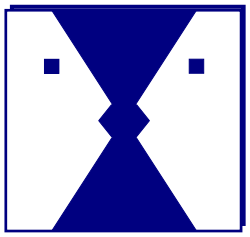
TGS Orange Basin Reconnaissance Project

Social Impact Assessment



Prepared by:

Equispectives Research & Consulting Services

Contact person: Ms San-Marié Aucamp

Dr Ilse Aucamp

Prepared for:
EIMS

September 2022

Executive Summary

TGS Geophysical Company (UK) Ltd proposes to undertake a 3D seismic survey off the West Coast of South Africa. The proposed project area is located approximately 256 km offshore of St Helena Bay, extending north along the western coastline to approximately 220 km offshore of Hondeklip Bay over a number of petroleum license blocks. At the closest point the proposed survey area is approximately 218 km offshore of the coast of the Western and Northern Cape provinces. The area of interest for the proposed 3D seismic survey is approximately 30 000 km^2 in extent.

TGS's activities for this application would be of short duration if approved, and if viewed in isolation considering only technical risks as discussed in various specialist reports conducted as part of the EIA process, the impacts will be negligible. However, communities feel that there are significant gaps in the available data and from a social perspective the non-technical or social risks can potentially cause significant impacts. The following potential social impacts have been identified:

- Uncertainty
- Further marginalisation of vulnerable groups
- Concerns about cumulative impacts
- Perceived Impact on livelihoods
- Impacts on sense and spirit of place
- Impacts on the social licence to operate
- Stakeholder fatigue and disillusionment
- Community expectations
- Social unrest

Seismic reconnaissance projects are controversial in South Africa and has been in the news frequently in the last year. For many stakeholders it is an emotional matter, for others the potential of impacting their livelihoods is the biggest fear. There are also stakeholders that feel that the exploration for fossil fuels is not in line with sustainable development and the fight against climate change. Other stakeholders feel that it is imperative for the growth and development of the South African economy to engage in these investigations. It is a complex and wicked[1] problem.

Based on the findings, the following recommendations are made:

- TGS should develop a community engagement protocol, communication strategy and grievance mechanism that is based on the San Code of Research Ethics.

- TGS should contribute to assisting with collaboration on independent research on how fish species on the West Coast such as snoek respond to seismic surveying. Collaboration across seismic operators with holders of hydrocarbon exploration and the industry as a whole to collectively fund pro-active research would provide opportunity for the development and implementation of a structured and experimentally sound acoustic study. This would quantitatively inform the authorities and stakeholders of acoustic impacts to the various faunal groups in South African Waters.

- Consult with communities on potential ways in which to make a positive contribution to the communities.

- Engage in meaningful consultation.

- The seismic survey industry should reassess their position and social licence to operate as an industry in a South African context and conduct a strategic environmental assessment of the impact of the industry and embark on an awareness raising and education campaign.

[1] a **wicked problem** is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize.

From a social perspective it is clear that the communities and majority of local people are opposed to the project. If the project is considered in isolation, the impacts are negligible. However, the project does not happen in a vacuum, and the social environment is much wider than the footprint of the project. If the social risks and potential damage to cultural and indigenous rights are considered the impact on the social fabric of already vulnerable communities may be significant. At this stage communities feel that they cannot make informed decisions. Communities does not distinguish between the different role players in the seismic survey industry. Although all legal processes have been followed by TGS, the seismic survey industry is not moving at the pace of the community, and in the long run this will be detrimental to the industry. Potential future benefits and the economic development of the country should the surveys find any significant resources are not disputed. From a social perspective it is recommended that the project proceed subject to the mitigation measures (i.e. meaningful consultation, local research, education, and awareness raising in the project-affected communities) forming part of the conditions for authorisation and being implemented prior to the commencement of the actual survey.

Opsomming

TGS Geophysical Company (UK) Ltd beoog om ‘n 3D seismiese opname te doen aan die Weskus van Suid-Afrika. Die voorgenome projek area is ongeveer 256 km van St Helena Baai in die diepsee geleë, en strek dan Noord teen die westelike kuslyn af tot ongeveer 220 km in die diepsee in vanaf Hondeklipbaai oor ‘n aantal petroleum lisensie blokke. Die punt wat die naaste aan die land is, is ongeveer 218 km in die diepsee aan die kus van die Wes Kaap en die Noord Kaap Provinsies. Die gebied wat die voorgenome 3D seismiese opname beplan om te dek beslaan ongeveer 30 000 km^2.

TGS se aktiwiteite vir hierdie aansoek sal van korte duur wees indien dit goedgekeur word, en wanneer dit in isolasie beskou word en slegs die tegniese risiko’s oorweeg word soos wat bepreek is in die onderskeie spesialis studies wat gedoen is as deel van die omgewingsimpak assessering proses is die impakte gering. Die betrokke gemeenskappe voel egter dat daar betekenisvolle gapings in die beskikbare data is en van ‘n sosiale perspektief kan die nie-tegnies of sosiale risiko’s potensieel betekenisvolle impakte veroorsaak. Die volgende sosiale impakte is geïdentifiseer:

- Onsekerheid
- Verdere uitskuiwing van weerbare groepe
- Bekommernisse oor kumulatiewe impakte
- Perceived Impak op vermoë om ‘n lewensbestaan te maak
- Impakte op sin en gees van plek
- Impakte op die sosiale bedryfslisensie
- Uitputting en ontnugtering van geaffekteerde gemeenskappe (agv volume van konsultasie)
- Verwagtinge van die gemeenskappe

- Maatskaplike onrus

Seismiese verkenningsprojekte is kontroversieel in Suid Afrika en was dikwels in die nuus die afgelope jaar. Vir baie belanghebbendes is dit ‘n emosionele saak, vir ander is die moontlikheid dat hulle lewensbestaan geaffekteer gaan word die grootste vrees. Daar is ook belanghebbendes wat voel dat die eksplorasie vir fossielbrandstowwe nie in lyn is met volhoubare ontwikkeling en die stryd teen klimaatsverandering is nie. Ander belanghebbendes voel dat dit noodsaaklik is vir die groei en ontwikkeling van die Suid Afrikaanse ekonomie om betrokke te raak by hierdie ondersoeke. Dit is ‘n komplekse probleem, en ‘n probleem wat moeilik of onmoontlik is om op te los.

Gebaseer op die bevindinge word die volgende aanbevelings gemaak:

- TGS moet ‘n gemeenskapsbetrokkenheid protokol, kommunikasie strategie en grief meganisme ontwikkel wat gebaseer is op die San Kode van Navorsingsetiek.

- TGS moet behulpsaam wees met samewerking tot onafhanklike navorsing oor hoe visspesies aan die Weskus soos snoek reageer op seismiese opnames. Samewerking tussen seismiese operateurs en houers van koolwaterstof eksplorasie regte en die industrie as ‘n geheel om kollektief pro-aktiewe navorsing te befonds sal die geleentheid bied vir die ontwikkeling en implementering van ‘n gestruktureerd en eksperimenteel soliede akoestiese studie. Dit sal die owerhede en belanghebbendes kwantitatief inlig omtrent die akoestiese impakte op die verskeie fauna groepe in die Suid Afrikaanse waters.

- Konsulteer met die gemeenskap op maniere waarop ‘n positiewe bydrae tot die gemeenskappe gelewer kan word.

- Raak betrokke by betekenisvolle konsultasie.

- Die seismiese opname bedryf moet hulle posisie en sosiale bedryfslisensie as ‘n industrie in die Suid-Afrikaanse konteks heroorweeg en ‘n strategiese omgewingsassessering van die impak van die bedryf uitvoer en ‘n bewusmakings- en opvoedkundige veldtog van stapel stuur.

Vanuit ‘n sosiale perspektief is dit duidelik dat die gemeenskappe en die meerderheid van die plaaslike mense gekant is teen die projek. As die projek in isolasie beskou word, is die impakte gering. Die projek vind egter nie in ‘n vakuum plaas nie, en die sosiale omgewing is heelwat breër as die voetspoor van die projek. Indien die sosiale risiko’s en potensiële skade aan die kulturele en inheemse regte oorweeg word, kan die impak op die sosiale weefsel van die reeds weerlose gemeenskappe betekenisvol wees. Vanuit ‘n sosiale perspektief kan die projek slegs aanbeveel word na betekenisvolle konsultasie, plaaslike navorsing, opvoeding, en bewusmaking gedoen is in die gemeenskappe wat deur die projek geraak is. Tans voel die gemeenskappe dat hulle nie ingeligte besluite kan neem nie. Gemeenskappe onderskei nie tussen die verskillende rolspelers in die seismiese opname industrie nie. Alhoewel al die wetlike prosesse deur TGS gevolg is, beweeg die seismiese opname bedryf nie teen die pas van die gemeenskap nie, en op die lange duur sal dit tot nadeel van die industrie wees. Moontlike toekomstige voordele en ekonomiese ontwikkeling van die land indien die opnames betekenisvolle hulpbronne vind, word nie betwyfel nie. Die aanbeveling is gevolglik dat die projek slegs kan voortgaan sodra die mitigasie maatreëls geïmplementeer is en die gemeenskappe genoegsaam ingelig en toegerus is om op ‘n betekenisvolle manier betrokke te raak.

Declaration of Independence

Equispectives Research and Consulting Services declare that:

- All work undertaken relating to the proposed project was 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 above-mentioned 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; and
- 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

Ilse Aucamp and San-Marié Aucamp compiled this report.

Ilse Aucamp holds a D Phil degree in Social Work obtained from the University of Pretoria in 2015. She also has master's 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 newly published *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* document published by the International Association for Impact Assessment.

