
A5. Safety and security	Very Low	Negative
A6. Nuisance (dust, noise, traffic)	Low	Negative
A7. Change in nature of area	Very Low	Negative
A8. Service provision	Low	Negative

Table 3. Summary of socio-economic impact – B. Operational Phase

IMPACT	SIGNIFICANCE POST MITIGATION	POSITIVE/NEGATIVE
B1. Employment opportunities	Medium	Positive
B2. Economic development and small business opportunities	Medium	Positive
B3. Change to employment patterns	Medium	Positive
B4. Visual impacts and change in sense of place	Medium	Negative

Table 4. Summary of socio-economic impact – C. Cumulative

IMPACT	SIGNIFICANCE POST MITIGATION	POSITIVE/NEGATIVE
C1. Development of employment and business opportunities	Medium	Positive
C2. Large-scale in-migration of people	Low	Negative
C3. Changes in tourism	Low	Negative / Positive

Table 5. Summary of socio-economic impact – No Development Option

IMPACT	SIGNIFICANCE POST MITIGATION	POSITIVE/NEGATIVE
Loss of employment opportunities	Medium	Negative
Loss of business development opportunities	Medium	Negative
Loss of community development opportunities	Medium	Negative
Maintenance of landscape (tourism and aesthetic value)	Medium	Positive
Maintenance of sense of place	Medium	Positive

5.2 Social Sensitivity Map

Figure 3 provides a visual overview of the construction phase socio-economic impact levels for the study area. Key areas include:

- High impacts:
  - Surrounding land users (specifically to the north of the site)
- Medium:
  - Upington – key business and service sector hub to be developed
  - Local disadvantages communities – McTaggerscamp, Bloemmond, Geelkop, etc.
- Low:
  - Keimoes – not a key business and industrial area, but could benefit from the programmes implemented by SNE

