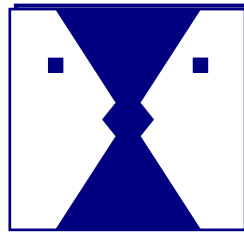


Proposed development of a 400 MW solar PV plant (Phase 3) in the Emthanjeni Local Municipality in the Northern Cape Province

Social Scoping Report



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Prepared for:

Ecoleges Environmental Consultants

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Executive Summary

In 2016 Soventix SA (Pty) Ltd applied for the development of a 225 MW Solar PV facility between Hanover and De Aar in the Northern Cape. Environmental authorisation for the central footprint (PV02) was granted in 2016. An amendment to increase the capacity of the facility to 300 MW due to technological advancements in solar photovoltaic efficiency and electrical output was granted in 2020. In 2021 a second amendment was granted for the inclusion of containerised lithium-ion battery storage and dual-fuel backup generators with associated fuel storage. The application was part of the REIPPP or RMIPPP bid rounds that formed part of a Strategic Infrastructure Project as described in the National Development Plan of 2011. Soventix SA (Pty) Ltd was an unsuccessful bidder but has since partnered with another company with 1.5 GW in private renewable energy offtake agreements, making it economically feasible to develop two more 300 and 400 MW facilities (Phases 2 and 3 respectively). The PV03 footprint where Phase 2 is proposed was considered during the initial SEIA for Phase 1. The proposed site for Phase 3 was not assessed in the SEIA for Phase 1. The two additional Solar PV facilities (Phases 2 and 3) will feed into the authorised sub-station on the PV02 footprint (Phase 1). The size of the proposed Phase 3 for a 400 MW solar PV facility is approximately 600 ha.

The receiving environment is located in Ward 6 of the Emthanjeni Local Municipality that is located in the Pixley Ka Seme District Municipality in the Northern Cape province. The towns in the area are small and the proposed site is located between the towns of Hanover and De Aar. There are no areas under traditional leadership in the district and the site is surrounded by commercial farms.

The area showed an increase in population as well as the number of households since 2011, with the increase in the number of households greater than the increase in population. The household sizes have shown a decrease since 2011. This can be due to children leaving their parents' house to stay on their own and start families of their own.



In Ward 6, the proportion of households that are multidimensionally poor has increased, compared to a decrease on local level. This means that the households are deprived on a number of dimensions which mostly relate to access to basic services. Education levels are low and there are very few employment opportunities. Agriculture forms the backbone of the economy.

A number of preliminary social and economic impacts have been identified through the lifecycle of the project. These will be assessed in more detail during the social and economic impact assessment, and it is possible that additional impacts may emerge during this process and that the preliminary ratings may change.

At this stage none of these possible impacts is seen as a fatal flaw in the possible successful execution of the proposed project. Most of the potential impacts can be mitigated. The importance of addressing the potential impacts as early in the project cycle as possible must be underlined, since failure to do so may result in the development of risks and an exponential increase in project cost.



Declaration of Independence

Equispectives Research and Consulting Services declare that:

- All work undertaken relating to the proposed project were done as independent consultants;
- They have the necessary required expertise to conduct social impact assessments, including the required knowledge and understanding of any guidelines or policies that are relevant to the proposed activity;
- They have undertaken all the work and associated studies in an objective manner, even if the findings of these studies were not favourable to the project proponent;
- They have no vested interest, financial or otherwise, in the proposed project or the outcome thereof, apart from remuneration for the work undertaken under the auspices of the abovementioned regulations;
- They have no vested interest, including any conflicts of interest, in either the proposed project or the studies conducted in respect of the proposed project, other than complying with the relevant required regulations;
- They have disclosed any material factors that may have the potential to influence the competent authority's decision and/or objectivity in terms of any reports, plans or documents related to the proposed project as required by the regulations.



Record of Experience

This report was compiled by San-Marié Aucamp and Ilse Aucamp.

San-Marié Aucamp is a registered Research Psychologist with extensive experience in both the practical and theoretical aspects of social research. She has more than 20 years' experience in social research, and she occasionally presents guest lectures on social impact assessment. Her experience includes social impact assessments, social and labour plans, training, group facilitation as well as social research. She is a past council member of the Southern African Marketing Research Association (SAMRA).

Ilse Aucamp holds a D Phil degree in Social Work obtained from the University of Pretoria in 2015. She also has Masters' degree in Environmental Management (Cum Laude) from the Potchefstroom University for Christian Higher Education, which she obtained in 2004. Prior to that she completed a BA degree in Social Work at the University of Pretoria. She is frequently a guest lecturer in pre- as well as post-graduate programmes at various tertiary institutions. Her expertise includes social impact assessments, social management plans, social and labour plans, social auditing, training as well as public participation. She is a co-author of the *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* document published by the International Association for Impact Assessment.



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GLOSSARY OF TERMS

Sense of place: Defining oneself in terms of a given piece of land. It is the manner in which humans relate or feel about the environments in which they live.

Social impact: Something that is experienced or felt by humans. It can be positive or negative. Social impacts can be experienced in a physical or perceptual sense.

Social change process: A discreet, observable and describable process that changes the characteristics of a society, taking place regardless of the societal context (that is, independent of specific groups, religions etc.) These processes may, in certain circumstances and depending on the context, lead to the experience of social impacts.

Social Impact Assessment: The processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

Social license to operate: The acceptance and belief by society, and specifically local communities, in the value creation of activities.

Social risk: Risk resulting from a social or socio-economic source. Social risk comprises both the objective threat of harm and the subjective perception of risk for harm.

**LIST OF ABBREVIATIONS**

DM	District Municipality
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESOMAR	European Society for Opinion and Marketing Research
FPL	Food Poverty Line
HDSA	Historically Disadvantaged South African
IDP	Integrated Development Plan
LBPL	Lower Bound Poverty Line
LM	Local Municipality
NEMA	National Environmental Management Act
SAMPI	South African Multidimensional Poverty Index
SAMRA	Southern African Marketing Research Association
SIA	Social Impact Assessment
UBPL	Upper Bound Poverty Line
UNEP	United Nations Environmental Programme



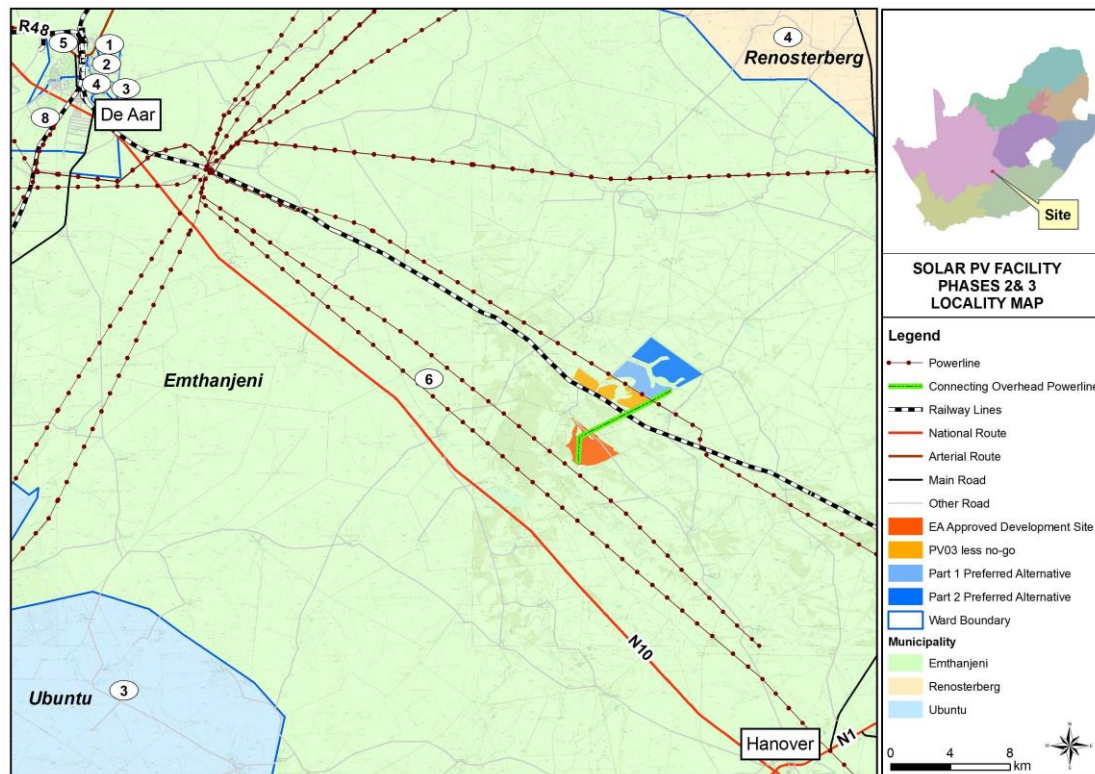
1 Introduction

In 2016 Soventix SA (Pty) Ltd applied for the development of a 225 MW Solar PV facility between Hanover and De Aar in the Northern Cape. Environmental authorisation for the central footprint (PV02) was granted in 2016. An amendment to increase the capacity of the facility to 300 MW due to technological advancements in solar photovoltaic efficiency and electrical output was granted in 2020. In 2021 a second amendment was granted for the inclusion of containerised lithium-ion battery storage and dual-fuel backup generators with associated fuel storage. The application was part of the REIPPP or RMIPPP bid rounds that formed part of a Strategic Infrastructure Project as described in the National Development Plan of 2011. Soventix SA (Pty) Ltd was an unsuccessful bidder but has since partnered with another company with 1.5 GW in private renewable energy offtake agreements, making it economically feasible to develop two more 300 and 400 MW facilities (Phases 2 and 3 respectively). The PV03 footprint where Phase 2 is proposed was considered during the initial SEIA for Phase 1. The proposed site for Phase 3 was not assessed in the SEIA for Phase 1. The two additional Solar PV facilities (Phases 2 and 3) will feed into the authorised sub-station on the PV02 footprint (Phase 1). The size of the proposed Phase 3 for a 400 MW solar PV facility is approximately 600 ha.

[Figure 1](#) shows the proposed location for the project.



Figure 1: Locality of the proposed 400 MV solar plant project.



The purpose of this report is to provide baseline information regarding the socio-economic environment, to identify possible social and economic risks/fatal flaws and to suggest ways in which these impacts can be mitigated. This will assist decision-makers on the project in making informed decisions by providing information on the potential or actual consequences of their proposed activities. The process entailed the following:

- A baseline socio-economic description of the affected environment;
- Identification of potential social and economic change processes that may occur as a result of the project; and
- Identification of potential social and economic impacts.