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 and marketing research in a range of sectors such as mining, manufacturing, utilities, government, automotive, financial services, telecoms and IT as well as FMCG. She occasionally presents guest lectures at tertiary institutions. San-Marié is a contributor to the international guidance document on assessing and managing social impacts for projects that was published by IAIA International in 2015. She is currently busy with her PhD in Consulting Psychology.

Table of Contents

List of Figures

List of Tables

1 Introduction

TGS Geodata UK Ltd proposes to undertake a 3D seismic survey off the West Coast of South Africa. The proposed project area is located approximately 120 km offshore of St Helena Bay, extending north along the western coastline to approximately 230 km offshore of Hondeklip Bay over a number of petroleum license blocks. At the closest point the proposed survey area is approximately 218 km offshore of the coast of the Western and Northern Cape provinces. The area of interest for the proposed 3D seismic survey is approximately 57 400 km^2 in extent.

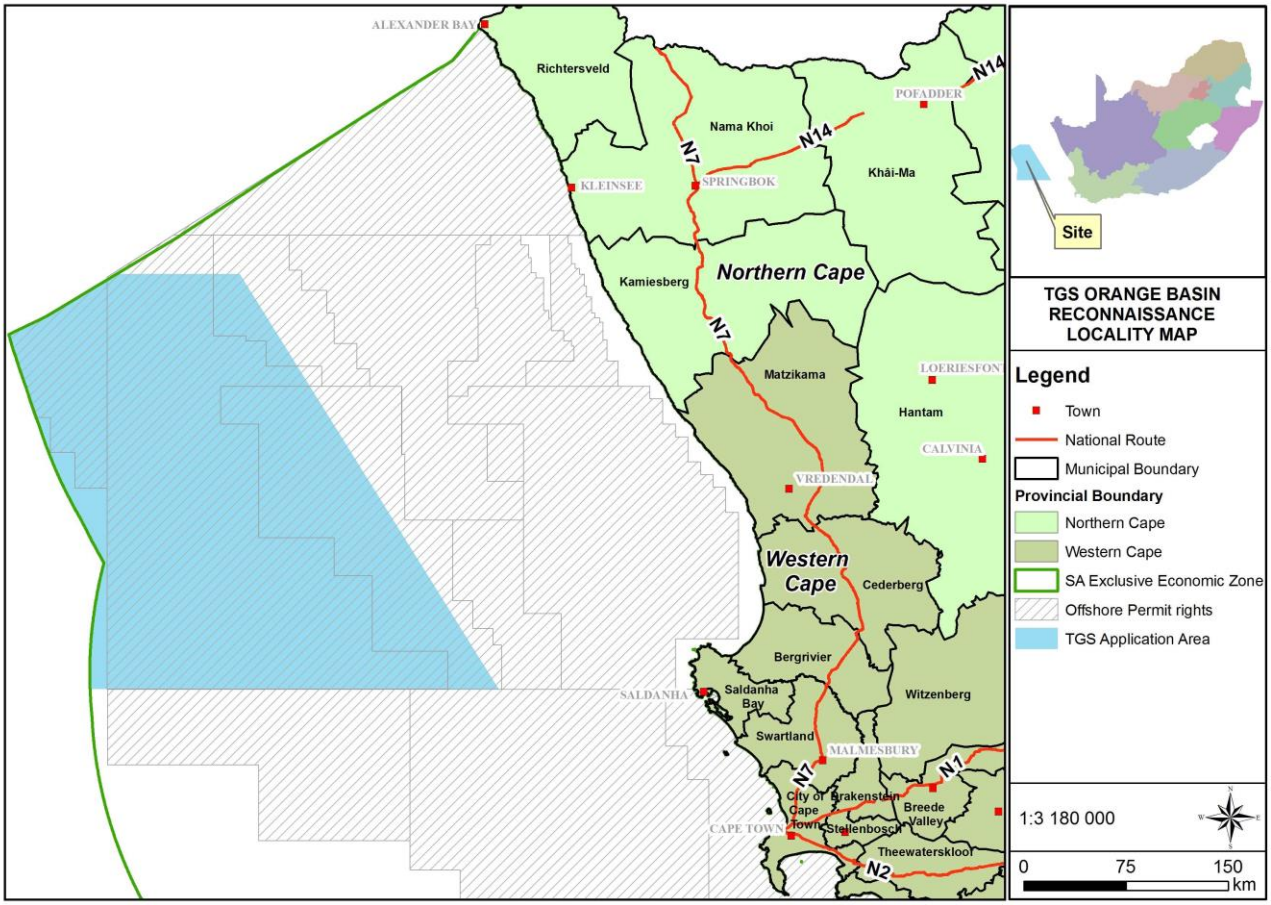
Marine seismic surveys are the primary tool for locating hydrocarbon deposits and are thus a key component of offshore oil and gas exploration. Hydrocarbon deposits occur in reservoirs in sedimentary rock layers. Being lighter than water they accumulate in traps where the sedimentary layers are arched or tilted by folding or faulting of the geological layers. It is currently envisaged that the survey lines would have a NE-SW or a SE-NW orientation. The 3D survey will take in the order of 70 days including downtime.

A single survey vessel equipped with seismic sources and streamers will be used which will be supported by up to two escort vessels. The escort vessel will assist in monitoring for and alerting of other vessels (e.g. fishing, transport, etc) about the survey and the lack of manoeuvrability of the survey vessel. At a minimum one Fisheries Liaison Officer (FLO) that speaks English and Afrikaans will be on board either the survey or escort vessel to facilitate communication in a local language with the fishing or other vessels that are in the area. In addition, there will be Marine Mammal Observers (MMO's) and Passive Acoustic Monitoring on board the survey vessel to monitor for marine mammals and fauna visually and ensure that the survey is conducted in compliance with the specified guidelines as stated in the Environmental Management Programme.

Crew changes will occur by the support or survey vessel calling to port. The onshore logistics base will be either in the Port of Cape Town or the Port of Saldanha Bay.

Figure 1 shows the location of the proposed project area.

Figure 1: Locality of proposed TGS Orange Basin Reconnaissance Project.



The purpose of this report is to provide baseline information regarding the socio-economic environment, to identify possible social and economic impacts 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.

More detail on the scope of each of these phases is included in the section below.

2 Scope of Work

The purpose of the SIA is to provide input in the Environmental Impact Assessment (EIA)/ Environmental Management Programme (EMPr) Report for the proposed seismic reconnaissance study.

3 Methodology

Scientific social research methods were used for this assessment. To clarify the process to the reader, this section will start with a brief explanation of the processes that have been used in this study.

3.1 Information base

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;
- The public participation records provided by EIMS;
- Professional judgement based on experience gained with similar projects; and
- Consultation with affected stakeholders in August and September 2022. It must be noted that not every individual in each community could be consulted. Consultations took place in Hout Bay, Steenberg's Cove, Lamberts Bay and Port Nolloth. Due to other commitments the meeting with the Guriqua leadership could not take place. The meeting in Hondeklip Bay got cancelled at the last minute by the stakeholders.

3.2 Assumptions and limitations

The following assumptions and limitations were relevant:

1. Not every individual in the community could be interviewed therefore only key people in the community were approached for discussion. Additional information was obtained using existing data.
2. The social 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, droughts or economic conditions. 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.

3. Given that the survey will be conducted over a short period of time, the the impacts will be short term and from an outsiders perspective may appear as inconsequential. However, the outcomes of the survey will introduce new social impacts, and the potential of these impacts occuring is already causing fear and uncertainty amongst coastal communities. Communities view the survey as the beginning of potentially significant changes in their socio-economic environment.

4. 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.

5. Social impacts commence when the project enters the public domain. Some of these impacts will occur irrespective of whether the project continues or not, and other impacts have already started. These impacts are difficult to mitigate and some would require immediate action to minimise the risk.

6. 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. This duality will be pointed out in the impact assessment phase of the report.

7. Social impacts are not site-specific, but take place in the communities surrounding the proposed development.

8. Limited time was available for conducting the assessment.

3.3 Social Impact Assessment Model

The theoretical model used for this impact assessment was developed by Slootweg, Vanclay and Van Schooten and presented in the *International Handbook of Social Impact Assessment* (Vanclay & Becker, 2003). This model identifies pathways by which social impacts may result from proposed projects. The model differentiates between social change processes and social impacts, where the social change process is the

pathway leading to the social impact. Detail of how the model works is not relevant to this study, but it is important to understand the key concepts, which will be explained in the following paragraphs.

Social change processes are set in motion by project activities or policies. A social change process is 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 (Vanclay, 2003). If managed properly, however, 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). Social change processes can be measured objectively, independent of the local context. Examples of social change processes are an increase in the population, relocation, or the presence of temporary workers.

For the purpose of this report, the following social change process categories were considered:

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

The *International Association for Impact Assessment* (2003) states that Social Impact Assessment includes 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.

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).

For the purpose of this SIA, the following Social Impact Assessment categories were 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; and
- Gender impacts.

Relevant criteria for selecting significant social impacts included the following:

- Probability of the event occurring;
- Number of people that will be affected;

- Duration of the impact;
- Value of the benefits or costs to the impacted group;
- Extent to which identified social impacts are reversible or can be mitigated;
- Likelihood that an identified impact will lead to secondary or cumulative impacts;
- Relevance for present and future policy decisions;
- Uncertainty over possible effects; and
- Presence or absence of controversy over the issue.

The model was adapted to suit the South African context, and where processes and impacts were not relevant to the study, it was omitted. Each category has a number of sub-categories, which also have been investigated. The Equator Principles, International Finance Corporation Performance Standards and World Bank Environmental, Health and Safety guidelines were consulted in the writing of this report and the mitigation suggested adheres to these requirements.