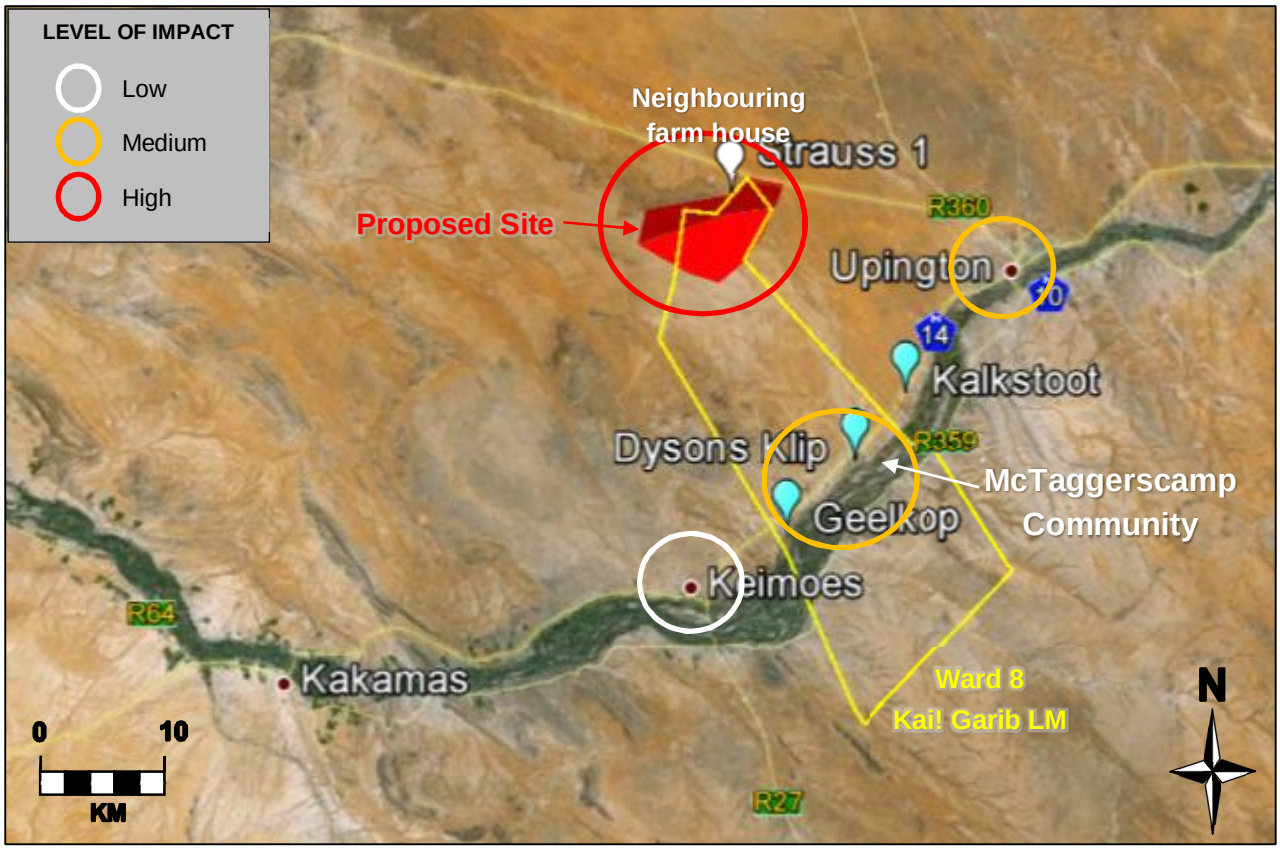


Figure 3. Social Sensitivity Map of Study Area - Construction phase (Google Earth, 2012)

Figure 4 provides a visual overview of the socio-economic impact levels for the study area. Key areas include:

- High impacts:
  - The farm house located north of the site
- Medium:
  - Upington – key business and service sector hub to be developed
  - McTaggerscamp (community trust).