One of the ways in which social risk can be managed is by conducting a social impact assessment (SIA). Such an assessment can assist with identifying possible social impacts and risks. Disregarding social impacts can alter the cost-benefit equation of development and in some cases even undermine the overall viability of a project. A



proper social impact assessment can have many benefits for a proposed development (UNEP, 2002) such as:

- Reduced impacts on communities of individuals;
- Enhanced benefits to those affected;
- Avoiding delays and obstruction – helps to gain development approval (social license);
- Lowered costs;
- Better community and stakeholder relations; and
- Improved proposals.

Ecoleges Environmental Consultants was appointed to manage the Environmental Impact Assessment for the project, and they appointed Equispectives Research and Consulting Services to perform a social impact assessment for the proposed project. This report represents the findings and recommendations of a social screening for the proposed project as part of the scoping phase. A social impact assessment will follow during the EIA phase where a more detailed consultative process will be followed. More detail on the scope of each of these phases is included in the section below.

2 Scope of Work

The purpose of the Social Impact Assessment (SIA) is to provide a Scoping Report and EIA/EMP Report for the proposed project that will take place on site. This report represents the Scoping Level Assessment. The scope of work for each of the reports is set out below.

2.1 Scoping Level Assessment

The Scoping level assessment includes the following:

- A desktop description of the baseline receiving environment specific to the field of expertise (general surrounding as well as site specific environment);



- Key issues related to specialist area that need to be addressed in the EIA; and
- Terms of reference for Social Impact Assessment.

2.2 EIA/EMP Level Assessment

The EIA level assessment will include the following:

- Update of Baseline Information as determined post Scoping Phase;
- A detailed social impact assessment based on the proposed activities and the alternatives identified during the Scoping Phase;
- Identification and description of sensitivities and constraints from a social perspective;
- Include 'need and desirability' taking into account the social and economic aspects;
- Make recommendations with regard to the planning, construction and operation of the proposed development that will benefit all stakeholders, including the community;
- Contribution to the preparation of an EMP relating to the specific field of expertise and impacts identified;
- Providing detailed mitigation / management measures for the management of the identified impacts for inclusion in the EMP. The mitigation / management measures will be presented in a tabulated format for each phase of the project and will include;
 - Detailed description of mitigation measures or management options;
 - Roles and Responsibilities for implementation;
 - Timeframes for implementation;



- Means of measuring successful implementation (Targets & Performance Indicators).
- Based on the needs of the community, make suggestions on effective corporate social responsibility projects that can be undertaken by the developer.

3 Methodology

The information used in this report was based on the following:

- A literature review (see list provided in the References);
- Data from Statistics South Africa; and
- Professional judgement based on experience gained with similar projects.

In terms of the way forward, it is believed that a participatory approach is the best way to approach social research in the South African context. The World Bank Social Standards, Equator Principles, International Principles for Social Impact Assessment, and the *Guidance Document for Assessing and Managing the Social Impacts of Projects* of IAIA will guide the study. It must be noted that international standards and principles will be adapted to ensure that it can be applied in the local social context. Apart from obtaining environmental permits as required by law, any proposed project would also require “social license to operate” from the community where it will be situated. This is seen to be a crucial element to ensure the successful implementation of the recommendations resulting from the environmental studies. The methodology proposed therefore focus on involving the affected public in the research and planning where it is realistically possible and executable. Different methodologies will be utilised to ensure the affected communities are consulted in the way that is most appropriate to the community. Information obtained through the public processes will inform the writing of the social report.



4 Receiving environment

According to the National Environmental Management Act (NEMA, 1998) environment refers to the surroundings in which humans exist. When viewing the environment from a socio-economic perspective the question can be asked what exactly the social environment is. Different definitions for social environment exist, but a clear and comprehensive definition that is widely accepted remains elusive. Barnett & Casper (2001) offers the following definition of human social environment:

“Human social environments encompass the immediate physical surroundings, social relationships, and cultural milieus within which defined groups of people function and interact. Components of the social environment include built infrastructure; industrial and occupational structure; labour markets; social and economic processes; wealth; social, human, and health services; power relations; government; race relations; social inequality; cultural practices; the arts; religious institutions and practices; and beliefs about place and community. The social environment subsumes many aspects of the physical environment, given that contemporary landscapes, water resources, and other natural resources have been at least partially configured by human social processes. Embedded within contemporary social environments are historical social and power relations that have become institutionalized over time. Social environments can be experienced at multiple scales, often simultaneously, including households, kin networks, neighbourhoods, towns and cities, and regions. Social environments are dynamic and change over time as the result of both internal and external forces. There are relationships of dependency among the social environments of different local areas, because these areas are connected through larger regional, national, and international social and economic processes and power relations.”

Environment-behaviour relationships are interrelationships (Bell, Fisher, Baum & Greene, 1996). The environment influences and constrains behaviour, but behaviour also leads to changes in the environment. The impacts of a project on people can only



be truly understood if their environmental context is understood. The baseline description of the social environment will include a description of the area within a provincial, district and local context that will focus on the identity and history of the area as well as a description of the population of the area based on a number of demographic, social and economic variables.

4.1 Description of the area

The proposed project will be located in Ward 6 of the Emthanjeni Local Municipality that falls under the Pixley Ka Seme District Municipality in the Northern Cape Province. For the baseline description of the area, data from Census 2011, Community Survey 2016, municipal IDP's and websites were used.

The Northern Cape province is South Africa's largest province and takes up almost a third of the country's land area (www.localgovernment.co.za). It covers an area of 372 889 km² and is the least populous of South Africa's provinces. In the north it is bordered by Namibia and Botswana, in the west by the Atlantic Ocean. It is also bordered by the North West, Free State, Eastern Cape, and Western Cape provinces. Main towns in the province include Kimberley, Upington, Springbok, Kuruman and De Aar. The province is divided into five district municipalities, namely Frances Baard, ZF Mgcawu, John Taolo Gaetsewe, Pixley Ka Seme and Namakwa.

The Pixley Ka Seme District Municipality is located in the south-east of the Northern Cape Province and covers an area of 103 222 km². It shares a border with the Free State, Eastern Cape and Western Cape provinces and is the second-largest district in the province. The district is divided in eight local municipalities, namely Ubuntu, Umsobomvu, Emthanjeni, Kareeberg, Renosterberg, Thembelihle, Siyathemba and Siyancuma. De Aar is the main town in the area and other towns include Britstown, Campbell, Carnarvon, Colesberg, Copperton, Douglas, Griekwastad, Hanover, Hopetown, Hutchinson, Loxton, Marydale, Niekerkshoop, Norvalspont, Noupoort, Petrusville, Philipstown, Prieska, Richmond, Schmidtsdrif, Strydenburg, Van der Kloof, Vanwyksvlei, Victoria West and Vosburg. The Vanderkloof and Gariiep dams, two of the major dams in South Africa is situated on the borders of the district municipality.



The Emthanjeni Local Municipality is the seat of the district and is located centrally on the main railway line between Johannesburg, Cape town, Port Elizabeth, and Namibia. It covers an area of 13 472 km². The main towns in the area are Britstown, De Aar, and Hanover.

Census 2011 shows the proportions of people living in urban areas, areas under traditional authority and on farms in the area (Table 1). In Ward 6 there are no areas that are under traditional leadership and about a quarter of the people in the area live on farms.

Table 1: Geotypes (source: Census 2011, households)

Area	Urban	Tribal/Traditional	Farm
Northern Cape Province	76%	16%	8%
Pixley Ka Seme DM	87%	0%	13%
Emthanjeni LM	94%	0%	6%
Ward 6	74%	0%	26%

In the Emthanjeni Local Municipality there are 16 schools, of which 13 are no-fee schools (Emthanjeni LM IDP, 2021/22). The Central Karoo Hospital is in De Aar and there are also some sport grounds in the area.

4.2 Description of the population

The baseline description of the population will take place on three levels, namely provincial, district and local. Impacts can only truly be comprehended by understanding the differences and similarities between the different levels. The baseline description will focus on the Northern Cape Province, Pixley Ka Seme District Municipality, Emthanjeni Local Municipality and Ward 6 of the Emthanjeni Local Municipality. The data used for the socio-economic description was sourced from Census 2011, the latest available official census data in South Africa. Census 2011 was a de facto census (a census in which people are enumerated according to where they stay on census night) where the reference night was 9-10 October 2011. The results should be viewed as indicative of the population characteristics in the area and should not be interpreted as absolute.

The following points regarding Census 2011 must be kept in mind (www.statssa.co.za):



- Comparisons of the results of labour market indicators in the post-apartheid population censuses over time have been a cause for concern. Improvements to key questions over the years mean that the labour market outcomes based on the post-apartheid censuses have to be analysed with caution. The differences in the results over the years may be partly attributable to improvements in the questionnaire since 1996 rather than to actual developments in the labour market. The numbers published for the 1996, 2001, and 2011 censuses are therefore not comparable over time and are higher from those published by Statistics South Africa in the surveys designed specifically for capturing official labour market results.
- For purposes of comparison over the period 1996–2011, certain categories of answers to questions in the censuses of 1996, 2001 and 2011, have either been merged or separated.
- The tenure status question for 1996 has been dropped since the question asked was totally unrelated to that asked thereafter. Comparisons for 2001 and 2011 do however remain.
- All household variables are controlled for housing units only and hence exclude all collective living arrangements as well as transient populations.
- When making comparisons of any indicator it must be considered that the time period between the first two censuses is of five years and that between the second and third census is of ten years. Although Census captures information at one given point in time, the period available for an indicator to change is different.

Where available, the Census 2011 data will be supplemented with data from Community Survey 2016.

4.2.1 Population and household sizes

According to the Community Survey 2016, the population of South Africa is approximately 55,7 million and has shown an increase of about 7.5% since 2011. The



household density for the country is estimated on approximately 3.29 people per household, indicating an average household size of 3-4 people (leaning towards 3) for most households, which is down from the 2011 average household size of 3.58 people per household. Smaller household sizes are in general associated with higher levels of urbanisation.

The greatest increase in population since 2016 has been on local level (Table 2), although the increase is still below the national average. Population density refers to the number of people per square kilometre. In all the areas in the study area the population density has increased slightly since 2011.

Table 2: Population density and growth estimates (sources: Census 2011, Community Survey 2016)

Area	Size in km ²	Population 2011	Population 2016	Population density 2011	Population density 2016	Growth in population (%)
Northern Cape Province	372,889	1,145,861	1,193,780	3.07	3.20	4.18
Pixley Ka Seme DM	103,410	186,351	195,595	1.80	1.89	4.96
Emthanjeni LM	13,472	42,356	45,404	3.14	3.37	7.20

The number of households in the study area has increased on all levels (Table 3), while the average household size has shown a decrease. This means there are more households, but with less members.