3.4 Literature study

A literature search was undertaken to obtain secondary data for the baseline description of the socio-economic environment. The information in this report was acquired via statistical data obtained from Statistics South Africa, SIA literature (see References), previous studies conducted in the area, EIMS's public consultation process and information from reputable sources on the World Wide Web.

3.5 Research approach

Traditionally there are two approaches to SIA, a technical approach, and a participatory approach. A technical approach entails that a scientist remains a neutral observer of social phenomena. The role of the scientist is to identify indicators, obtain objective measures relevant to the situation and provide an expert assessment on how the system will change (Becker, Harris, Nielsen & McLaughlin, 2004). A participatory approach uses the knowledge and experiences of individuals most affected by the proposed changes as the basis for projecting impacts. In this case the

role of the scientist is facilitator of knowledge sharing, interpretation, and reporting of impacts (Becker et al, 2004). A combination of these approaches was used for this study.

The findings presented in this report are based on primary and secondary (desk) research. A qualitative approach was followed for the primary research, while qualitative and quantitative data were used for the secondary research.

The layperson sometimes criticises qualitative research as “subjective” or “not really that scientific”. For this reason, it is vital to understand the distinction between qualitative and quantitative research and their respective areas of application.

Qualitative research as a research strategy is usually characterised by the inference of general laws from particular instances, forms theory from various conceptual elements, and explains meaning (David & Sutton, 2004). It emphasises words rather than quantification in the collection and analysis of data. Data collection takes place by using methods such as unstructured or semi-structured interviews, focus groups, observations, etc. Data is not recorded in any standardised coding format but is usually reported according to themes. Qualitative data express information about feelings, values, and attitudes. This approach is used where insight and understanding of a situation is required (Malhotra, 1996). Participants are selected based on their exposure to the experience or situation under review. The aim of qualitative research is to understand, not to quantify and as such it is extremely suitable for assessing social impacts. A potential impact must be understood before it can be assessed appropriately.

Quantitative research as a research strategy usually makes inferences of particular instances by reference to general laws and principles and tends to emphasize what is external to or independent of the mind (objective) and incorporates a natural science model of the research process (David & Sutton, 2004). This makes it easier for a person with a natural or physical sciences background to relate to. This approach emphasises quantification in the collection and analysis of data. Data collection take place by using methods such as structured questionnaires and data is recorded in a numeric or some

other standardised coding format. Data is expressed in numerical format and statistical techniques are usually used to assist with data interpretation. This approach is used when information needs to be generalised to a specific population and participants are usually selected using probability sampling techniques (although non-probability methods can be used depending on the characteristics of the target population).

Although in theory the qualitative phase of this project could be followed by a quantitative phase, for a number of reasons it was not done. A quantitative phase would be more resource intensive in terms of labour, time and cost and the incremental precision obtained in terms of generalisability would not warrant the additional investment. Due to the strong emotional component relating to the perceived impacts, respondents may intentionally magnify the intensity of the impacts or indicate all impacts are equally severe in an attempt to bias the results in their favour, which will reduce the utility of quantitative results as part of the primary research process.

3.6 Ethical issues

The most basic principle of research is that participants should not be harmed by participation in the research project. It is important that research not only does no harm, but also potentially contributes to the wellbeing of others. At times this might place a researcher in a difficult position – what is beneficial to one group may not be beneficial to another (Bless, Higson-Smith & Kagee, 2006). Furthermore, an individual has the autonomy to decide whether to participate in research or not. No person should be forced, either overtly or covertly, to participate in research. Other important principles include justice (based on the assumption that all people are equals), fidelity (keeping promises or agreements, specifically between the researcher and the participant) and respect for participants' rights and dignity. In addition to these overarching ethical principles, important ethical principles that should be met are informed consent, confidentiality, anonymity, and discontinuance. This is in line with international as well as national research practice such as the World Association for Market, Social and Opinion Researchers (ESOMAR) and Southern African

Marketing Research Association (SAMRA) codes of conduct. The researcher has an ethical obligation to develop well-designed projects and execute them with care. Researchers are not allowed to change their data or observations and should report on technical shortcomings, failures, limits of the study, negative findings, and methodological constraints. The honest and accurate reporting of data is also an essential component of scientifically accurate and ethically legitimate research and conclusions should be supported by data.

4 Legislative and Policy Framework

Although there are no explicit acts referring directly to SIA, there are many acts and policies that require specific social outcomes that can be related to this project, and these are discussed in the section below.

4.1 The Constitution of the Republic of South Africa 1996

The current Constitution of the Republic of South Africa 1996 can be regarded as one of the most progressive constitutions in the world. Human rights are enshrined in the South African Constitution, which forms the basis of all the country's legislation. Chapter 2 consists of a Bill of Rights, which explicitly spells out the rights of every South African citizen. Human rights and dignity are fundamental to SIA and it recognises fundamental human rights and the prerogative to protect those rights as core values (Vanclay, 2003). The human rights relevant to the environmental management field that are safeguarded by the Constitution of the Republic of South Africa 1996 in the Bill of Rights, include:

- Right to a healthy environment;
- Right of access to land and to security of tenure; and
- Right to adequate housing and protection against evictions and demolitions.

The right to a protected biophysical environment, the promotion of social development and trans-generational equity is explicitly included in the Constitution of the Republic of South Africa 1996, which states:

"Everyone has the right -

1. To an environment that is not harmful to their health and wellbeing, and
2. To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that*:*
    1. *Prevent pollution*
    2. *Promote conservation, and*

3. *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

When considering an environment that is not harmful to peoples' health and wellbeing, it is important to reflect on the interconnectedness of biophysical, economic, and social aspects. The impact of development on people, and the true cost of development, as well as the consideration of "who pays the price?" versus "who reaps the benefits?" cannot be ignored in a discussion about human rights and the environment.

The right to a generally satisfactory environment is increasingly seen as a human right in Africa (Du Plessis, 2011), and South Africa's environmental legislation supports this.

4.1.1 The National Environmental Management Act 107 of 1998

The National Environmental Management Act (NEMA) 107 of 1998 states that the State must respect, protect, promote and fulfil the **social**, economic and environmental rights of everyone and strive to meet the needs of previously disadvantaged communities. It states further that sustainable development requires the integration of **social**, economic and environmental factors in the planning, evaluation and implementation of decisions to ensure that development serves present and future generations.

Chapter 1 of NEMA contains a list of principles and states clearly that environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests (NEMA, 1998). It states further that negative impacts on the environment and on peoples' environmental rights must be anticipated and prevented, and if they cannot be prevented, they should be minimised and remedied. It elaborates further on the equity of impacts, and the fact that vulnerable communities should be protected from negative environmental impacts. It refers to the principle that everyone should have equal access to environmental resources, benefits and services to meet their basic

human needs (NEMA, 1998). Therefore there is a clear mandate for environmental and restorative justice in the act, something that must be considered in this project.

Another important aspect of NEMA is the principle of public participation. It states that people should be empowered to participate in the environmental governance processes, and that their capacity to do so should be developed if it does not exist. All decisions regarding the environment should take the needs, interest and values of the public into account, including traditional and ordinary knowledge (NEMA, 1998). There are also specific environmental management acts that fall under NEMA, such as the National Environmental Management, Air Quality Act 39 of 2004 (NEM: AQA), and the National Environmental Management, Waste Act 59 of 2008 (NEM: WA). These acts require similar public participation processes to NEMA and the principles of NEMA also apply to them (Department of Environmental Affairs & Development Planning [DEA&DP], Provincial Government of the Western Cape, 2010).

Chapter 6 of NEMA elaborates on the public participation requirements. This is supplemented by the EIA regulations published in GN 982 of 4 December 2014, which contained requirements for public participation (GN 982 in GG 38282 of 4 December 2014). It provides requirements for the public participation, the minimum legal requirements for public participation processes, the generic steps of a public participation process, requirements for planning a public participation process and a description of the roles and responsibilities of the various role players. A compulsory Public Participation Guideline that was published in 2012 (GN 807 of 10 October 2012) in terms of section J of NEMA (NEMA, 1998) complements these requirements. According to the guidelines, public participation can be seen as one of the most important aspects of the environmental authorisation process. Public participation is the only requirement of the environmental impact assessment process for which exemption cannot be given unless no rights are affected by an application. This stems from the requirement in NEMA that people have a right to be informed about potential decisions that may affect them and that they must be given an opportunity to influence those decisions.

The principles of the National Environmental Management Act 107 of 1998 declare further that community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, sharing of environmental knowledge and experience and any other appropriate means. It states that the social, environmental and economic impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions taken must be appropriate given the assessment and evaluation. NEMA 107 of 1998 recognises that the environment is held in public trust for the people, and therefore the beneficial use of environmental resources must serve the peoples' interest and protect the environment as the peoples' common heritage.

NEMA takes a holistic view of the environment, and promotes the consideration of social, economic, and biophysical factors to obtain sustainable development and achieve effective management of the biophysical environment.

4.1.2 The Mineral and Petroleum Resources Development Act 28 of 2002

The Mineral and Petroleum Resources Development Act (MPRDA) 28 of 2002 is the only environmental act that explicitly requires a social development output, in addition to a public participation process, in the form of a Social and Labour Plan (SLP). In the preamble to the Act it recognises the need to promote local and rural development and the social upliftment of communities affected by resource development. In Section 2 it states that some of the objectives of the act are:

- To substantially and meaningfully expand opportunities for historically disadvantaged persons, including women, to enter the mineral and petroleum industries and to benefit from the exploitation of the nations' mineral and petroleum resources;
- To promote economic growth and mineral and petroleum resources development in the Republic;
- To promote employment and advance the social and economic welfare of all South Africans, and

- To ensure that holders of mining and production rights contribute towards the socio-economic development of the areas in which they are operating.