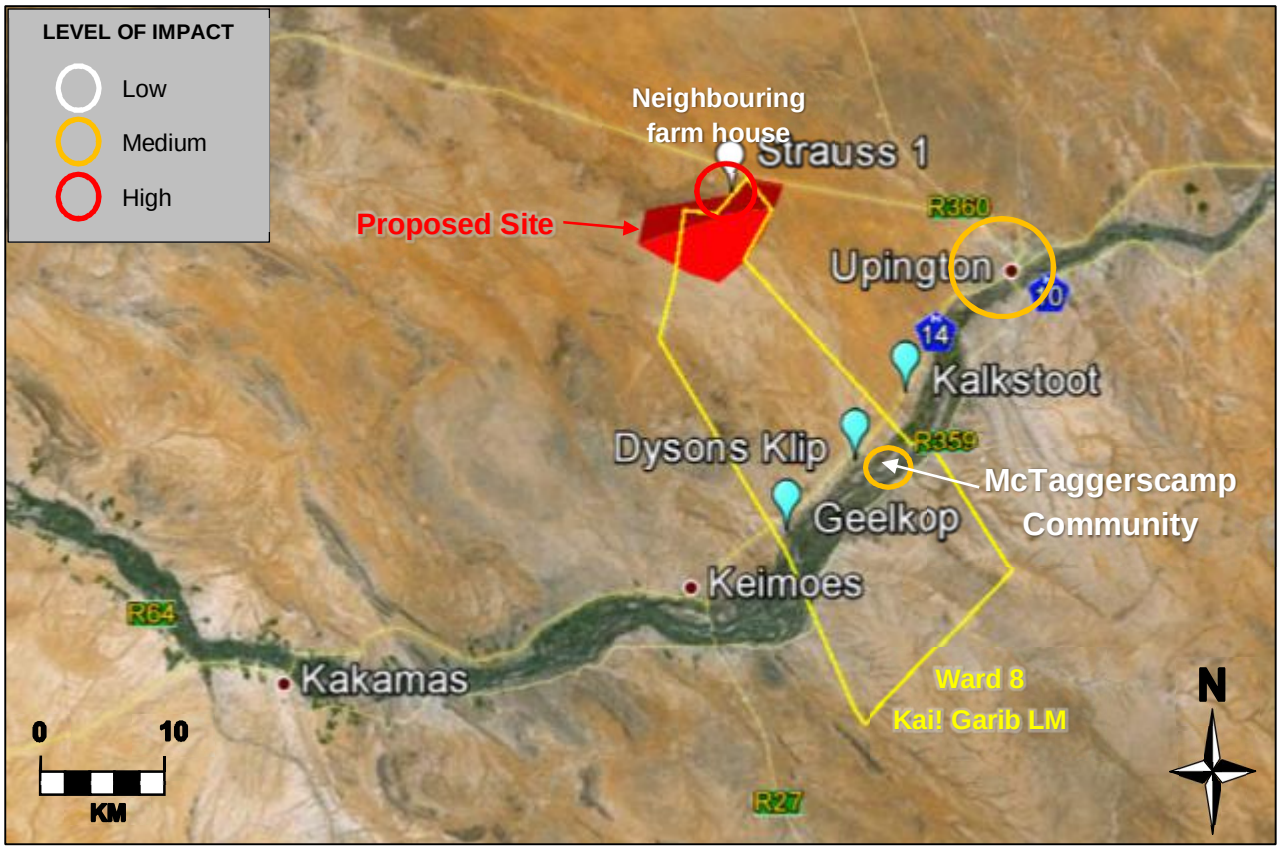


Figure 4. Social Sensitivity Map of Study Area – Operational Phase (Google Earth, 2012)

5.3 Key Recommendations

The following recommendations are highlighted as the key outcomes of the SIA study in order to mitigate and manage the socio-economic negative impacts and enhance the positive impacts of the of the proposed SSP. It should be noted, that as there are a number of solar project occurring within the area, there may be opportunities for SNE to undertake combine initiatives with other IPPs and Eskom, however existing initiatives were not identified during the SIA.

5.3.1 Education and Awareness/Skills Development

One of the key outcomes of the SIA was that there is a significance need for skills development and training within the study area. This is not only to improve skills available in the area (to supply employment requirements of the SSP), but also to make the youth aware of the variety of skills and opportunities available to them. This could contribute to medium-term and long-term skills development for the local communities.

It is recommended that SNE facilitate basic awareness training through local schools (e.g. EksteenskuilEilande, Soverby, Bloemsmond, McTaggerscamp, Curriescamp), tertiary education institutions (FET College), and community structures (Community Trusts, Ward councillors). This should be in the form of education materials, e.g. posters, information sessions, school trips to the solar facility, etc.

5.3.2 Local Economic Development

There are a number of opportunities for SNE to encourage growth and development of businesses within the study area, and beyond. The Kai! Garib LM indicated that opportunities, such as ***waste recycling*** and ***tourism initiatives*** would provide sustainable job creation.

It is therefore, recommended that SNE assess the SSP, and determine opportunities for local business involvement. Other areas that have been identified through the SIA include:

- *Water pipeline construction;*
- *Water treatment facilities;*
- *Provision of construction materials; and*
- *Tourism facilities associated with the solar facilities.*

5.3.3 Social infrastructure

A number of the communities within the study area lack basic services, including housing, water, and electricity. There is an opportunity for SNE to assist the LM In providing these services and infrastructure. It is recommended that SNE discuss opportunities with the relevant local authorities (within collaborative governance structures), such as:

- *Constructing housing for labour and staff (in conjunction with the LM), which would be handed over to the LM or relevant communities after construction phase has been completed;*
- *The provision of solar water heaters to disadvantaged communities to promote awareness of energy conservation; and*
- *Provision of health facilities at the SSP for the construction phase for staff (permanent and contract) to promote good health and health awareness programmes.*

5.3.4 Grievance Mechanisms& Community Forum

One of the key requirements of the IFC Performance Standards on Environmental and Social Sustainability is the implementation of a 'Grievance Mechanism' for the duration of the construction and operational phases of the project. This provides a means for the affected stakeholder to communicate any issues or grievanceswith SNE. The aim of this forum will be to[29]:

1) Receive and register external communications from the public;
2) Screen and assess the issues raised and determine how to address them;
3) Provide, track, and document responses (if any); and
4) Adjust the management programme to meet/respond to the issues raised.