Table 3: Household sizes and growth estimates (sources: Census 2011, Community Survey 2016)

Area	Households 2011	Households 2016	Average household size 2011	Average household size 2016	Growth in households (%)
Northern Cape Province	301,405	353,709	3.80	3.38	17.35
Pixley Ka Seme DM	49,193	56,309	3.79	3.47	14.47
Emthanjeni LM	10,457	11,923	4.05	3.81	14.02



The total dependency ratio is used to measure the pressure on the productive population and refer to the proportion of dependents per 100 working-age population. As the ratio increases, there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. A high dependency ratio can cause serious problems for a country as the largest proportion of a government's expenditure is on health, social grants and education that are most used by the old and young population.

The total dependency ratio for Ward 6 is lower than on local level, but higher than on provincial level (Table 4). The same trend applies to the youth and aged dependency ratios, but not to the employed dependency ratio. Employed dependency ratio refers to the proportion of people dependent on the people who are employed, and not only those of working age. The employed dependency ratio for Ward 6 is much lower than on provincial level. This is most likely to the high incidence of farms in the ward where people reside at their place of employment.

Table 4: Dependency ratios (source: Census 2011).

Area	Total dependency	Youth dependency	Aged dependency	Employed dependency
Northern Cape Province	55.75	46.94	8.80	75.32
Pixley Ka Seme DM	60.36	50.64	9.71	76.57
Emthanjeni LM	60.07	50.73	9.34	76.71
Ward 6	58.84	49.56	9.28	71.46

Poverty is a complex issue that manifests itself on economic, social, and political ways and to define poverty by a unidimensional measure such as income or expenditure would be an oversimplification of the matter. Poor people themselves describe their experience of poverty as multidimensional. The South African Multidimensional Poverty Index (SAMPI) (Statistics South Africa, 2014) assess poverty on the dimensions of health, education, standard of living and economic activity using the indicators child mortality, years of schooling, school attendance, fuel for heating, lighting, and cooking, water access, sanitation, dwelling type, asset ownership and unemployment.

The poverty headcount refers to the proportion of households that can be defined as multidimensionally poor by using the SAMPI's poverty cut-offs (Statistics South Africa,



2014). The poverty headcount has decreased on provincial and district level since 2011 but have increased on local level (Table 5).

The intensity of poverty experienced refers to the average proportion of indicators in which poor households are deprived (Statistics South Africa, 2014). The intensity of poverty has decreased on all levels. The intensity of poverty and the poverty headcount is used to calculate the SAMPI score. A higher score indicates a very poor community that is deprived on many indicators. On local level households have become more deprived since 2011.

Table 5: Poverty and SAMPI scores (sources: Census 2011 and Community Survey 2016).

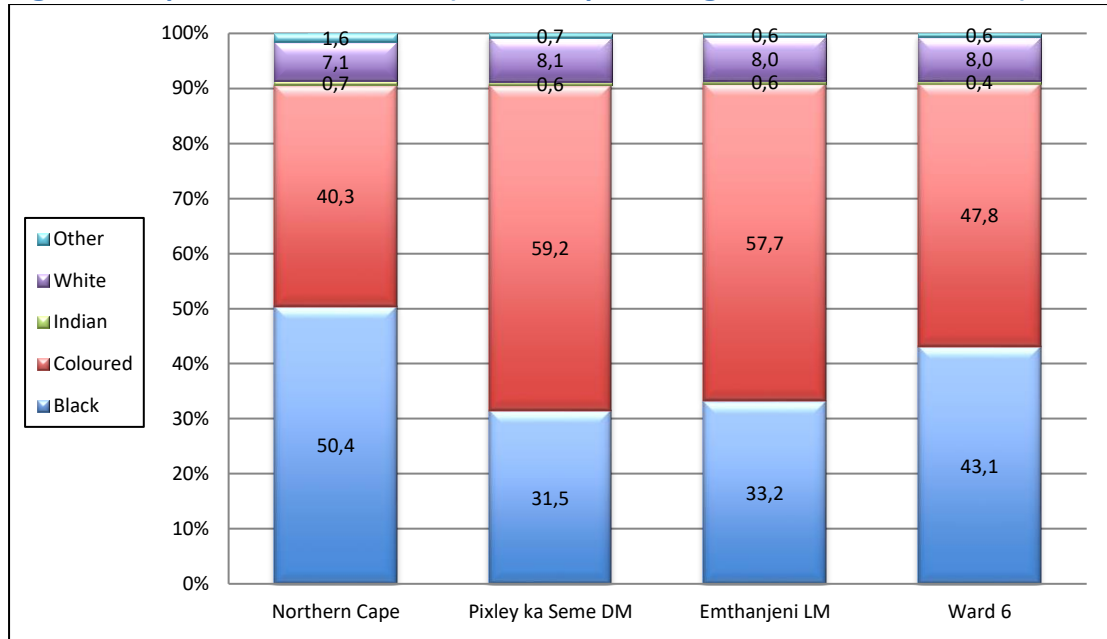
Area	Poverty headcount 2011 (%)	Poverty intensity 2011 (%)	SAMPI 2011	Poverty headcount 2016 (%)	Poverty intensity 2016 (%)	SAMPI 2016
Northern Cape Province	7.1	42.1	0.03	6.6	42.0	0.03
Pixley Ka Seme DM	7.2	42.7	0.03	6.0	41.7	0.03
Emthanjeni LM	3.3	41.1	0.01	4.2	40.2	0.02

4.2.2 Population composition, age, gender, and home language

In Ward 6 almost half of the population belongs to the Coloured population group (Figure 3), with just over two fifths of the population belonging to the Black population group. Ward 6 has a higher proportion of people belonging to the Black population group than on local or district level.

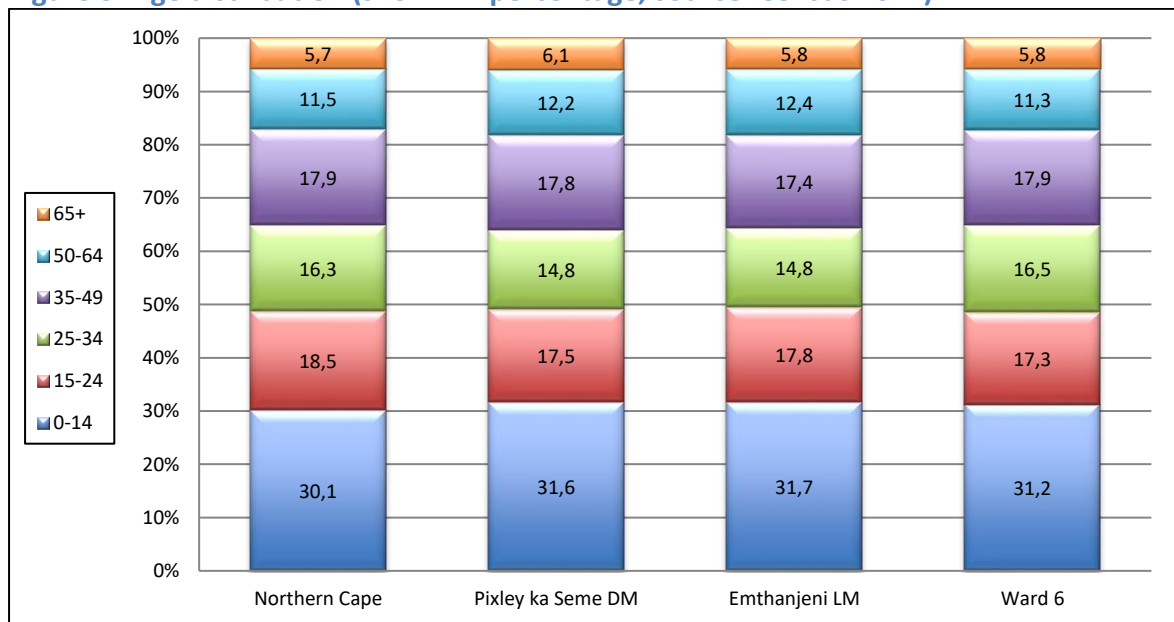


Figure 2: Population distribution (shown in percentage, source: Census 2011)



The average age in all the municipal areas are around 28 years, with the lowest average age (28.24) in Ward 6. Just below a third of the population in Ward 6 is aged 14 years or younger, with almost half aged 24 years or younger (Figure 4). Such a young population place a lot of pressure on resources and infrastructure of the area, and a great demand for future infrastructure and creation of livelihoods can be expected.

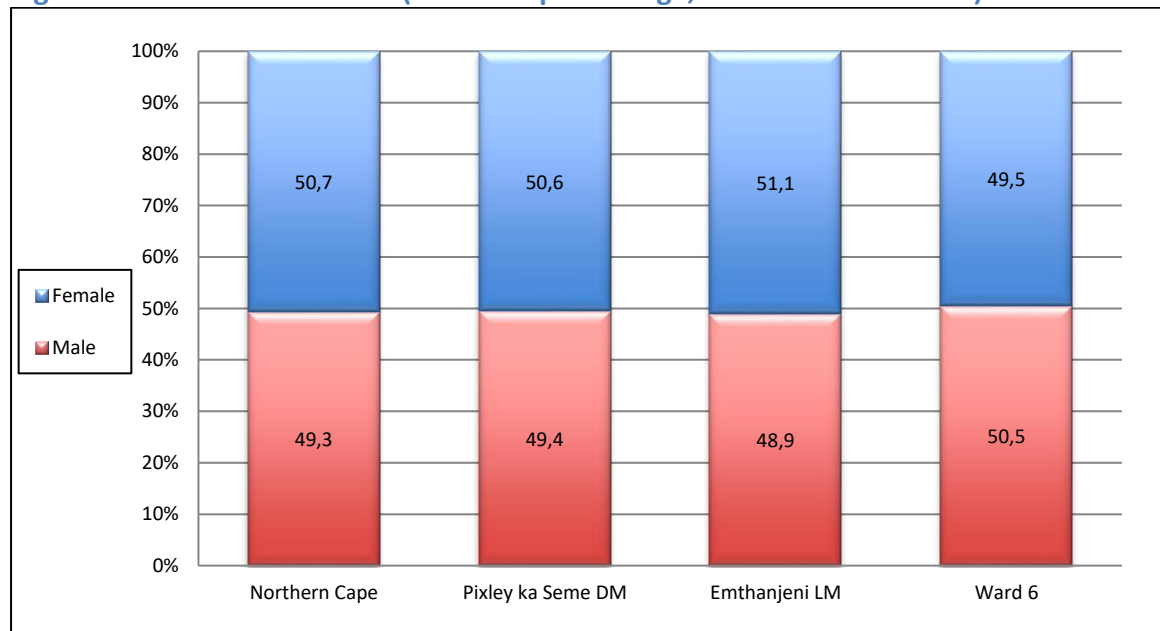
Figure 3: Age distribution (shown in percentage, source: Census 2011)