The MPRDA acknowledges that mineral and petroleum resources are the common heritage of all the people of South Africa and that the State is the custodian thereof for the benefit of all. It states that the Minister of Mineral Resources must ensure the sustainable development of South Africa's mineral and petroleum resources within a framework of national environmental policy, norms and standards while promoting economic and social development (MPRDA, 2002).

In Section 37 of the Mineral and Petroleum Resources Development Act 28 of 2002 it endorses the principles set out in Chapter 1 of the National Environmental Management Act 107 of 1998. In Section 39 of the MPRDA the act explicitly requires a social impact assessment as well as an environmental impact assessment when it states that applicants must:

"…investigate, assess and evaluate the impact of his or her proposed prospecting or mining operations on:

(i) The environment;

(ii) The **socio-economic conditions of any person** who might be directly affected by the prospecting or mining operation…"

Section 3, Chapter 2, Part I, of the regulations (Government Notice 527, 23 April 2004) published under the MPRDA refers to the public participation process, which must be followed according to the Act. It includes advertising and an invitation to comment on the process.

Sections 40 to 46, Chapter 2, Part II, of the regulations published under the MPRDA deal with the Social and Labour Plan (SLP) requirements (Government Notice 527, 23 April 2004). The Department of Mineral Resources provided guidelines for the development of the SLP (Department of Mineral Resources, 2010). The guidelines specify the objectives of the SLP as:

- Promote economic growth and mineral and petroleum resources development in the Republic;
- Promoting employment and advancing the social and economic welfare of all South Africans;
- Ensuring that holders of mining or production rights contribute towards the socio-economic development of the areas in which they are operating as well as the areas from which the majority of the workforce is sourced, and
- To utilise and expand the existing skills base for the empowerment of Historically Disadvantaged South Africans and to serve the community (Department of Mineral Resources, 2010).

The crux of this section is that the SLP requires applicants for mining and production rights to develop and implement comprehensive Human Resources Development Programmes including Employment Equity Plans, Local Economic Development Programmes and processes to save jobs and manage downscaling and/or closure (MPRDA 28 of 2002). According to the regulations, the above programmes are aimed at promoting employment and advancement of the social and economic welfare of all South Africans whilst ensuring economic growth and socio-economic development. The management of downscaling and/or closure is aimed at minimising the impact of commodity cyclical volatility, economic turbulence and physical depletion of the mineral or production resources on individuals, regions, or local economies. All mines in South Africa are required to compile an SLP, and they must report compliance on a yearly basis (MPRDA, 2002). Compiling an SLP must be done in a participatory manner, and local economic development initiatives must be aligned with the municipal integrated development planning processes. An SLP is not a social impact management plan per se, although it does aim to manage some negative social impacts. The guideline is very clear about the fact that measures put in place for the mitigation of impacts cannot be seen as mine community development projects (Department of Mineral Resources, 2010).

4.1.3 The National Heritage Resources Act 25 of 1999

Although the National Heritage Resources Act (NHRA) 25 of 1999 is not an environmental act per se, it is relevant in the field of environmental management. The

NHRA affirms that every generation has a moral responsibility to act as trustee of the national heritage for later generations and that the State is obliged to manage heritage resources in the interest of all South Africans. The general principles for heritage management in Chapter 5 of the Act state that in order to ensure that heritage resources are effectively managed, the skills and capacities of persons and communities involved in heritage resources management must be developed. The Act further elaborates on the fact that heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

The general principles (Chapter 5) state that the identification, assessment and management of the heritage resources of South Africa must:

- Take account of all relevant cultural values and indigenous knowledge systems;
- Take account of material or cultural heritage value and involve the least possible alteration or loss of it;
- Promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
- Contribute to social and economic development, and
- Safeguard the options of present and future generations.

The National Heritage Resources Act 25 of 1999 therefore protects the cultural rights and heritage of the people of South Africa. It does not require explicit public participation, or give any guidelines on how the public should participate. It does refer, like the National Environmental Management Act 107 of 1998 and the National Water Act 36 of 1998, to social and economic development. Public participation processes may be requested by the South African Heritage Resources Agency if it deems it necessary for a specific project.

4.1.4 Promotion of Administrative Justice Act 3 of 2000

The Bill of Rights in the Constitution of the Republic of South Africa 1996 states that everyone has the right to administrative action that is legally recognised, reasonable, and procedurally just. The Promotion of Administrative Justice Act (PAJA) 3 of 2000

gives effect to this right. The PAJA applies to all decisions of all State organisations exercising public power or performing a public function in terms of any legislation that negatively affects the rights of any person. The Act prescribes what procedures an organ of State must follow when it takes decisions. If an organ of State implements a decision that impacts on an individual or community without giving them an opportunity to comment, the final decision will be illegal and may be set aside. The Promotion of Administrative Justice Act 3 of 2000 also forces State organisations to explain and give reasons for the manner in which they have arrived at their decisions and, if social issues were involved, and how these issues were considered in the decision-making process.

The Promotion of Administrative Justice Act 3 of 2000 therefore protects the rights of communities and individuals to participate in decision-making processes, especially if these processes affect their daily lives.

4.1.5 Traditional and Khoi-San Leadership Act

The Traditional and Khoi-San Leadership Act 3 of 2019 aims:

- to provide for the recognition of traditional and Khoi-San communities, leadership positions and for the withdrawal of such recognition;
- to provide for the functions and roles of traditional and Khoi-San leaders;
- to provide for the recognition, establishment, functions, roles and administration of kingship or queenship councils, principal traditional councils, traditional councils, Khoi-San councils and traditional sub-councils, as well as the support to such councils;
- to provide for the establishment, composition and functioning of the National House of Traditional and Khoi-San Leaders;
- to provide for the establishment of provincial houses of traditional and Khoi-San leaders;
- to provide for the establishment and composition of local houses of traditional and Khoi-San leaders;
- to provide for the establishment and operation of the Commission on Khoi-San Matters;

- to provide for a code of conduct for members of the National House, provincial houses, local houses and all traditional and Khoi-San councils;
- to provide for regulatory powers of the Minister and Premiers;
- to provide for transitional arrangements;
- to amend certain Acts;
- to provide for the repeal of legislation; and
- to provide for matters connected therewith.

4.1.6 Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019

The Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019 intends:

- to provide for the protection, promotion, development and management of indigenous knowledge;
- to provide for the establishment and functions of the National Indigenous Knowledge Systems Office;
- to provide for the management of rights of indigenous knowledge communities;
- to provide for the establishment and functions of the Advisory Panel on indigenous knowledge;
- to provide for access and conditions of access to knowledge of indigenous communities;
- to provide for the recognition of prior learning;
- to provide for the facilitation and coordination of indigenous knowledge-based innovation; and
- to provide for matters incidental thereto.

4.1.7 Marine Living Resources Act 18 of 1998

The Marine Living Resources Act 18 of 1998 intends:

- to provide for the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources and the orderly access to exploitation, utilisation and protection of certain marine living resources; and

- for these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa; and
- to provide for matters connected therewith.

4.2 Additional governance tools

Legislation is not the only tool that authorities can use to achieve sustainable development and social development outcomes. There are several tools, policies and strategic planning instruments that can contribute to this.

4.2.1 Integrated Development Plans

For the purpose of this project, Integrated Development Plan (IDP) documents of the following municipalities need to be considered:

4.2.1.1 Namakwa District Municipality

In its IDP the Namakwa District Municipality states that its strategic objectives are:

- Monitoring and support local municipalities to deliver basic services which include water, sanitation, housing, electricity and waste management
- Support vulnerable groups in the district
- Improve administrative and financial viability and capability
- Promote and facilitate Local Economic Development (include tourism)
- Enhance good governance (include IGR) (IGR - intergovernmental relations)
- Promote and facilitate spatial transformation and sustainable urban development
- To render municipal health services
- To coordinate the disaster management and fire management services in the district
- Caring for the environment.

4.2.1.1.1 Richtersveld Local Municipality

The Richtersveld Local Municipality indicated in its IDP that its strategic goals/objectives are:

- For every household to have access to clean water, electricity, and sanitation

- To treat all their residents with pride and dignity
- To be an effective and efficient local government
- To be an effective instrument of change within its community
- To be a local government that is accountable with community driven development
- To be the gateway for local economic development and tourism in the north-western coast of the Northern Cape.

4.2.1.1.2 Nama Khoi Local Municipality

The key performance areas of the Nama-Khoi Local Municipality are:

- Basic services delivery
- Municipal financial viability and management
- Local economic development
- Municipal transformation and institutional development
- Good governance and community participation.

4.2.1.1.3 Kamiesberg Local Municipality

The Kamiesberg Local Municipality identified its key performance areas in its IDP as:

- Service delivery – to provide and maintain superior decentralised customer services (water, sanitation, roads, storm water, waste management and electricity)
- Local economic development
- Financial viability
- Municipal transformation
- Good governance.

4.2.1.2 West Coast District Municipality

The West Coast District Municipality stated in its IDP that its objectives are to:

- Care for the social well-being, safety and health of all our communities
- Promote regional economic growth and tourism
- Coordinate and promote the development of bulk and essential services and transport infrastructure

- Foster sound relationships with all stakeholders, especially local municipalities
- Maintain financial viability and good governance.