It is recommended that a Community Forum be established, in order to meet the above requirement. This forum would need to:

- Include members of key potentially affected communities, including at least the surrounding farmers, the local ward councillor, and representatives of disadvantaged communities in the study area (and beyond, if required);
- Be managed by SNE, but chaired by a member of the community;
- Develop a constitution by which the forum will be run;
- Have meetings once per month during the construction phase, and once every 6 months during the operational phase of the project;
- Be held in an accessible place for the members involved (or transport provided by SNE); and
- Ensure that issues raised are considered and mitigation/management measures put in place, as appropriate.
- All issues raised are recorded on a complaints register

[29]IFC Performance Standards on Environmental and Social Sustainability (January, 2012)

- All members of the potentially affected public are made aware of the key contact person and contact details.

5.3.5 Community Trust

The development of community trusts is an effective tool for large corporations to assist local disadvantages communities within the area of influence of a large-scale project, such as the SSP, and provides "social license for these types of projects to operate. The setting up of a Trust provides an opportunity for enhancing local socio-economic environment through targeting key disadvantaged communities. The Kai! Garib LM identified the McTaggerscamp community as being in need of significant socio-economic development.

It is therefore recommended that SNE, in collaboration with the LM, aim to set up a Community Trust with the McTaggerscamp community to provide a system to facilitate and empower the community to:

- Improved skills training and employment opportunities (e.g. tourism sector, healthcare);
- Service provision (specifically water[30] provision and road access); and
- Awareness and education within the community.

Community empowerment and engagement are key priorities when developing a strong Community Trust. The following 'steps' should therefore be followed:

1. Understand the needs of the community through the ward councillor;
2. Identification and appointment of a community representative (through the local ward councillor);
3. Identify key projects that will benefit the community;
4. SNE provide seed funding for the trust;
5. The community to develop a strategy for implementing the key projects; and
6. Measure to monitoring and measure the success of the Trust to be implemented, to ensure long-term sustainability of the Trust.

5.3.6 Water Recovery Initiative

In the water-scare environment, one of the key service provision requirements for the study area is potable water supply, especially to rural communities. SNE has the opportunity to assist the LM in providing additional water supplies to the local communities within the study area. This is through a water recovery programme.

The SSP requires 50 000 cubic metres of water per year for the operation of the facilities. It is recommended that SNE partner with the local municipalities to implement a water conservation initiative[31]. Previous examples (provided by SNE) indicate the savings that could be made, the water allocations and skills development opportunities that could be given to local communities.

The Water Recovery Initiative should have a focus on physical water loss reduction, including:

- Fully implemented customer care awareness programs (e.g. education and awareness campaigns to improve behaviour of consumers and perceptions)
- Leak repair projects (detection of water pipeline leakages throughout the relevant LM/s I key areas)
- Where possible – retrofitting/repair of leakages, taps, toilets, etc.
- Local skills development (align with the Department of Water Affairs' "War on Leaks" programme)

[30] It is unlikely that water provision will be sourced from the SSP, as the distance from the site is likely to be prohibitive. In addition, water is likely to be sourced from the //Kharra Hais LM (and not the Kai! Garib LM), therefore logistics of transporting and ownership may prevent this. Service provision to this community should be set up through the Trust and the LM separately from the SSP.

[31] Note: It is recommended that this assistance is focussed on the Kai! Garib LM as this is the underdeveloped LM, and the site falls within this LM; however the //Kharra Hais LM is closer to the site, so may be a more feasible source of water.

SNE would therefore play a principle role as the “Implementing Agent” acting within collaborative governance structure to:

- *Manage the Initiative (Project Manager)*
- *Providing seed funding (and other relevant contributions) for the initiative;*
- *In identifying and use of local provides (where possible); and*
- *Transfer of responsibility and skills to local authorities.*
- *Provide procurement, commercial and financial systems*
- *Provide for financial and project results auditing*

In addition, there should be a high level of community involvement in order to facilitate community awareness and engagement with the process. A Community Stakeholder Committee should be set up. The aim of this committee should be to:

- Enlist a community representative (Community Liaison Officer/s;
- Facilitate and advise on community desires, needs and preferences;
- Advise on selection of local labour and service providers;
- Facilitate access to the project areas (incl. private homes; and
- Monitor the communities’ perceptions of success.