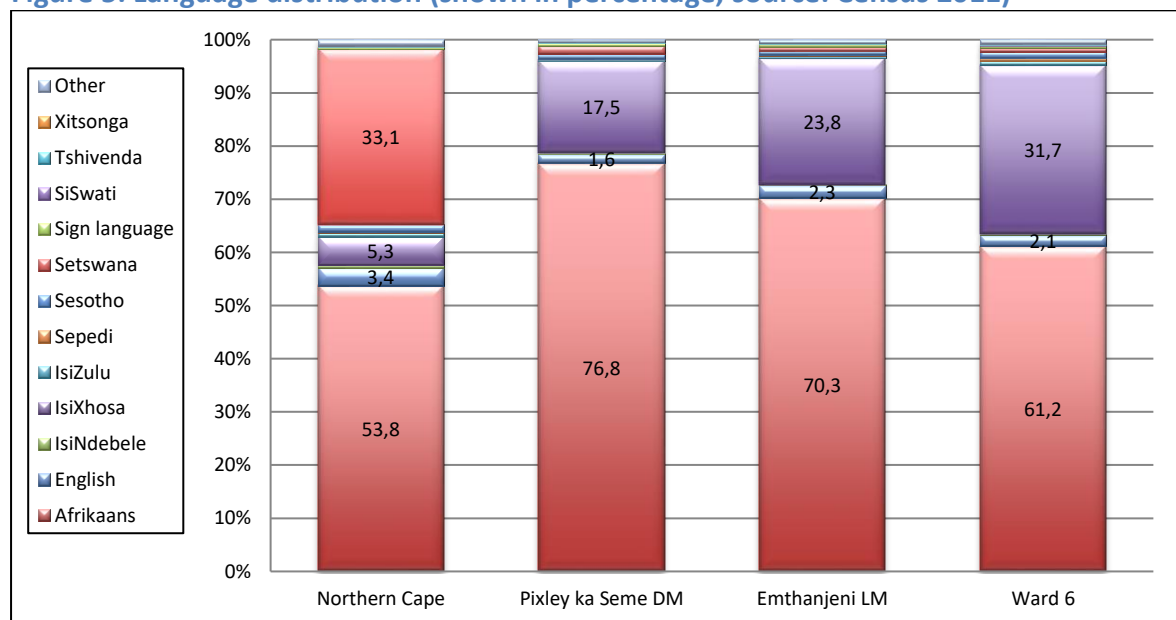
The gender distribution is more or less equal on all levels (Figure 5).

Figure 4: Gender distribution (shown in percentage, source: Census 2011)



Afrikaans is the home language of almost two thirds of the residents in Ward 6 (Figure 6), followed by almost a third with IsiXhosa as home language.

Figure 5: Language distribution (shown in percentage, source: Census 2011)

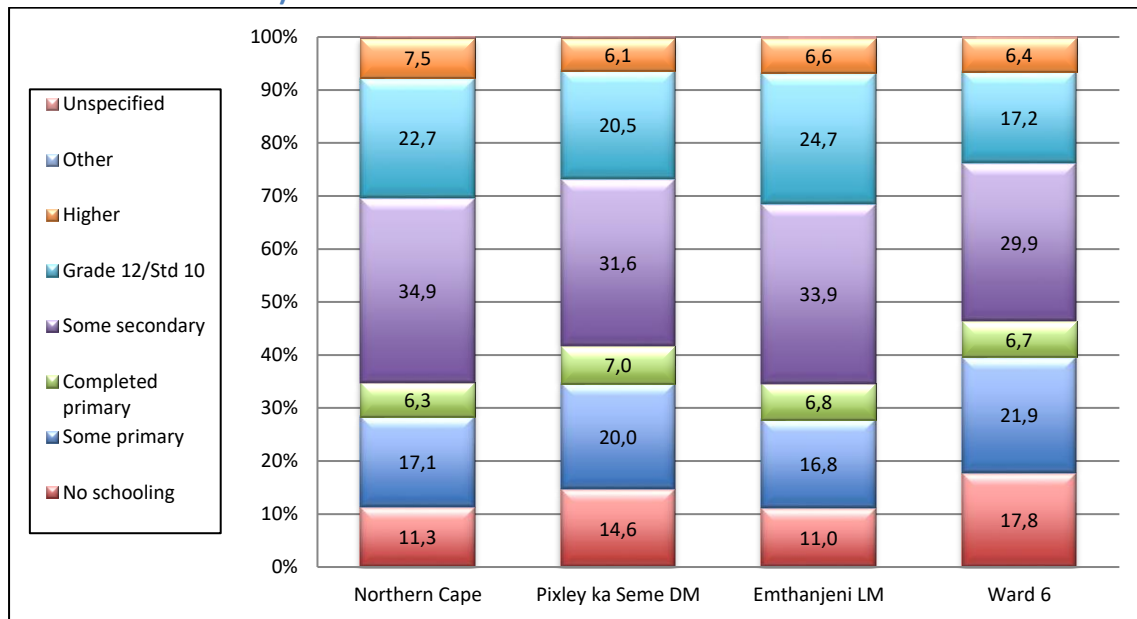




4.2.3 Education

About two fifths of the people in Ward 6 aged 20 years or older have no schooling or only some primary education (Figure 7). This is higher than on local, district or provincial level. These high levels of illiteracy should be taken into consideration when consulting with farmworkers or communities on the project.

Figure 6: Education profiles (those aged 20 years or older, shown in percentage, source: Census 2011)



4.2.4 Employment, livelihoods, and economic activities

Ward 6 has the highest proportion of people aged between 15 – 65 years that are employed (Figure 8). Just over half of the people who are employed in Ward 6, are employed in the formal sector (Figure 9). This is much lower than on local or district level. About a quarter of the employed work in the informal sector, which is proportionately higher than on local or district level.



Figure 7: Labour status (those aged between 15 - 65 years, shown in percentage, source: Census 2011)

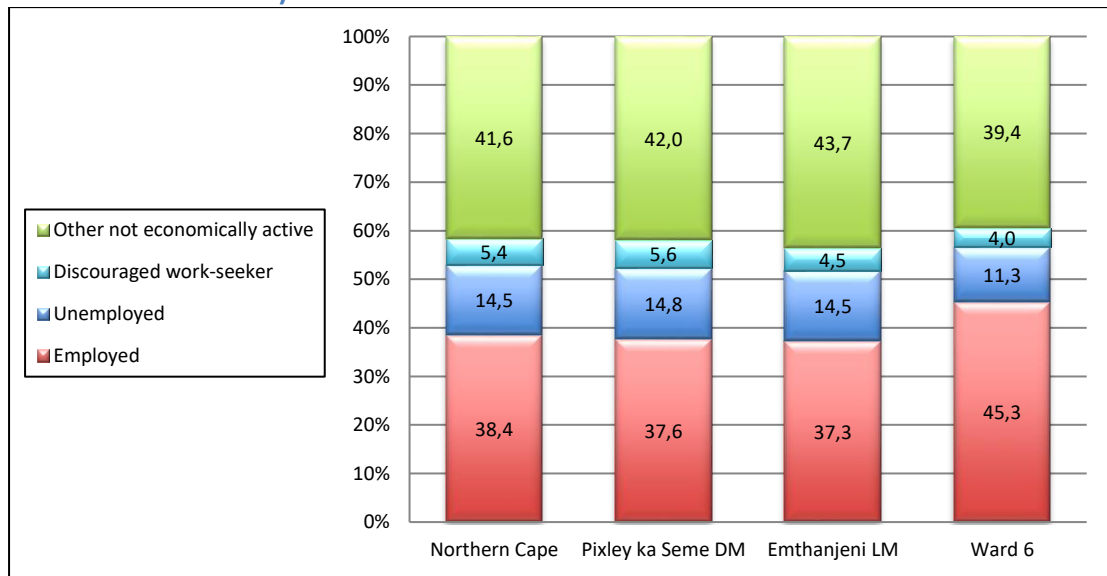
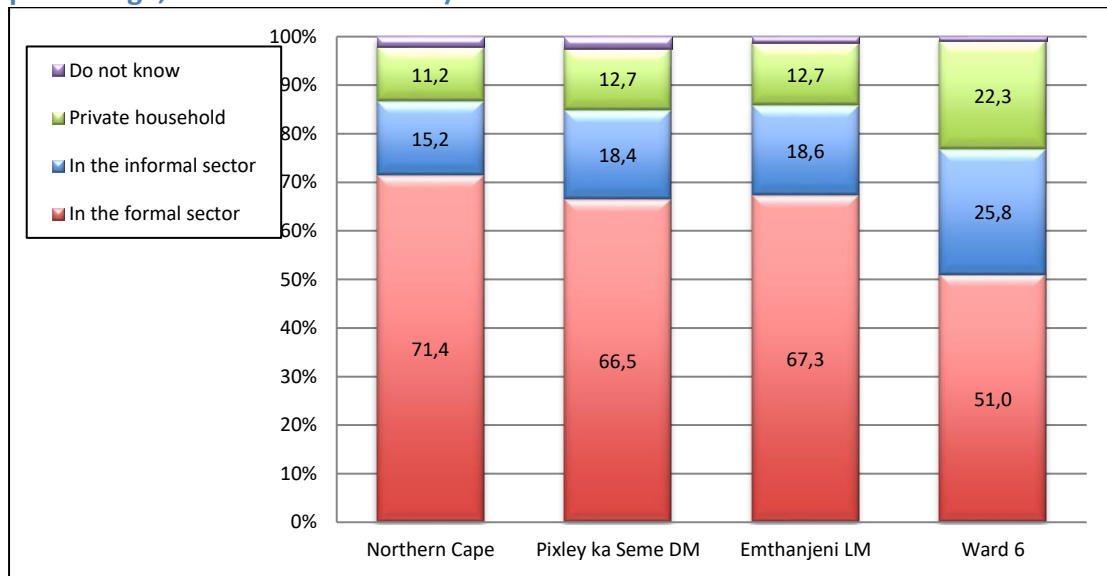


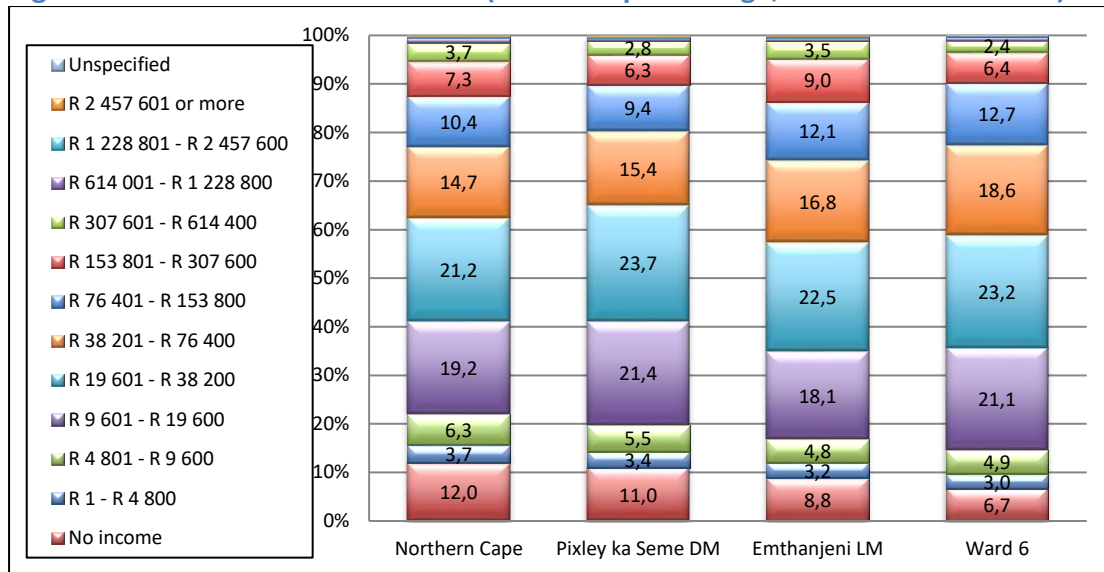
Figure 8: Employment sector (those aged between 15 - 65 years, shown in percentage, source: Census 2011)



The lowest proportion of people with no annual household income is on ward level (Figure 10). Almost 60% of the households in Ward 6 had an annual household income of below R38 201 in 2011.