4.2.1.2.1 Matzikama Local Municipality

The Matizikana Local Municipality identified the following strategic objectives in its IDP:

- Provide municipal basic services to meet demands of growing population and development challenges
- Maintain sufficient revenue resources to enable the municipality to meet its constitutional obligations
- Coordinate, facilitate and stimulate sustainable economic development through strategy, policy and programme development
- Reduce poverty levels as measured by SAMPI
- Maintain sufficient organisation resources, enhance the involvement of the public in the development and decision making processes and provide ethical and professional services to support the needs of the communities
- Provide opportunities to officials and councillors for the development of professional and leadership skills and enhance employment equity in the organisation
- Develop and sustain our spatial, natural and built environment.

4.2.1.2.2 Cederberg Local Municipality

The Bergriver Local Municipality identified the following strategic goals:

- Strengthen financial sustainability and further enhancing good governance
- Sustainable service delivery
- Facilitate an enabling environment for economic growth to alleviate poverty
- Promote safe, healthy, educated and integrated communities
- A sustainable, inclusive and integrated living environment

4.2.1.2.3 Bergrivier Local Municipality

The Cederberg Local Municipality identified the following strategic objectives:

- Improve and sustain basic service delivery and infrastructure development
- Financial viability and economically sustainability

- Good governance, community development and public participation
- Facilitate, expand and nurture sustainable economic growth and eradicate poverty
- Enable a resilient, sustainable, quality and inclusive living environment and human settlements i.e. housing development and informal settlement upgrade
- To facilitate social cohesion, safe and healthy communities
- Development and transformation of the institution to provide a people-centred human resources and administrative services to citizens, staff and council.

4.2.1.2.4 Saldanha Bay Local Municipality

The Saldanha Bay Local Municipality identified the following strategic actions to create additional growth:

- Retaining large existing exporting businesses
- Promote Aquaculture-, Fishing-, and Food processing sectors
- Tourism growth
- Attract new industrial investors by creating a more enabling environment
- Maximise the competitive advantages for ports
- Support local SME to access more opportunities
- Availability of credible vocational skills development and tertiary education

4.2.1.2.5 Swartland Local Municipality

The strategic goals of the Swartland Local Municipality are:

- Improved quality of life for citizens
- Inclusive economic growth
- Quality and sustainable living environment
- Caring, competent and responsive institutions, organisations, and business
- Sufficient, affordable and well-run services.

4.2.1.3 City of Cape Town Metropolitan Municipality

The City of Cape Town has sixteen objectives linked to its priorities and foundations:

- Economic growth

    - Increased jobs and investment in the Cape Town economy
- Basic services
    - Improved access to quality and reliable basic services
    - End load-shedding in Cape Town over time
    - Well-managed and modernised infrastructure to support economic growth
- Safety
    - Effective law enforcement to make communities safer
    - Strengthen partnerships for safer communities
- Housing
    - Increased supply of affordable, well-located homes
    - Safer, better-quality homes in informal settlements and backyards over time
- Public space, environment and amenities
    - Healthy and sustainable environment
    - Clean and healthy waterways and beaches
    - Quality and safe parks and recreational facilities supported by community partnerships
- Transport
    - A sustainable transport system that is integrated, efficient and provides safe and affordable options for all
    - Safe and quality roads for pedestrians, cyclists and vehicles
- A resilient city
- A more spatial integrate and inclusive city
- A capable and collaborative city government.

4.2.2 Provincial Growth and Development Strategies

The Provincial Growth and Development Strategies of the Northern Cape and Western Cape Provinces need to be considered.

4.2.2.1 Northern Cape Strategic Plan 2020-2035

The four drivers of the Northern Cape Provincial Growth and Development Plan:

- Economic transformation, growth and development

  To ensure economic growth and development that will lead to job creation and radical economic transformation for the people of the Northern Cape Province, ten economic drivers or development paths have been identified:

  - Agriculture and agro-processing
  - Mining and mineral beneficiation
  - Tourism market development
  - Rural development and land reform
  - Development of energy sector
  - Manufacturing and trade
  - Competitive infrastructure development
  - Employment and skills development
  - Innovation and knowledge economy
  - Marine economy

- Social transformation and human welfare

  To sustainably address the social injustices and inequalities in the province, social transformation must be accelerated and deepened towards human development and welfare. The following six drivers have been identified:

  - Quality basic education
  - Quality health care
  - Social cohesion and community participation
  - Social protection and safety
  - Sustainable human developments
  - Employment and skills development

- Environmental sustainability and resilience

  The Northern Cape Province has an abundance of natural resources and environmental assets. While these present a wide range of economic opportunities, a concerted effort must be made to ensure that these are protected and enhance to support the developmental objectives of the

province. As the province is an arid region, it must be ensured that enough is done to mitigate the real threat of climate change.

- Effective, efficient, and accountable governance

  A capable and accountable government based on strong inter-governmental cooperation and participatory governance with civil society will be better positioned and capable to perform seamless services based on the needs of those on whose behalf they govern. Three drivers have been identified to facilitate effective, efficient, and accountable governance:

  - Developmental and democratic state
  - Effective local government
  - International relations

4.2.2.2 Western Cape Provincial Strategic Plan 2019-2024

Vision has five strategic priorities with the following problem areas and focus areas:

- Safe and cohesive communities – a place where residents and visitors feel safe
  - Problem areas
    - Violence and violent crime
    - Police capacity and public trust
    - Cohesive communities
  - Focus areas
    - Enhanced capacity and effectiveness of policing and law enforcement
    - Strengthened youth-at-risk referral pathways and child- and family centred initiatives to reduce violence
    - Increased social cohesion and safety in public places
- Growth and jobs – an enabling environment for the private sector and markets to drive growth and create jobs
  - Problem areas
    - Weak economic performance persists
    - Unemployment persists
    - Climate change impacts and resource pressures

- Focus areas
  - Increasing investment
  - Building and maintaining infrastructure
  - Growing the economy through export growth
  - Creating opportunities for job creation through skills development
  - Creating an enabling environment for economic growth through resource resilience

- Empowering people -residents have opportunities to shape their lives and the lives of others, to ensure a meaningful and dignified live
  - Problem areas
    - Children and families live in unhealthy, violent, neglectful and dysfunctional environments that impede proper development
    - Children have unequal access to quality holistic education and extended learning opportunities, which limits post-schooling success
    - Youth engage in unhealthy and risky behaviours, have few educational and economic opportunities, and become disconnected from productive society
    - Health outcomes are uneven between rich and poor and, despite successes in areas like HIV treatment and sexual and reproductive health, there is an inability to fulfil the growing demand for health services
  - Focus areas
    - Children and families
    - Education and learning
    - Youth and skills
    - Health and wellness

- Mobility and spatial transformation – residents live in well-connected, vibrant, and sustainable communities and move around efficiently on safe, affordable, low-carbon public transport
  - Problem areas
    - Poor communities far from social and economic opportunities

- Inadequate public transport
- Infrastructure backlogs and challenges

- Focus areas
  - Create better linkages between places through safe, efficient, and affordable public transport
  - Inclusive places of opportunities
  - More opportunities for people to live in better locations
  - Improving the places where people live

- Innovation and culture – government services are delivered to the people in an accessible, innovative, and citizen-centric way
  - Problem areas
    - Inward-focused organisational culture
    - Western Cape Government innovation exists, but is not fully embedded
    - Limited integration across the spheres of government and with external partners
    - Good governance is primarily driven by compliance processes
    - Talent and staff development is not responsive to the changing world of work
  - Focus areas
    - Citizen-centric culture
    - Innovation for impact
    - Integrated service delivery
    - Governance transformation
    - Talent and staff development

4.2.3 National Development Plan

On 11 November 2011 the National Planning Commission released the National Development Plan: Vision for 2030 (NPC, 2012) for South Africa and it was adopted as government policy in August 2012. The National Development Plan (NDP) was undertaken to envision what South Africa should look like in 2030 and what action

steps should be taken to achieve this (RSA, 2013). The aim of the NDP is to eliminate poverty and reduce inequality by 2030. The report identifies nine central challenges to development in South Africa:

1. Too few people work.
2. The standard of education for most black learners is of poor quality.
3. Infrastructure is poorly located, under-maintained and insufficient to foster higher growth.
4. Spatial patterns exclude the poor from the fruits of development.
5. The economy is overly and unsustainably resource intensive.
6. A widespread disease burden is compounded by a failing public health system.
7. Public services are uneven and often of poor quality.
8. Corruption is widespread.
9. South Africa remains a divided society (NPC, 2012).

The plan focuses on creating an enabling environment for development and wants to shift from a paradigm of entitlement to a paradigm of development that promotes the development of capabilities, the creation of opportunities and the involvement of all citizens (NPC, 2012). The National Development Plan (NPC, 2012) wants to achieve the following:

1. An economy that will create more jobs.
2. Improving infrastructure.
3. Transition to a low-carbon economy.
4. An inclusive and integrated rural economy.
5. Reversing the spatial effects of apartheid.

6. Improving the quality of education, training, and innovation.
7. Quality healthcare for all.
8. Social protection.
9. Building safer communities.
10. Reforming the public service.
11. Fighting corruption.
12. Transforming society and uniting the country.

Each of the points above is a chapter in the plan and contains a range of targets and proposals. Some are general statements of policy intent, while others are specific policy proposals, actions or processes that should take place (NPC, 2012).