6 Conclusion

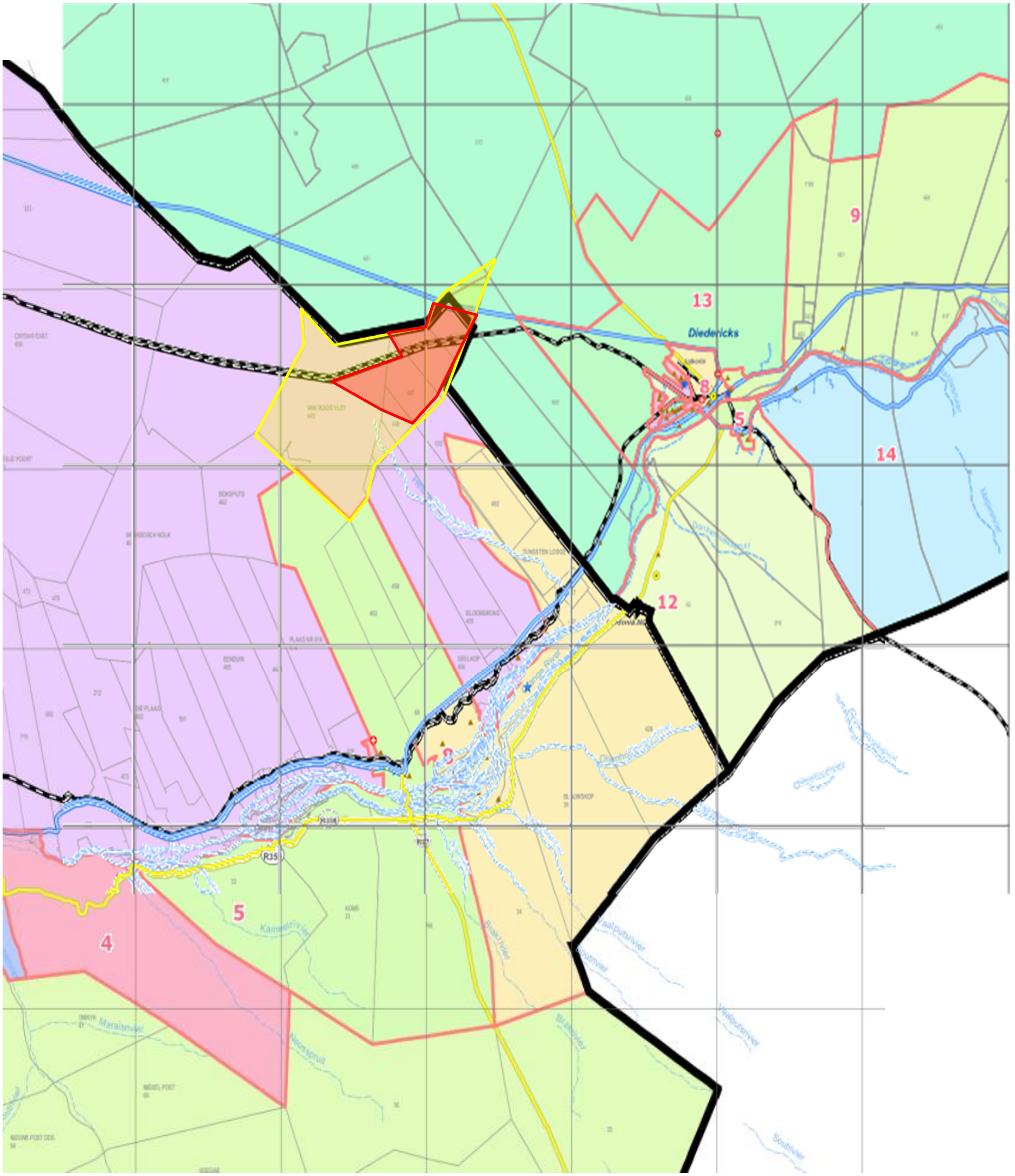
The SIA has identified a number of key socio-economic impacts (both positive and negative) associated with the proposed SSP. These issues pertain particularity to the impacts for the surrounding land users (medium to high, negative), and the benefits to surrounding communities within the study area (medium, positive).