Figure 9: Annual household income (shown in percentage, source: Census 2011)



Agriculture forms the backbone of the economy of the Emthanjeni LM (Emthanjeni LM IDP, 2021/22) and accounts for the largest labour/employment contributor to date. There is a big abattoir in De Aar that solely for sheep with a capacity of 1 000 carcasses a day. The area is famous for ‘Karoo’ mutton. Sheep, wool, and mutton are the main farming activities in the Britstown area while hunting of small game is also very popular. Wool is exported to Gqeberha (formerly Port Elizabeth). Besides sheep farming, cattle, goat, pig, and game are also being farmed. The town of Hanover is well endowed with construction industry artisans. The manufacturing sector shows potential for growth through the introduction of renewable energy projects in De Aar and the surrounding areas. There are also stone crushers in the area that specialise in the manufacturing of sand, bricks cement and rocks. Other economic activities include services, retail, transport, and tourism.

Statistics South Africa (2021) has calculated the National Food Poverty Line (FPL) as R624 per capita per month for 2021 where the FPL is the Rand value below which individuals are unable to purchase or consume enough food to supply them with the minimum per-capita-per-day energy requirement for good health. The FPL is one of three poverty lines, the others being the upper bound poverty line (UBPL) and the lower bound poverty line (LBPL). The LBPL and UBPL both include a non-food component. Individuals at the LBPL do not have enough resources to consumer or purchase both adequate food and non-food items and are forced to sacrifice food to



obtain essential non-food items, while individuals at the UBPL can purchase both adequate food and non-food items. The national LBPL for 2021 is R890 per capita per month and the national UBPL R1 335 per capita per month respectively. Based on this, a household with four members needed an annual household income of approximately R30 000 in 2021 to be just above the FPL. In 2011 this figure was approximately R17 000. When comparing this with the SAMPI data of the corresponding period it seems as if there are more households below the poverty lines in the area than who are multidimensionally poor. This is due to the poverty lines using a financial measure and do not take into consideration payment in kind and livelihood strategies such as subsistence farming. If there were to be converted into a Rand value, the poverty line picture may have a closer resemblance to the SAMPI data.

4.2.5 Housing

Almost three quarters of the population of Ward 6 live in areas classified as formal residential, while just over a quarter live in areas classified as farms (Figure 11). More than 90% of households in Ward 6 live in houses or brick structures on separate stands or yards (Figure 12), with caravans or tents the second most used dwelling type. This can most likely be ascribed to construction activities in the area.

Figure 10: Enumeration area types (shown in percentage, source: Census 2011)

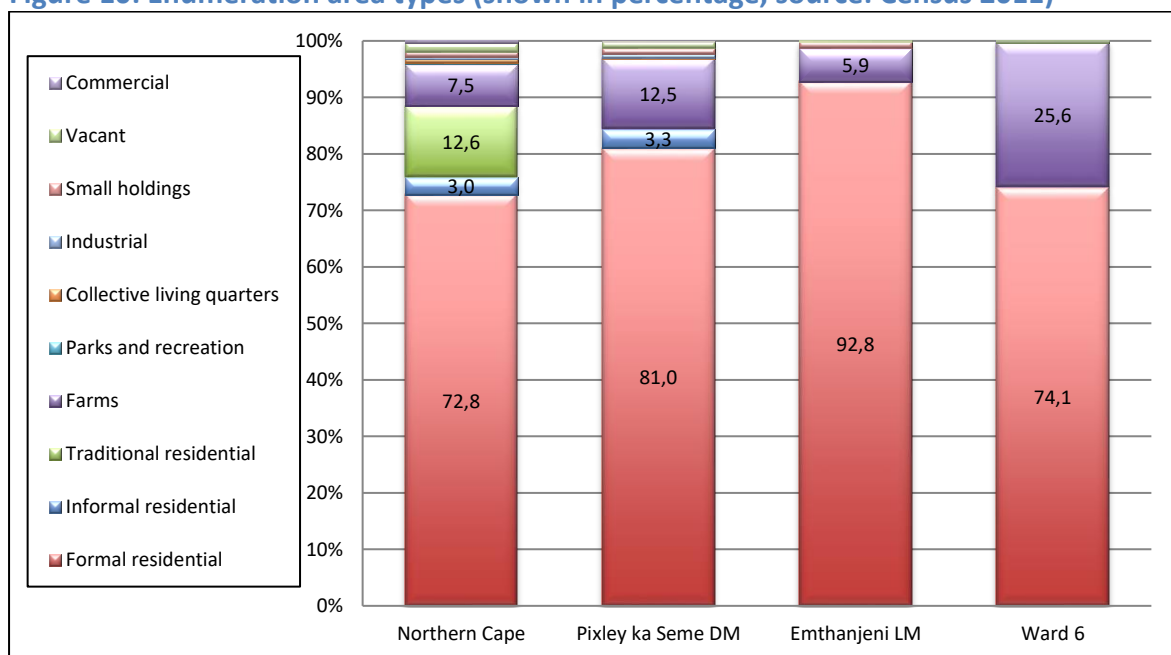


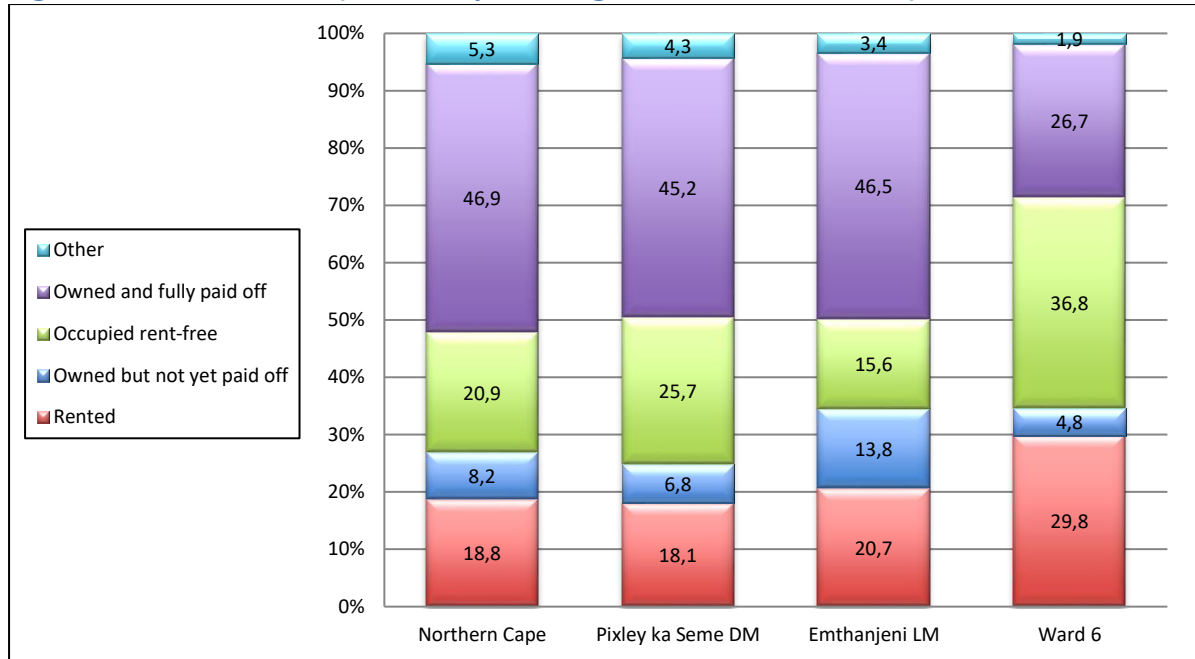
Figure 11: Dwelling types (shown in percentage, source: Census 2011)



The incidence of households renting their dwellings is much higher on ward level than on local, district or provincial level (Figure 13). This might be as a result of construction activities in the area. The incidence of households occupying their dwellings rent-free is much higher on ward level than on local, district or provincial level, and this is most likely due to farm workers that receive housing for their employers.

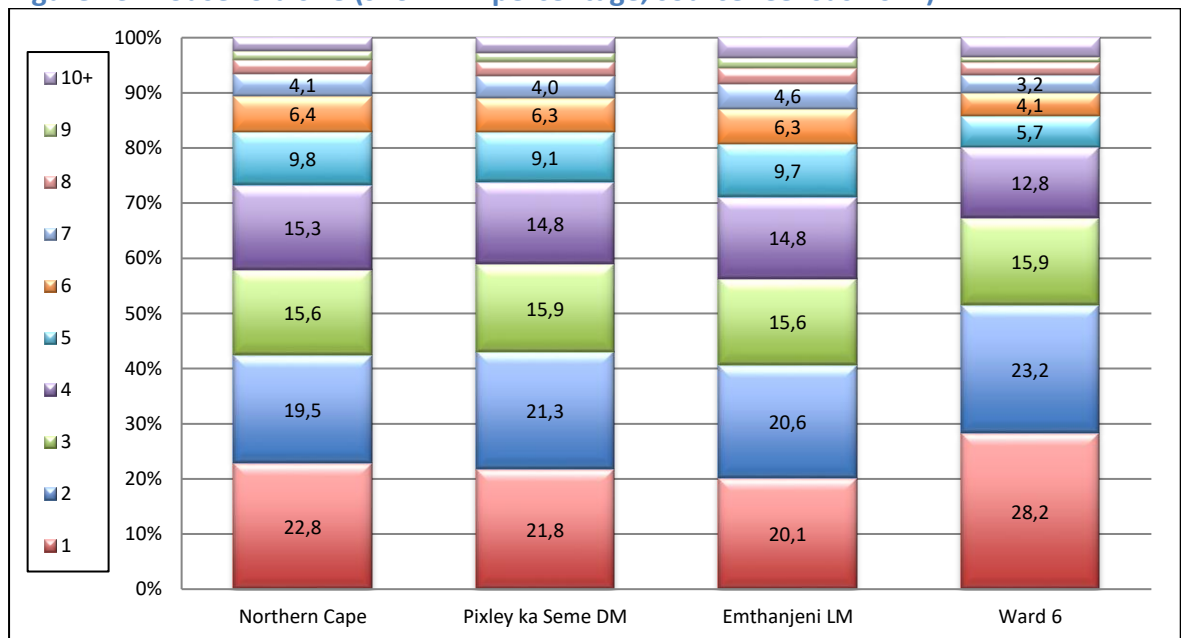


Figure 12: Tenure status (shown in percentage, source: Census 2011)



Households in ward level tend to consist of less members than on local, district or provincial level (Figure 14), with just over half the households consisting of only one or two members.