4.2.4 Sustainable Development Goals

All 189 Members States of the United Nations, including South Africa, adopted the United Nations Millennium Declaration in September 2000 (UN, 2000). The commitments made by the Millennium Declaration are known as the Millennium Development Goals (MDGs), and 2015 was targeted as the year to achieve these goals. The United Nations Open Working Group of the General Assembly identified seventeen sustainable development goals (Figure 2), built on the foundation of the MDGs as the next global development target (UN, 2014). The sustainable development goals include aspects such as ending poverty, addressing food security, promoting health, wellbeing and education, gender equality, water and sanitation, economic growth and employment creation, sustainable infrastructure, reducing inequality, creating sustainable cities and human settlements, and addressing challenges in the physical environment such as climate change and environmental resources (UN, 2014). These aspects are included in the NPD, and it can therefore be assumed that South Africa's development path is aligned with the international development agenda.

Figure 2: Sustainable Development Goals (Source: www.un.org)

4.3 National and international standards

National and international industry standards aimed at sustainable development and social justice specifically have become abundant in the last decade. Many industries use these standards as indicators for best practice. The discussion below highlights only a few of these standards.

4.3.1 ISO 26000:2010/SANS 26000:2010

Performance standards have long been a voluntary tool used by industry to achieve certain outcomes. The first standard on social responsibility, ISO 26000 was published on 1 November 2010 (ISO, 2010). It was developed using a multi-stakeholder approach involving experts from more than 90 countries and 40 international or broadly based regional organisations involved in different aspects of social responsibility (ISO, 2010).

The South African Bureau of Standards (SABS), a statutory body that is mandated to develop, promote and maintain South African National Standards (SABS, [sa]) adopted the ISO 26000 Standard as a South African National Standard (SANS) 26000:2010.

Social responsibility is defined in the standard as the responsibility of an organisation for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to sustainable development, including health and welfare of society; takes into account the expectations of the stakeholders; complies with applicable law and is consistent with international behaviour norms, and is integrated throughout the organisation and practiced in its relationships (ISO, 2010).

The document identifies seven principles for social responsibility and seven core subjects that should be addressed by organisations. The seven principles for social responsibility are accountability, transparency, ethical behaviour, respect for stakeholder interests, respect for the rule of law, respect for international norms of behaviour and respect for human rights (ISO, 2010). The core subjects that should be addressed include organisational governance, human rights, labour practices, environment, fair operating practices, consumer issues and community involvement and development (ISO, 2010). Economic aspects, health and safety and the value chain are dealt with throughout the seven core subjects, and gender issues are considered.

ISO 26000 is a good introduction to what social responsibility is and what measures should be taken to move towards being a more socially responsible company. It deals with equity issues and can encourage social development initiatives by companies through activities such as social investment projects, employment creation, skills development and income creation. Any company operating in area where people are affected by their activities has a social responsibility towards the affected community, and as such it would be in the interest of TGS to address the core subjects as suggested by ISO 26000:2010.

4.3.2 International Social Performance Standards/Initiatives

There is a profusion of global initiatives aiming at assisting companies to make their operations more sustainable. Human rights, environmental protection and social justice are gaining support from industry. The social agenda forms an important part of this trend. Only a few relevant initiatives will be mentioned in this section.

The Global Reporting Initiative (GRI) is a leading organisation in the sustainability field that promotes sustainability reporting as a way for companies to become more sustainable and contribute to sustainable development. A company publishes a sustainability report to report the economic, social and environmental impacts of its everyday activities, present its values and governance model and explain the link between its strategy and its commitment to sustainable development (GRI, [sa]). The GRI have strategic partnerships with the United Nations Environment Programme, the United Nations Global Compact, the Organisation for Economic Co-operation and Development and the International Organisation for Standardisation, amongst others (GRI, [sa]). The social category relates to the impact of the company on the social systems in which it operates. The social category consists of four subcategories namely labour practices and decent work; human rights; society; and product responsibility. Each of the categories is unpacked by using a number of aspects that should be considered (GRI, [sa]). GRI Focal Points are national offices that drive the initiatives in particular countries and regions. On 26 February 2013 the GRI Focal Point South Africa was launched. South Africa is one of the countries with the largest number of GRI reporters in the world. The GRI Focal Point South Africa aims to work with multi-national companies to expand and share best practices across the continent (GRI, [sa]).

Many of the multi-lateral funding agencies such as the World Bank have social standards that they must uphold. The most frequently used in the EIA industry is the International Finance Corporation's (IFC) principles (IFC, 2012). The IFC is a member of the World Bank group, and as a part of their sustainability framework they created performance standards on environmental and social sustainability (IFC, 2012). The standards relevant to the social environment are the following:

1. Environmental and Social Standard 1. Assessment and Management of Environmental and Social Risks and Impacts

2. Environmental and Social Standard 2: Labour and Working Conditions

3. Environmental and Social Standard 4: Community Health and Safety

4. Environmental and Social Standard 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

5. Environmental and Social Standard 8: Cultural Heritage

6. Environmental and Social Standard 10. Stakeholder Engagement and Information Disclosure (World Bank, 2016)

Issues such as gender, climate change, water and human rights are addressed across the standards. A guidance note accompanies each standard (IFC, 2012:4). Environmental and social risks and impacts must be managed by using an Environmental and Social Management System. The standard applies to all the activities funded by the IFC for the duration of the loan period. A number of private banks adopted most of the IFC standards in an initiative known as the Equator Principles (Esteves, Franks & Vanclay, 2012).

4.3.3 International Principles for SIA

The practice of SIA is guided by a set of *International Principles* that defines the core values, fundamental principles for development and principles specific to SIA practice (Vanclay, 2003). When the *International Principles* are considered, it is clear that SIA aspires to more than just assessing the impact of development on people and includes sustainable outcomes. The following specific principles refer to these sustainable outcomes (Vanclay, 2003):

1. Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention.

2. The primary focus of all developments should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social capital.

3. The term “environment” should be defined broadly to include social and human dimensions, and in such inclusion, care must be taken to ensure that adequate attention is given to the realm of the social.

4. Equity considerations should be a fundamental element of impact assessment and of development planning.

5. There should be a focus on socially sustainable development, with the SIA contributing to the determination of best development alternative(s) – SIA (and EIA) has more to offer than just being an arbiter between economic benefit and social cost.

6. In all planned interventions and their assessments, avenues should be developed to build the social and human capital of local communities and to strengthen democratic processes.

7. Local knowledge, experience and acknowledgement of different cultural values should be incorporated in any assessment.

8. Development processes that infringe the human rights of any section of society should not be accepted.

In addition to the *International Principles*, the international SIA community produced a document titled: *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* (Vanclay, Esteves, Aucamp & Franks, 2015) in April 2015. The purpose of this document is to provide advice to various stakeholders (including proponents) about good practice SIA and social impact management (Vanclay et al., 2015). This document aspires to provide a much-needed benchmark for SIA practice across the globe.

5 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 the behaviour of people, 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.

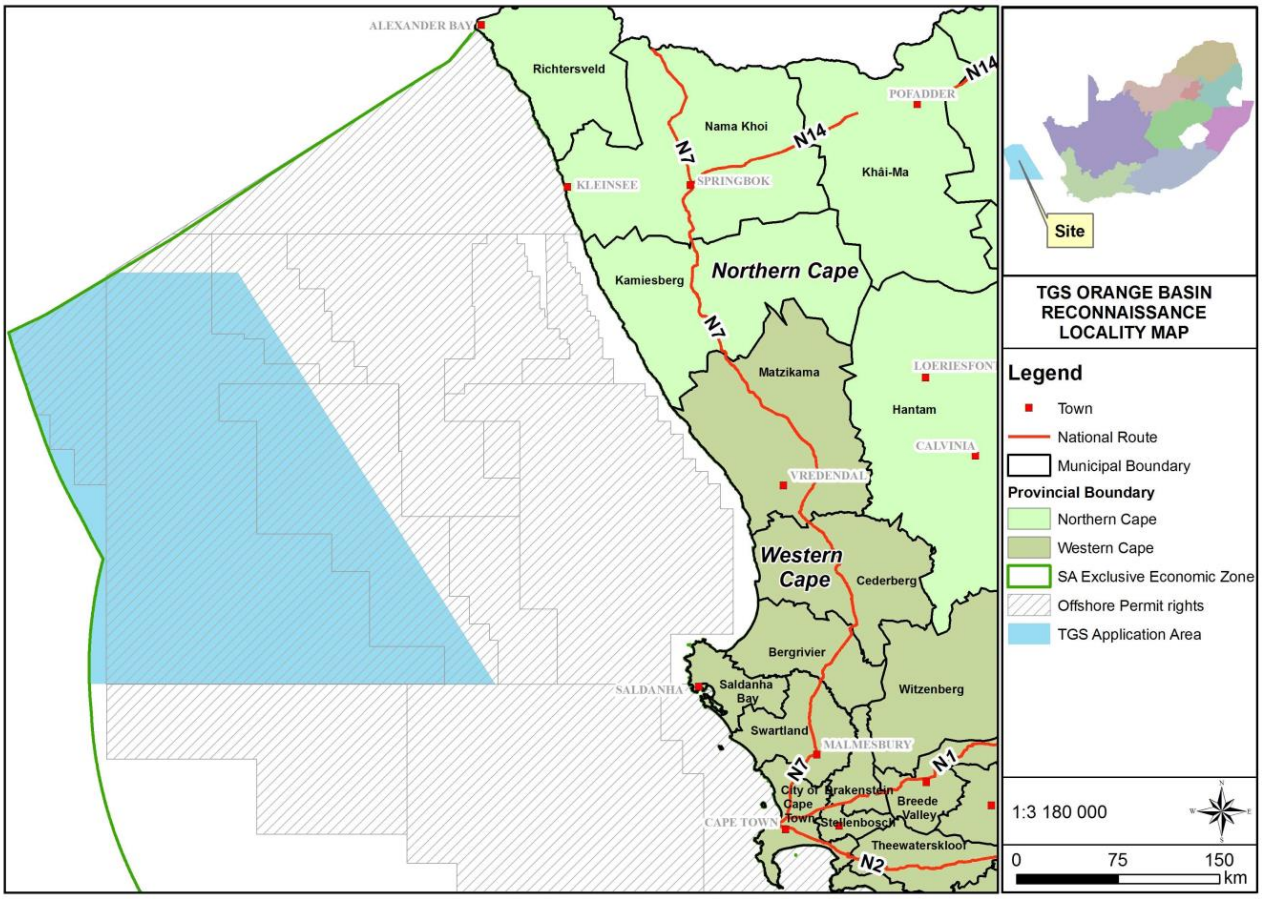
5.1 Description of the area

The proposed project area for the TGS Seismic Reconnaissance project is located on the edge of the South African exclusive economic zone in the Atlantic Ocean. The people potentially affected by the proposed project are those living in the areas adjacent to the ocean whose activities could potentially be affected. The following areas are included in the baseline description of the social environment:

- Northern Cape Province
  - Namakwa District Municipality
    - Richtersveld Local Municipality (Wards 2, 3, 4)
    - Nama Khoi Local Municipality (Ward 8)
    - Kamiesberg Local Municipality (Wards 1, 2)
- Western Cape Province
  - West Coast District Municipality
    - Matzikama Local Municipality (Wards 2, 5, 8)
    - Cederberg Local Municipality (Ward 5)
    - Bergrivier Local Municipality (Wards 6, 7)
    - Saldanha Bay Local Municipality (Wards 1, 3, 5, 6, 11, 12, 14)
    - Swartland Local Municipality (Ward 5)
  - City of Cape Town Metropolitan Municipality (Wards 4, 23, 29, 32, 54, 55, 74, 107, 113, 115)

Figure 3 shows the location of the proposed project area in relation to these municipal areas.

Figure 3: Location of the proposed project area.



5.1.1 Northern Cape Province

The Northern Cape Province is South Africa's largest province. It takes up almost a third of the country and covers an area of 372 889 km^2 (www.municipalities.co.za). It is bordered by the provinces of North West, Free State, Eastern Cape and Western Cape as well as the countries of Namibia and Botswana and the Atlantic Ocean. It consists of the Frances Baard, John Taolo Gaetsewe, Namakwa, Pixley Ka Seme and ZF Mgcawu District Municipalities.

The capital of the province is Kimberley and other towns in the province include Springbok, Kuruman, De Aar, Sutherland, Alexander Bay, Port Nolloth, Kathu, Okiep, Springbok, Aggeneys, Upington, Kakamas, Keimoes and Warrenton.

The economy of the province relies mainly on mining and agriculture. Commodities being mined include iron ore, copper, asbestos, manganese, fluorspar, semi-precious stones, and marble. Alluvial diamonds are being extracted from the beaches and sea

in the area around Alexander Bay and Port Nolloth. Agricultural products include sheep, wheat, fruit, grapes, wheat, peanuts, maize, and cotton. The province is known for its dried fruit, wine, and karakul pelt.

The spring-flowers in Namakwaland is a popular tourist attraction. The province also houses the southern hemisphere's largest astronomical observatory at Sutherland.

5.1.1.1 Namakwa District Municipality

The Namakwa District Municipality is the largest district municipality in the province and covers an area of 126 836 km^2 (www.municipalities.co.za). It is bordered by the ZF Mgcawu Local Municipality, the Cape Winelands, West Coast, Pixley Ka Seme and Central Karoo District Municipalities, the country of Namibia and the Atlantic Ocean. It is the largest district in the province, making up almost a third of the province.

The district consists of six local municipalities, namely the Hantam, Kamiesberg, Karoo Hoogland, Khai-Ma, Nama Khoi, and Richtersveld Local municipalities. The capital of the province is Springbok and other towns include Aggeneys, Alexander Bay, Brandvlei, Bulletrap, Calvinia, Carolusberg, Concordia, Eksteensfontein, Frasersburg, Garies, Hondeklip Bay, Kamieskroon, Kleinzee, Koingnaas, Komaggas, Kuboes, Leliefontein/Kamiesberg, Loeriesfontein, Middelpos, Nababeep, Nieuwoudtville, O'Kiep, Onderste Doorns, Pella, Pofadder, Port Nolloth, Richtersveld, Sanddrift, Springbok, Steinkopf, Sutherland, and Williston.

The main economic sectors are tourism and agriculture.

5.1.1.1.1 Richtersveld Local Municipality

The Richtersveld municipality is the smallest municipality in the district and covers an area of 9 608 km^2 (www.municipalities.co.za). The municipality borders the Atlantic Ocean and the main towns are Alexander Bay, Eksteensfontein, Kuboes, Port Nolloth, Richtersveld and Sanddrift. Port Nolloth is the main economic centre of the municipality.The main economic sectors are mining, agriculture, fishing and tourism0 Richtersveld Local Municipality IDP 2022/2027).

The main challenges that municipality faces relate to infrastructure, and socio-economic, spatial and housing issues, as well as issues relative to social facilities and services. The Richtersveld Municipal area is earmarked for a massive harbour development at Boegoebaai (about 60 km north of Port Nolloth and 20 km south of the border between Namibia and South Africa). This project is currently in its initial phase, and it is envisaged that this development will serve as an enabler of further development in the Northern Cape (Namakwa District Municipality IDP 2022-2027).

The Boegoebaai port is closely linked to the Northern Cape Green Hydrogen Strategy which was launched to the global community at the COP26 summit in Glasgow in November 2021 (www.globalafricanetwork.com). Green hydrogen refers to the production of hydrogen using renewable energy sources (www.un.org). Black/brown hydrogen is produced using coal and grey/blue hydrogen is derived from methane. Being an energy carrier, green hydrogen would act like a battery that allows the storage of excess energy created by renewable sources and would reduce the intermittency of renewables that cannot generate power all hours of the day, ensuring a sufficient and continuous supply of power for the grid.

5.1.1.1.2 Nama Khoi Local Municipality

The Nama Khoi Local Municipality covers an area of 17 990 km^2 (www.municipalities.co.za). It is home to Nama, Khoe and San people who have occupied the area for hundreds of years. The municipality borders the Atlantic Ocean, and the main towns are Bulletrap, Carolusberg, Concordia, Kleinzee, Komaggas, Nababeep, O'Kiep, Springbok, Steinkopf. The main economic activities are mining and tourism, but there are also some government departments. This region is known as the land of the Nama people.

5.1.1.1.3 Kamiesberg Local Municipality

The Kamiesberg Local Municipality covers an area of 14 208 km^2 (www.municipalities.co.za). The municipality borders the Atlantic Ocean and the main towns are Garies, Hondeklip Bay, Kamieskroon, Koingnaas, and Leliefontein/Kamiesberg. Hondeklip Bay has a harbor that serves fishing and diamond boats (Namakwa District Municipality IDP 2022-2027). It is also a mariculture centre

and popular with tourists for scenic drives and 4x4 routes. Garies and Kamieskroon are known for wildflowers in spring, while Koingnaas is a mining town for alluvial diamonds.

5.1.2 Western Cape Province

The Western Cape Province is located on the southern tip of Africa between the Atlantic and Indian Oceans and is bordered by the Northern Cape and Eastern Cape Provinces. It covers an area of 129 462 km^2 (www.municipalities.co.za). The province is divided into one metropolitan municipality and five district municipalities. The capital of the province is the city of Cape Town and other major cities and towns include George, Knysna, Paarl, Swellendam, Oudtshoorn, Stellenbosch, Worcester, Mossel Bay and Strand.

The province has a well-established industrial and business base. Main economic activities include finance, real estate, ICT, retail, and tourism. Fishing is the most important industry along the west coast and sheep farming in the Karoo. In terms of agriculture main produce include grapes, fruit, vegetables, and wheat. A number of vineyards are located in the Western Cape Province.

5.1.2.1 West Coast District Municipality

The West Coast District Municipality covers an area of 31 118 km^2 (www.municipalities.co.za) and is bordered by the Namakwa and Cape Winelands District Municipalities, the City of Cape Town, and the Atlantic Ocean. The municipality consists of five local municipalities, namely the Swartland, Bergrivier, Matzikama, Cederberg and Saldanha Bay Local Municipalities.

The capital of the district is Moorreesburg and other main towns include Abbotsdale, Aurora, Bitterfontein, Chatsworth, Citrusdal, Clanwilliam, Darling, Doring Bay, Ebenhaezer, Eendekuil, Elands Bay, Graafwater, Grotto Bay, Hopefield, Jacobs Bay, Kalbaskraal, Klawer, Kliprand, Koekenaa, Koringberg, Lamberts Bay, Langebaan, Leipoldtville, Lutzville, Malmesbury, Molsvlei, Moorreesburg, Nuwerus, Paternoster, Piketberg, Porterville, Putsekloof, Redelinghuys, Riebeeck Kasteel, Riebeeck West,

Rietpoort, Riverlands, Saldanha, St Helena Bay, Stofkraal, Strandfontein, Vanrhynsdorp, Velddrif, Vredenburg, Vredendal, Wupperthal, and Yzerfontein.

Despite lively economic activity in the Swartland, Saldanha and Bergrivier areas, large parts of the district remain impoverished. The district has the second lowest GDPR in the Western Cape Province and income inequality has worsened over the years (West Coast District Municipality IDP 2022-2027). The economic activities are mainly driven by activities within the manufacturing; agriculture, forestry and fishing; as well as wholesale and retail trade sector. The recent drought has had a significant impact on the agriculture, forestry and fishery sectors within the district.