Whilst it may not be possible to completely mitigate a number of the negative impacts (i.e. visual, change in sense of place, dust and traffic), these impacts may be offset through provision of business opportunities and ensuring stakeholders are represented on the community forum. The key social benefits are likely to be the development of a Community Trust, SMME opportunities, and education and awareness programmes. SNE has indicated that they are committed to social upliftment and providing the structures to contribute towards socio-economic development in the affected area. The overall impact of the proposed project could be of a medium positive significance, should these mechanisms be effectively implemented.

References

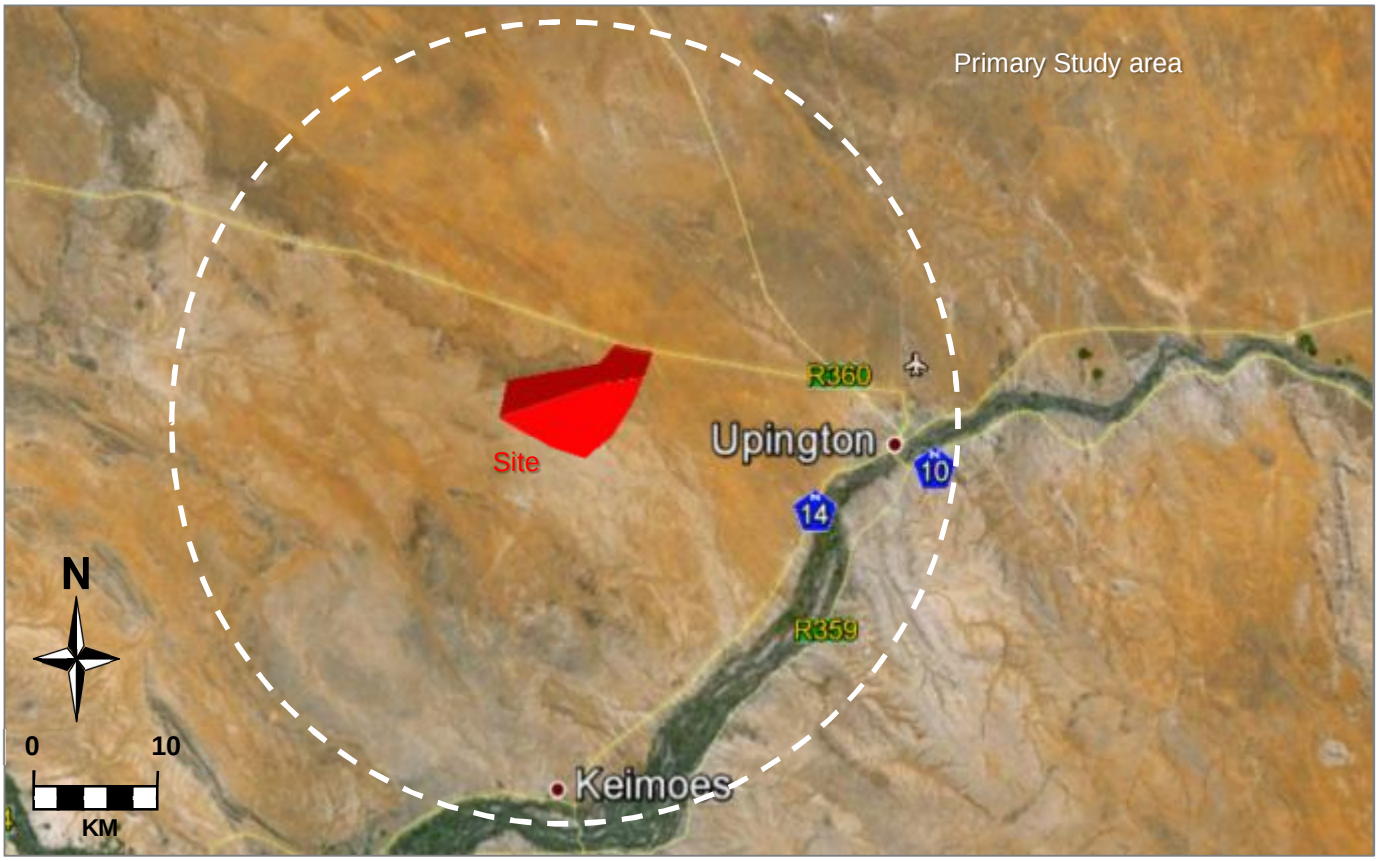
- IFC Performance Standards on Environmental and Social Sustainability (January, 2012)
- Kai Garib Municipality: Integrated Development Plan (2012 – 2017), June 2012 (1st Edition)
- Kathu Solar Project SIA, 2010 –Nomad Socio-Economic Consultancy Pty (Ltd) Kalahari Concentrated Solar Power Project (KSP): Social Impact Assessment (7/2/2011)
- //Khara Hais IDP (2011/2012) Integrated Development Plan For //Khara Hais Municipality 2007-2012 Final Document Approved By Council On 30 November 2010 Per Resolution 18/11/2010
- //Khara Hais Housing Head of Department, Personal Communication (21/07/2012)
- //Khara Hais Spatial Development Plan: 2005 – 2012, Volume 2 (April 2009)
- Statistics South Africa 2011 - http://www.statssa.gov.za/publications/statsdownload.asp?PPN=P0302&SCH=4986 (accessed 06/07/2012)
- Statistics South Africa (Stats SA) (2001) Census Data. http://www.statssa.gov.za/publications/populationstats.asp (accessed 29/-07/2012) and SuperTable (Stats SA census programme)
- SSI Environmental (2012) - SSI Engineers and Environmental Consultants (Pty) Ltd. Environmental Screening for the Proposed Commercial Concentrated Solar Power (CSP) Tower Project in Upington District: Northern Cape, February 2012, Ref No. E02.PTA.000377
- Siyanda District Municipality, Integrated Development Plan: 5 year Plan: 2010/11 – 2012, Siyanda District Municipality, 2010)
- WSP-A (2012) – Noise Impact Assessment (Details To Be Confirmed)
- WSP-B (2012) – Air Quality Impact Assessment (Details To Be Confirmed)
- WSP-A (2012) – Traffic Impact Assessment (Details To Be Confirmed)
- Visual Resource Management Africa (2012) Visual Impact Assessment Proposed Sasol Commercial Concentrated Solar Power (CSP) Facility at Van Rooys Vlei Near Upington, Northern Cape Province: Draft Executive Summary, July 2012