Figure 13: Household size (shown in percentage, source: Census 2011)



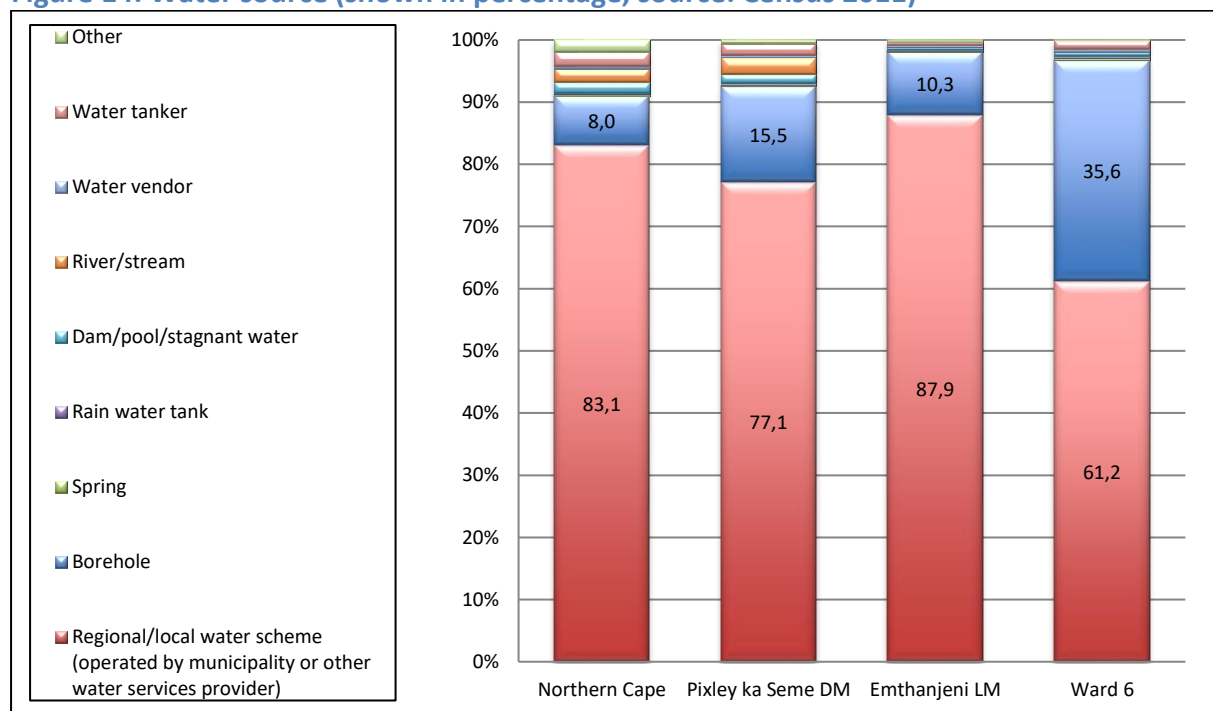


4.2.6 Access to basic services

Access to basic services such as water, sanitation and electricity relate to standard of living according to SAMPI (Statistics South Africa, 2014). Households that use paraffin, candles, or nothing for lighting; or fuels such as paraffin, wood, coal, dung or nothing for cooking or heating; have no piped water in the dwelling or on the stand and do not have flush toilets can be described as deprived in terms of these basic services.

Almost a third of the households in Ward 6 get their water from a borehole (Figure 15), a much higher proportion than on local, district or provincial level, while just over 60% get their water from a regional or local water scheme, much lower than on local, district or provincial level.

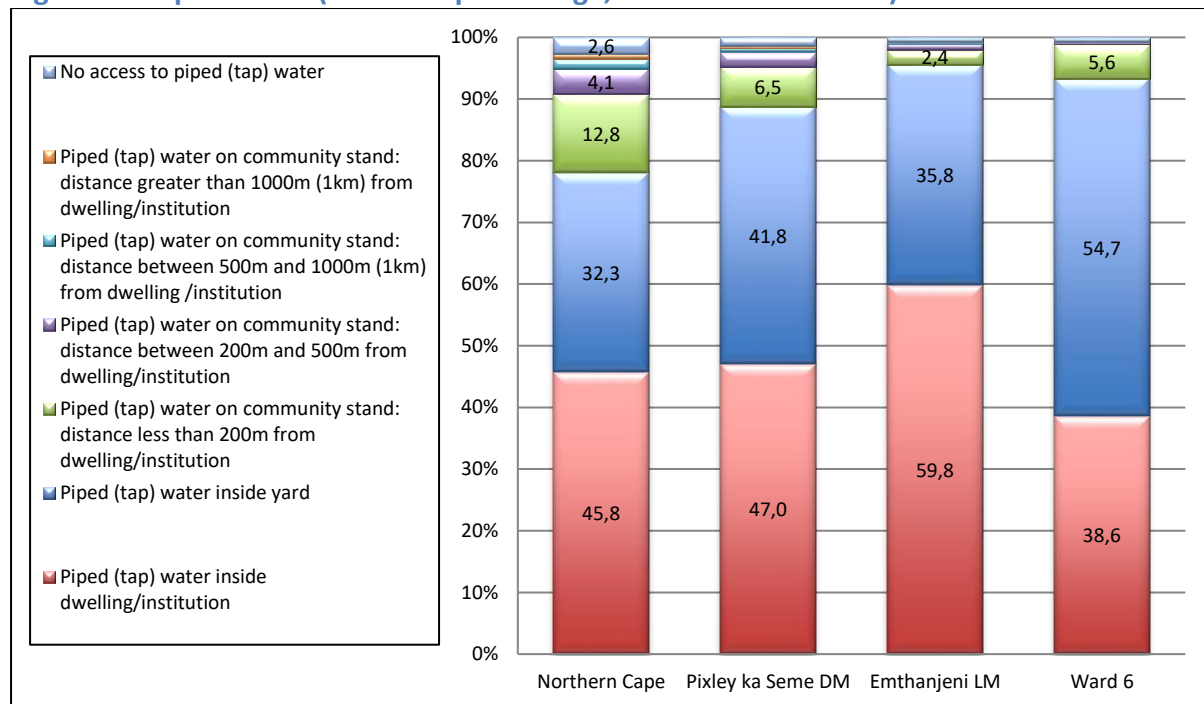
Figure 14: Water source (shown in percentage, source: Census 2011)



Just over a third of households in Ward 6 have access to piped water inside their dwellings (Figure 16), a lower proportion than on local, district or provincial level, while just over half of the households have access to piped water inside their yards.



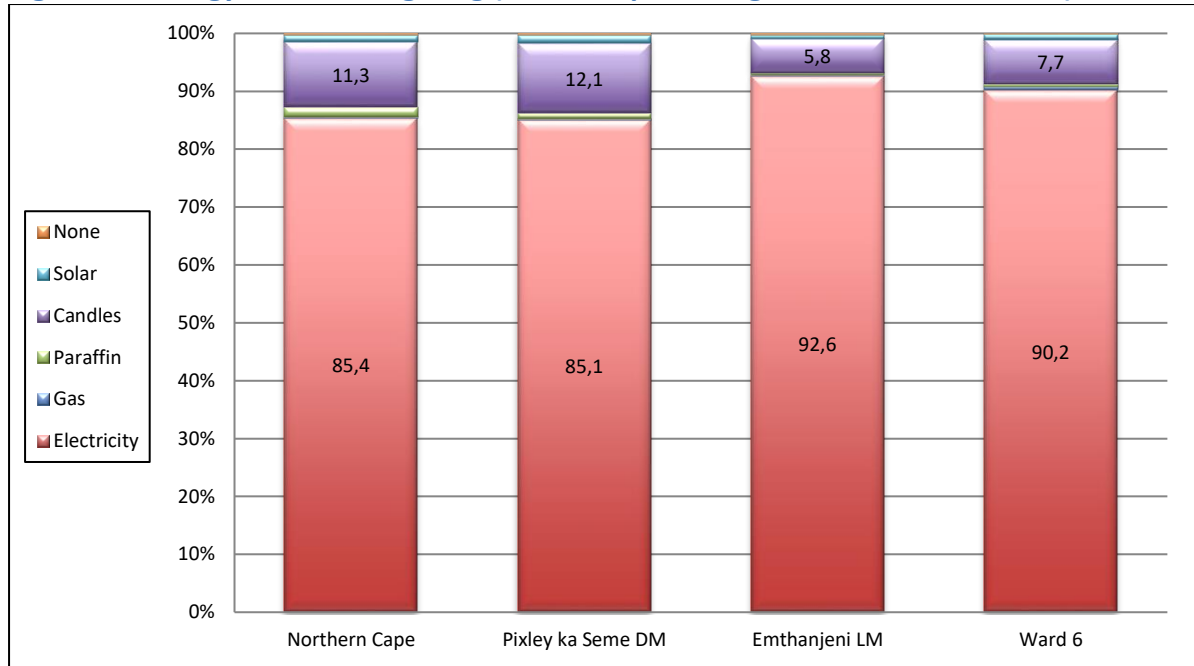
Figure 15: Piped water (shown in percentage, source: Census 2011)



Access to electricity for lighting purposes give an indication of whether a household has access to electricity, as poor households sometimes only use electricity for lighting, but use other sources of energy for heat and cooking. The incidence of households with access to electricity on ward level is higher than on district or provincial level (Figure 17), with more than 90% of households having access to electricity for lighting purposes.

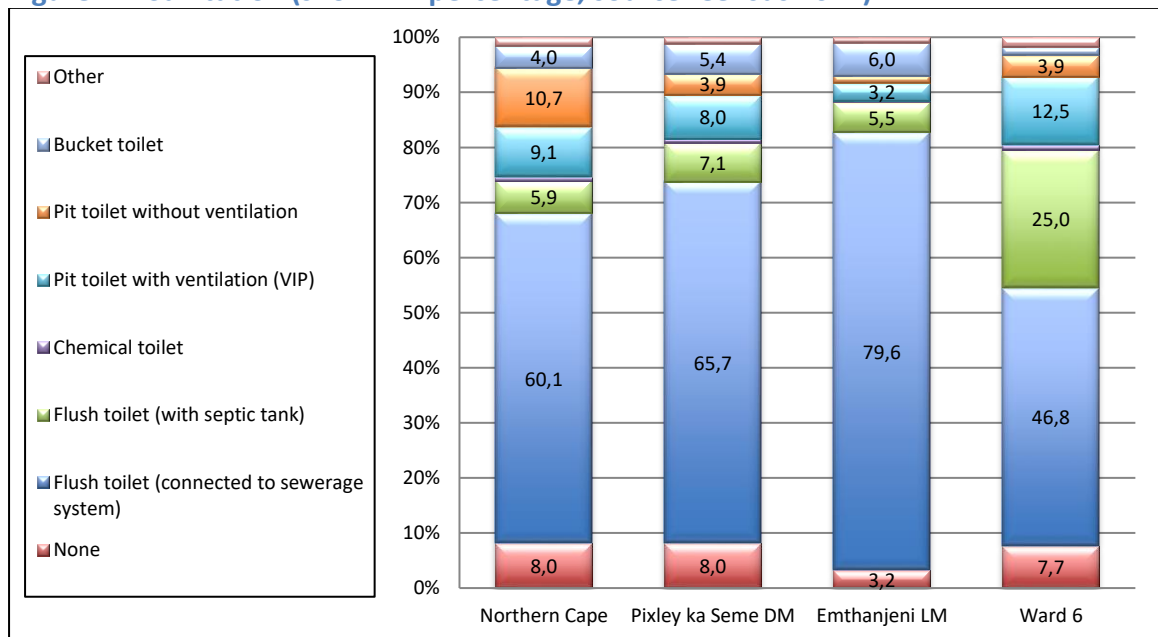


Figure 16: Energy source for lighting (shown in percentage, source: Census 2011)



More than 70% of households on ward level have access to flush toilets that is either connected to a sewerage system or with a septic tank (Figure 18). The highest proportion of flush toilets with a septic tank is found on ward level, as can be expected in an area with a high incidence of farms. The highest proportion of pit toilets with ventilation is also found on ward level.

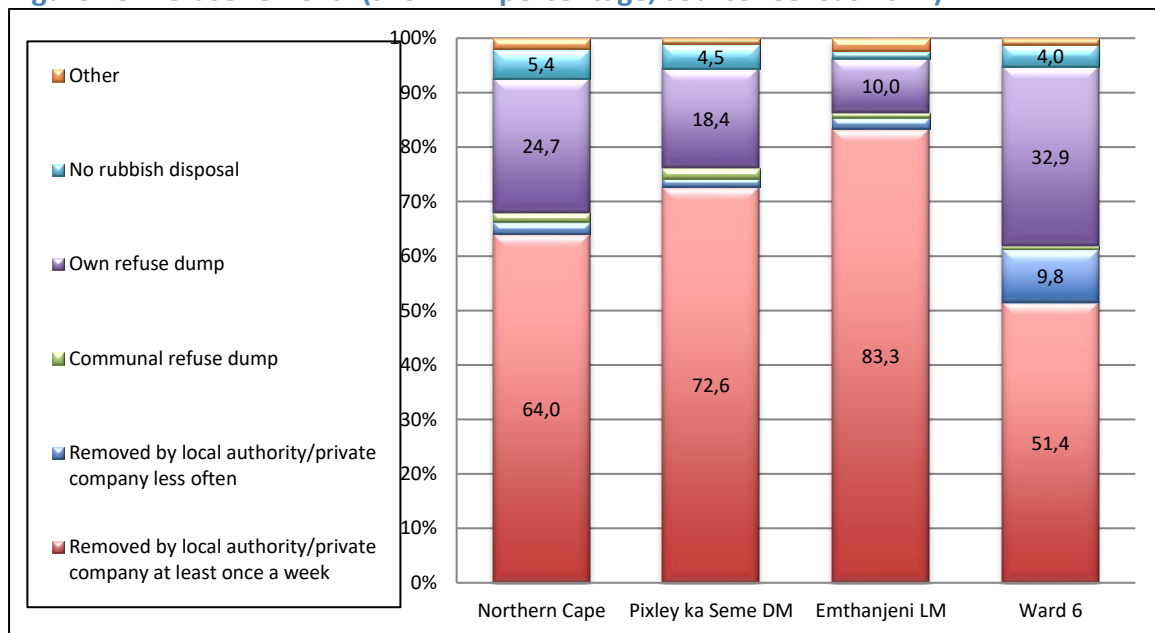
Figure 17: Sanitation (shown in percentage, source: Census 2011)





Almost a third of households on a ward level have their own refuse dumps (Figure 19) with just over half of the households having their refuse removed by a local authority at least once a week. This is due to the high incidence of farms in the ward.

Figure 18: Refuse removal (shown in percentage, source: Census 2011)



4.3 Discussion of receiving environment

The receiving environment is located in Ward 6 of the Emthanjeni Local Municipality that is located in the Pixley Ka Seme District Municipality in the Northern Cape province. The towns in the area are small and the proposed site is located between the towns of Hanover and De Aar. There are no areas under traditional leadership in the district and the site is surrounded by commercial farms.

The area showed an increase in population as well as the number of households since 2011, with the increase in the number of households greater than the increase in population. The household sizes have shown a decrease since 2011. This can be due to children leaving their parents’ house to stay on their own and start families of their own.

In Ward 6, the proportion of households that are multidimensionally poor has increased, compared to a decrease on local level. This means that the households are deprived on a number of dimensions which mostly relate to access to basic services.



Education levels are low and there are very few employment opportunities. Agriculture forms the backbone of the economy.

The detailed description of the area highlights the following important aspects:

- Documentation used for communicating about the project should be available in English and Afrikaans;
- High levels of illiteracy among certain groups means that written word will not in all cases be the best way to communicate with some of the communities. Additional ways to communicate with the communities that are culturally appropriate must be found;
- Finding the required skills in the area might be a challenge and using local labour might be a challenge. This must be taken into consideration when planning the project and it may be necessary to include a skills development component.

5 Stakeholder Identification and Analysis

5.1 Approach

Stakeholders include all individuals and groups who are affected by, or can affect, a given operation. Stakeholders consist of individuals, interest groups and organizations (Vanclay, Esteves, Aucamp & Franks, 2015). Stakeholder analysis is a deliberate process of identifying all stakeholders of a project - the individuals and groups that are likely to impact or be impacted by it - and understanding their concerns about the project and/or relationship with it (Vanclay et al, 2015). Stakeholder analysis assists the proponent with understanding the local cultural and political context. It is acknowledged that different stakeholder groups have different interests, and that there are individual differences within stakeholder groups. The purpose of this section of the report is to introduce the stakeholder groups that will potentially be affected by the proposed projects.



5.2 Preliminary list of stakeholders

The following stakeholders that may have an interest in or affected by the proposed Solar PV project have been identified:

Table 6: Detail of Stakeholder Groups.

Stakeholder Grouping	Organisation
Internal Stakeholders	
Soventix	Soventix Management Team Employees of Soventix
Construction company	Management and staff of construction company
Government	
Governmental departments and directorates	<ul style="list-style-type: none"> • Northern Cape Province • Pixley Ka Seme District Municipality • Emthanjeni Local Municipality • Department of Environment and Conservation, Northern Cape • Department of Energy • Department of Water and Sanitation • South African Heritage Resources Agency (SAHRA) • South African Police Services
State-owned entities and regulators	<ul style="list-style-type: none"> • Eskom Distribution • Eskom Transmission • Northern Cape Department of Roads and Public Works • Transnet • Northern Cape Province; • Pixley Ka Seme District Municipality; • Emthanjeni Local Municipality; • Square Kilometre Array (SKA)
Business	
Local Businesses	Various in De Aar and Hanover Northern Cape Chamber of Commerce and Industry De Aar Accommodation, Business and Tourism Portal Business E-zone De Aar
Contractors / Suppliers	Contractors providing sub-contracting services to Soventix related to the Solar PV project
Industrial Interest groups	South African Photovoltaic Industry Association (SAPVIA) South African National Energy Development Institute (SANEDI) Independent Power Producer Office
Environmental	
Environmental Interest groups	Endangered Wildlife Trust WESSA Birdlife South Africa Centre for Environmental Rights
Societal	
Tourism groups	De Aar Accommodation, Business and Tourism Portal Northern Cape Tourism Authority
Social Organizations	Community forums (e.g., employment, youth)



Stakeholder Grouping	Organisation
	Karoo Eisteddfod Trust
Residents/ Community	
Residents	Residents of informal settlements, home owners/tenants in De Aar and Hanover
Local farmers	Farmers and farm workers on directly affected properties Farmers and farm workers on neighbouring properties Other farmers and farm workers in the area

The identified level of interest of each stakeholder helps assist with designing the stakeholder engagement strategy for the project, and to decide how much time to devote to engaging with each stakeholder or group. This is a qualitative analysis that should ideally be done by the stakeholder engagement team of Soventix and revisited as needed, as the interest of stakeholders may change after the construction phase and in the operation phase. The engagement levels required for each group of stakeholders as revealed through this analysis may be more than consultation, for example they may include partnerships, involvement in community development plans or community monitoring, strategic planning, or any other activity. Knowing the needs, issues and expectations of affected stakeholders assist with building and retaining good relationships with them, and with managing their expectations.

It must be noted that this list can change during the SIA phase and more stakeholders that emerge may be added.

Table 7 below plots the stakeholders according to their ability to influence the company's activities (horizontal axis) and the degree to which they are affected by the proposed Solar PV plant, whether the impact is social, economic or environmental (vertical axis). In instances where the impact or influence is potentially significant individual stakeholder groups/organisations have been used. All other groupings are used in general.

**Table 7: Stakeholder matrix.**

Degree to which they are impacted on	High	Local Businesses Contractors / Suppliers	Local farmers	Soventix
	Medium	Social organisations Local residents Tourism groups	State-owned entities and regulators	Governmental departments and directorates
	Low	Environmental Interest groups	Industrial Interest groups	
		Low	Medium	High
Ability to influence company's activities				

The stakeholders that will be impacted on most in both a positive and negative manner but have the least ability to influence the company's activities are local businesses, contractors, suppliers, and neighbouring farmers. Businesses and contractors that can supply goods and services to the project will be impacted on positively. Businesses that rely on the sense of place – tranquillity, views, and pristine Karoo experience - may be impacted on in a negative manner. These businesses include tourism service providers. These stakeholders are therefore seen as key stakeholders in the Solar PV project.