APPENDIX A Site Location – Municipal Boundaries and Surrounding Farms



APPENDIX B Study Area Map

A. SIA study area (Google Earth, 2012)



APPENDIX C Socio-Economic Impacts Methodology

B. Determining Consequence

Consequence is determined based on the consideration of a combination of severity, duration and extent of the environmental impact.

Table 1. Assessment of the Nature of the Impact and its Severity

Number Reference for Impact Table	Description
1	Negligible / non-harmful / minimal deterioration
2	Minor / potentially harmful / measurable deterioration
3	Moderate / harmful / moderate deterioration
4	Significant / very harmful / substantial deterioration
5	Permanent/irreversible

Table 2. Assessment of Impacts Duration and degree to which the impact can be sustained/reversed

Number Reference for Impact Table	Description
1	Less than 1 month – negligible / quickly reversible
2	Less than 1 year – short-term / quickly reversible
3	More than 1 year – medium term / reversible over time
4	More than 10 years – long-term / reversible over time / life of project or facility
5	Beyond life of project of facility / permanent

Table 3. Assessment of Impacts Extent

Number Reference for Impact Table	Description
1	Within immediate area of activity
2	Surrounding area within project boundary
3	Beyond project boundary
4	Regional / provincial
5	National / international

C. Determining Likelihood

Likelihood considers the frequency of the activity together with the probability of an environmental impact associated with that activity occurring (Tables 4 – 5).