Government is also an important stakeholder in the sense that it must provide authorisation for the project, and that the economic impact of the project will be felt in the local and district municipalities. A more detailed stakeholder analysis will be conducted in the EIA phase of the project.



6 Description of potential impacts

6.1 Social changes versus social impacts

It is important to understand the difference between a social change process and a social impact. For the purpose of the SIA report both these categories will be investigated. For the purpose of this report, only possible social impacts will be mentioned.

Social change processes are set in motion by project activities or policies. Social change processes can be measured objectively, independent of the local context. Examples of a social change process are increase in the population, relocation, or presence of temporary workers. Under certain circumstances these processes may result in social impacts, but if managed properly these changes may not create impacts. Whether impacts are caused will depend on the characteristics and history of the host community, and the extent of mitigation measures that are put in place (Vanclay, 2003).

The following categories of social change processes should be investigated in a SIA:

- Demographic processes;
- Economic processes;
- Geographic processes;
- Institutional and legal processes;
- Emancipatory and empowerment processes;
- Socio-cultural processes.

A social impact is something that is experienced or felt by humans. It can be positive or negative. Social impacts can be experienced in a physical or perceptual sense. Therefore, two types of social impacts can be distinguished:



- Objective social impacts – i.e. impacts that can be quantified and verified by independent observers in the local context, such as changes in employment patterns, in standard of living or in health and safety.
- Subjective social impacts – i.e. impacts that occur “in the heads” or emotions of people, such as negative public attitudes, psychological stress or reduced quality of life.

It is important to include subjective social impacts, as these can have far-reaching consequences in the form of opposition to, and social mobilisation against the project (Du Preez & Perold, 2005). The following categories of social impacts will be investigated:

- Health and social well-being;
- Quality of the living environment;
- Economic impacts and material well-being;
- Cultural impacts;
- Family and community impacts;
- Institutional, legal, political and equity impacts;
- Gender impacts.

In conclusion, it is very likely that a number of social changes processes will be set in motion by the project. Whether these processes cause social impacts will depend on the successful implementation of suggested mitigation measures. It must be considered that the social environment is dynamic and constantly changing, making it difficult to predict exact impacts. External processes not related to the project, like political changes or global economic changes can alter the social environment in a short period of time, and therefore alter the predicted impacts.



6.2 Preliminary social impacts

Sources of social impacts are often not as clear-cut as those in the biophysical environment. Social impacts are not site-specific but occur in the communities surrounding the proposed site – where the people are. The following is a list of some of the possible impacts that may occur as a result of the project. It must be stated that the list is not exhaustive and should be expanded on in the EIA phase when consultation with stakeholders will take place. Mitigation measures are context specific and the mitigation measures in this report should be viewed as guidelines and may change once consultation with stakeholders has taken place. These impacts should be investigated further in the Environmental Impact Assessment phase of the project. [Table 6](#) shows impacts that can occur in the different phases of the project and suggests possible mitigation measures. These measures can be refined once further stakeholder consultation has taken place.

Table 8: Preliminary impacts in the different phases of the project.

Possible impacts	Possible mitigation measures
PLANNING AND DESIGN PHASE	
Expectations regarding creation of opportunities (Jobs etc.)	Soventix must put a communication strategy in place that will communicate in an open and honest way what kind of jobs will be created, who will qualify and how the recruitment process will work.
CONSTRUCTION PHASE	
Impacts of traffic on people – dust, noise, safety – from a social and nuisance perspective.	Heavy vehicles should travel during off peak times and should be clearly marked. Relevant mitigation proposed in the biophysical studies should be adhered to.
Impacts on livelihoods – of landowners (positive and negative). Increased economic opportunities and income streams.	Where possible, try to avoid productive land. If landowners have facilities available or can render services, try and utilise those services.
Impacts on property values - there is a concern amongst neighbouring	Impacts on property values may come from different sources and it is difficult to determine the exact source at a point in



Possible impacts	Possible mitigation measures
properties that the value of their property may be affected by the proposed development.	time. This will be researched further in the EIA phase.
Safety of community – possible increase in crime due to increased number of strangers in community.	Contractors should wear some form of identification that will make them easily recognizable as representatives from Soventix. Soventix should liaise with the communities to draft an action plan against potential crime.
Negative community relations due to conduct of contractors/ representatives of Soventix.	A protocol must be put in place that stipulates how contractors / Soventix representatives should conduct themselves when they move around in the area, especially when they need to perform tasks on private property. This would include finding out what the community will expect of them, for example making appointments, being clearly identifiable, etc. The protocol should also state the consequences of not adhering to the rules.
Impacts of construction camp – HIV/AIDS, movement of people etc. (This impact would only occur if there were a construction camp).	<p>The construction camp must be established in accordance with the IFC guidelines for Workers' Accommodation.</p> <p>The location of the construction camp must be agreed on with surrounding neighbours.</p> <p>Life skills education should be presented to all Soventix employees (and contractors). This should include HIV/AIDS, prostitution, teen pregnancy, etc.</p>
Impacts related to an influx of people – possible social disintegration and cultural differentiation, social ills such as drug and alcohol abuse, prostitution, and damage to social fabric of the community.	Develop and implement an Influx Management Strategy as per IFC Guidelines on Influx Management. Coordinate with local NGOs to address potential social ills through education and prevention initiatives.



Possible impacts	Possible mitigation measures
Creation of jobs and other primary and secondary economic opportunities.	Contractors should be required to make use of a certain proportion of local labour – it is acknowledged that not all skills will be available locally. Jobs should be advertised in a way that is accessible to all members of society and labour desks should be established in accessible areas. Secondary economic opportunities such as catering, accommodation, transport, and cleaning services must be given to businesses in the project affected communities.
For some stakeholders their sense of place may change due to the visual, noise and light impacts.	It is mostly not possible to mitigate impacts on the sense of place. Input should be obtained from current landowners on how to minimise these impacts.
OPERATIONAL PHASE	
Negative community relations due to conduct of contractors/ representatives of Soventix.	A protocol must be put in place that stipulates how contractors / Soventix representatives should conduct themselves when they move around in the area, especially when they need to perform tasks on private property. This would include finding out what the community will expect of them, for example making appointments, being clearly identifiable, etc. The protocol should also state the consequences of not adhering to the rules.
Creation of jobs and other economic opportunities	Preference should be given to local labour that is within easy travelling distance from the site of work. It may be necessary to put skills development programmes in place to develop local skills. Jobs should be advertised in a way that is accessible to all members of society and labour desks should be established in accessible areas.
Establishment of infrastructure to generate renewable energy	No mitigation required.
Fire hazards (caused by people)	Fires (if needed) should be made in controlled areas and



Possible impacts	Possible mitigation measures
	workers and contractors should be made aware of the danger and consequences of fires. They should for example be aware not to throw cigarette butts next to the road, as these may start a fire.
For some stakeholders the sense of place will change	Sense of place cannot be mitigated. Social change is a natural process that will occur over time regardless of whether the project proceeds or not and the presence of the project will just accelerate this process.
DECOMMISSIONING PHASE	
Loss of jobs and associated income	Planning for closure and portable skills training for employees.



7 Detailed plan of study for the EIA and EMP

In terms of the way forward, it is believed that a participatory approach is the best way to approach social impact assessment in the South African context. The World Bank Social Standards, Equator Principles, International Principles for Social Impact Assessment, and the SIA Guidance document published by the IAIA will be applied in the study. It must be noted that international standards and principles will be adapted to ensure that it can be applied in the local social context. The methodology proposed focuses on involving the affected public in the research and planning where it is realistically possible and executable. Different methodologies will be utilised to ensure the affected communities are consulted in the way that is most appropriate to the community.

The following activities will form part of the process forward:

- Fieldwork will be conducted to obtain additional information and communicate with key stakeholders. Key stakeholders are likely to include:
 - Authorities: local municipalities that fall in the project area.
 - Affected parties: communities that will be affected by the project, farm labourers and farmers.
 - Interested parties: local business in the area, community-based organisations and non-governmental organisations within the affected communities, trade unions, and political groups.
- Methodologies will include in-depth interviews, participatory rural appraisal, in-the-moment discussion groups, focus groups and immersions. Field notes will be kept of all interviews and focus groups. Initial meetings have been conducted.
- An interview schedule might be utilised instead of formal questionnaires. An interview schedule consists of a list of topics to be covered, but it is not as structured as an interview. It provides respondents with more freedom to elaborate on their views.



- The final report will focus on current conditions, providing baseline data. Each category will discuss the current state of affairs, but also investigate the possible impacts that might occur in future. The impacts identified in the scoping report will be revisited and rated accordingly. New impacts that have not been identified will be added to the report. Recommendations for mitigation will be made at the end of the report.
- The SIA process will have a participatory focus. This implies that the SIA process will focus strongly on including the local community and key stakeholders.
- The public consultation process needs to feed into the SIA.
- Impacts will be rated according to significance (severity), probability, duration, spatial extent, and stakeholder sensitivity.

Information obtained through the public processes will inform the writing of the final SIA and associated documents.

8 Conclusion

The aim of this report is to give a baseline description of the social environment and to identify preliminary impacts to be used in the scoping phase of the Environmental Impact Assessment. A more in-depth assessment of social impacts and possible mitigation measures will be possible once further stakeholder consultation has taken place. A number of potential impacts has been identified. None of these possible impacts is seen as a fatal flaw in the possible successful execution of the proposed project, but this can only be confirmed once fieldwork has been done and the potential impacts have been finalised and assessed. Most of the potential impacts can be mitigated. The importance of addressing the potential impacts as early in the project cycle as possible must be underlined, since failure to do so may result in the development of risks and an exponential increase in project cost.



9 Assumptions, uncertainties, and gaps in knowledge

The following assumptions and limitations were relevant:

1. The socio-economic environment constantly changes and adapts to change, and external factors outside the scope of the project can offset social changes, for example changes in local political leadership. It is therefore difficult to predict all impacts to a high level of accuracy, although care has been taken to identify and address the most likely impacts in the most appropriate way for the current local context within the limitations.
2. Social impacts can be felt on an actual or perceptual level, and therefore it is not always straightforward to measure the impacts in a quantitative manner.
3. Social impacts commence when the project enters the public domain. Some of these impacts are thus already taking place, irrespective of whether the project continues or not. These impacts are difficult to mitigate, and some would require immediate action to minimise the risk.
4. There are different groups with different interests in the community, and what one group may experience as a positive social impact, another group may experience as a negative impact.



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