Table 4. Assessment of the Impacts Frequency

Number Reference for Impact Table	Description
1	Less than once a year
2	Once in a year
3	Quarterly
4	Weekly
5	Daily

Table 5. Assessment of the Impacts Probability

Number Reference for Impact Table	Description
1	Almost impossible
2	Unlikely
3	Probable
4	Highly likely
5	Definite

D. Determining Overall Impact Significance

Overall significance is determined using the professional judgement based on a clear understanding of the nature of the impact, its severity, the duration and degree to which the impact can be reversed as well as the extent of the impact. These aspects define the impacts consequence which must be considered in against the likelihood of the impact occurring in order to assign an overall significance of the impact.

The status of the impact must be defined as either positive or negative. Significance should be assigned according to the definitions provided in Table 6 below.

Table 6. Significance of Impact description

Significance	Description
No Change	A potential issue which was found to have no impact when evaluated
Very Low	Impacts will be site specific and temporary with no mitigation necessary
Low	Impact will have a minor influence on the biophysical and/or social environment, and will not have an influence on the decision.
Medium	Impact will have a moderate influence on the biophysical and/or social environment, and it should have an influence on the decision unless it is mitigated.
High	Impact will have a major influence on the biophysical and/or social environment, and would influence the outcome regardless of any possible mitigation

APPENDIX D CV of Social Specialists

APPENDIX E Specialist Declaration

APPENDIX F Socio-Economic Impacts Table

Phase	Impact	Severity	Duration	Extent	Frequency	Probability	Significance	Mitigation	Significance	Positive/N
Construction	Employment Opportunities	3	3	4	4	3	3	Implement local skills training (short term) and awareness programmes	4	Posit
	LED & Business Opportunities	3	3	4	5	4	4	Optimisation could be achieved through ensuring that contractors having a local SMME policy and that they act upon this policy.	4.5	Posit
	Disturbance to communities	3	3	3	5	3	3	• Formalisation of housing and services; and • The prioritisation of local labour through contractor policies and implementation	2	Nega
	Health and Increase Communicable Diseases	4	3	3	5	3	4	Ensuring the effective implementation of Health and Safety Plan by contractors.	2	Nega
	Safety and Security	4	3	3	4	3	3	• Fencing & signage; • Prohibiting Trespassing onto neighbouring farms; and • Public awareness programmes	2	Nega
	Nuisance	3	3	3	5	4	4	- Refer to specialist studies	3	Nega
	Change in nature of area	3	3	3	5	3	3	• Good planning and effective management procedures	2	Nega
	Service Provision	3	5	4	5	4	4	• Provision of services and housing by Sasol (or contractors) or together with local municipality	3	Negative/
Operational	Employment opportunities	1	4	4	5	4	3.6	• Local Education and skills development	4	Posit
	Economic development and small business opportunities	2	3	3	4	4	3	• Ensuring that contractors having a local SMME policy and that they act upon this policy.	4	Posit
	Change to employment patterns	2	3	4	3	4	3	• Implement education and awareness development programmes	4	Posit
	Visual impacts and Change in Sense of Place	2	4	3	5	5	4	Not possible to mitigate, without altering the nature of the area further r. Should this be required, then trees, and other methods could be implemented (as per VIA)	4	Nega

Phase	Impact	Severity	Duration	Extent	Frequency	Probability	Significance	Mitigation	Significance	Positive/N
Cumulative	Development of employment and business opportunities	2	4	4	3	3	3	• Ensuring that contractors having a local SMME policy and that they act upon this policy. • Implement education and awareness development programmes	4	Posit
	Large-scale in-migration of people	4	5	4	5	4	4	• Cooperation with local organisations • Formation of community trusts	3	Nega
	Changes in Tourism	3	4	3	4	3	3	Construct tourism and education facilities associated with the project	3	Negative /
No-Go	Loss of employment opportunities	3	3	4	5	5	4	N/A	4	Nega
	Loss of business development opportunities	3	3	4	5	5	4	N/A	4	Nega
	Loss of community development (services & trusts)	2	3	3	5	5	4	N/A	4	Nega
	Maintenance of Landscape (Tourism and Aesthetic Value)	2	5	3	5	5	4	N/A	4	Posit
	Maintenance of sense of place	2	5	3	5	5	4	N/A	4	Posit

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