5.1.2.1.1 Matzikama Local Municipality

The Matzikama Local Municipality borders the Northern Cape Province and the Atlantic Ocean. It is the largest of the five municipalities in the district, making up almost half of the district. It covers an area of 12 981 km^2 (www.municipalities.co.za). There are 18 towns and villages in the municipal area with most of the population being concentrated along the Olifants River and its canal system. The main towns and villages include Bitterfontein, Doring Bay, Ebenhaezer, Klawer, Kliprand, Koekenaa, Lutzville, Molsvlei, Nuwerus, Putsekloof, Rietpoort, Stofkraal, Strandfontein, Vanrhynsdorp,aand Vredendal.

The agriculture, forestry and fishery sector was the main driver of the municipality's economy, followed by the wholesale and retail trade, catering and accommodation sector (Matzikama Local Municipality IDP, May 2022). The municipality is under severe strain with regards to coastal resource use (mining pressure, marine living resources), exploitation of estuarine resources and coastal vulnerabilities (illegal off-road vehicles, illegal camping and coastal erosion). Due to the dwindling fishing stocks the capture fisheries industry closed down more than 10 years ago and the likeliness of it being restored to its original form is unlikely. The only remaining activity of this industry is subsistence and small scale fishing.

Operation Phakisa – Oceans Economy forms part of the Matzikama Coastal Management Plan, also in terms of the socio-economic development of the coastal

zones (Matzikama Local Municipality IDP, May 2022). Operation Phakisa – Oceans Economy was launched in July 2014 as a priority programme of the South African Government with the aim to considerably grow the Ocean Economy's contribution to the country's GDP by 2033. It is a results-driven approach that involves clear plans and targets, ongoing monitoring of progress and making these results public. It focuses on bringing key stakeholders from the public and private sectors, academia as well as civil society organisations together to collaborate in (www.dffe.gov.za):

- Detailed problem analysis;
- Priority setting;
- Intervention planning; and
- Delivery.

The project focuses on six growth areas, namely:

- Marine transport and manufacturing;
- Offshore oil and gas exploration;
- Aquaculture;
- Marine protection services and ocean governance;
- Small harbours; and
- Marine tourism.

The six growth areas are supported by two enablers, namely:

- Skills and capacity building; and
- Research, technology and innovation.

5.1.2.1.2 Cederberg Local Municipality

The Cederberg Local Municipality covers an area of 8 007 km^2 (www.municipalities.co.za). It is bordered by the Atlantic Ocean and the Cederberg Mountains and is located on the Cape-Namibia corridor. The main towns in the area include Citrusdal, Clanwilliam, Elands Bay, Graafwater, Lamberts Bay, Leipoldtville, and Wupperthal.

The economic activities in the Cederberg Local Municipality are dominated by agriculture and fishing, manufacturing, wholesale and retail trade, catering and accommodation, and transport, storage and accommodation (Cederberg Local Municipality IDP 2022-23). The area consists of a mix of sparsely and densely populated towns with Clanwilliam and Citrusdal serving as the main agricultural

centres. The area is characterised by high levels of unemployment, poverty and social grant dependence. The road network is diverse with national, trunk, main and divisional roads of varying quality.

5.1.2.1.3 Bergrivier Local Municipality

The Bergrivier Local Municipality covers an area of 4 407 km^2 (www.municipalities.co.za). The main towns in the area include Aurora, Eendekuil, Piketberg, Porterville, Redelinghuys, and Velddrif. The agriculture sector is the largest employer in the municipal area with a contribution of 50.4% to total employment (Bergrivier Local Municipality IDP, May 2022). The four pillars for economic development in the municipal area are agriculture and agro processing; tourism; manufacturing; and the development of small and medium enterprises.

5.1.2.1.4 Saldanha Bay Local Municipality

The Saldanha Bay Local Municipality is the smallest of the five municipalities in the district and covers an area of 2 015 km^2 (www.municipalities.co.za). The main towns in the area are Hopefield, Jacobs Bay, Langebaan, Paternoster, Saldanha, St Helena Bay, Vredenburg.

The Saldanha Bay area plays an important role in the broader strategic framework of the South African Government as driven by the National Development Plan and National Growth Plan. It was identified as a special intervention area, attributed to the natural deep-water harbour and industrial development prospects that warrants its designation as a national growth management zone. The Saldanha Bay Industrial Development Zone (IDZ) was launched in October 2013 with the aim of serving as an important mechanism to achieve the government's aim of sustainable economic development and job creation in the localised economy. Diversification, and transformation of the historically under-developed and under-supported industrial maritime and energy sectors and broadening of the regional and national economic base through industrialisation (Saldanha Bat Local Municipality IDP, May 2022).

St Helena Bay is one of the world's principal fishing centres. Huge shoals of anchovies and pilchards fed in the area before they were depleted by overfishing. Twelve fish-

processing factories were established along the 21 km curve of the shore from West Point to Sandy Point and Stompneus. The bay is also well known for its snoek, especially during the winter months.

Saldanha Bay is the largest natural bay in South Africa and has a huge iron ore quay and is home to a large variety of fishing vessels. The town is not only important for export, but also hosts a number of other industries, such as crayfish, fish, mussels, oysters, seaweed and many more. It is also home to the South African Military Academy as well as SAS SALDANHA, a naval training unit.

The largest economic sectors in the municipal area are manufacturing, trade, and finance, while the agricultural sector is the largest contributor to employment. The fishing industry and fish processing are the largest primary and secondary industries in the municipality.

5.1.2.1.5 Swartland Local Municipality

The Swartland Local Municipality covers an area of 3 708 km^2 (www.municipalities.co.za). Main towns in the area include Abbotsdale, Chatsworth, Darling, Grotto Bay, Kalbaskraal, Koringberg, Malmesbury, Moorreesburg, Riebeeck Kasteel, Riebeeck West, Riverlands, and Yzerfontein.

The town of Malmesbury fulfils an important niche in the region due to its high development potential that can be attributed to factors like its relative accessibility along the N7 road/rail corridor; proximity to Cape Town; a diversified economic base that not only accommodates agriculture, but also well-developed industrial and commercial sectors; and supportive infrastructure. A number of people moved here and commute to jobs in Cape Town because of the high property rates in the Cape Town Metropolitan area and the tranquil environment that it offers.

Commercial services; Manufacturing; and Agriculture are the biggest contributors to the economy of the municipal area, with Agriculture being the second highest contributor to employment.

5.1.2.2 City of Cape Town Metropolitan Municipality

The City of Cape Town Metropolitan Municipality is situated in the southern peninsula of the Western Cape Province and covers an area of 2 441 km^2 (www.municipality.co.za). It is South Africa's second largest economic centre and the second most populous city after Johannesburg. It is the provincial capital as well as the legislative capital of South Africa. The city is known for its harbour, floral kingdom and well-known landmarks like Table Mountain and Cape Point.

Main towns and cities in the area include Athlone, Atlantis, Belhar, Bellville, Blackheath, Blouberg, Blue Downs, Brackenfell, Cape Point, Cape Town, Delft, Durbanville, Elsies Rivier, Fish Hoek, Goodwood, Gordon's Bay, Grassy Park, Guguletu, Hout Bay, Khayelitsha, Kommetjie, Kraaifontein, Kuils River, Langa, Macassar, Matroosfontein, Melkbosstrand, Milnerton, Mitchells Plain, Muizenberg, Noordhoek, Nyanga, Parow, Philadelphia, Philippi, Robben Island, Scarborough, Simon's Town, Sir Lowry's Pass, Somerset West, Southern Suburbs, Strand, and Table View.

5.2 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 municipal areas along the west coast that are most likely to be affected by the proposed project. Where possible, the data will be reviewed on a ward level. The data used for the socio-economic description was sourced from Census 2011. 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 must 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 different 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 five years and that between the second and third census is ten years. Although Census captures information at one given point in time, the period available for an indicator to change is different.

5.2.1 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 2011 has been in the Swartland and Saldanha Bay Local Municipalities (Table 1) and the increases were well above the national average. The Richtersveld Local Municipality where Port Nolloth is located is the only one of the coastal municipalities in the Northern Cape that showed an increase in population. The Kamiesberg Local Municipality where Hondeklip Bay is located, saw the greatest decrease in population between 2011 and 2016. Population density refers to the number of people per square kilometre and the population density on a national level has increased from 42.45 people per km2 in 2011 to 45.63 people per km2 in 2016. The City of Cape Town had the highest population density in 2016, and the Kamiesberg Local Municipality the lowest. Figure 4 gives a comparison of the population density. The municipalities in the rural areas in the Northern Cape are the least densely populated, while the metropolitan areas in Cape Town have the highest population density. Figure 5 shows the number of people per ward. The wards in the rural areas tend to have less people spread over a greater area, while in the urban areas there are more people in a much smaller area.

Table 1: 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	**372,889**	**1,145,861**	**1,193,780**	**3.07**	**3.20**	**4.18**
Namakwa DM	*126,836*	*115,842*	*115,488*	*0.91*	*0.91*	*-0.31*
Richtersveld LM	9,608	11,982	12,487	1.25	1.30	4.21
Nama Khoi LM	17,990	47,041	46,512	2.61	2.59	-1.12
Kamiesberg LM	14,208	10,187	9,605	0.72	0.68	-5.71
Western Cape	**129,462**	**5,822,734**	**6,279,730**	**44.98**	**48.51**	**7.85**
West Coast DM	*31,118*	*391766*	*436,403*	*12.59*	*14.02*	*11.39*
Matzikama LM	12,981	67147	71,045	5.17	5.47	5.81
Cederberg LM	8,007	49,768	52,949	6.22	6.61	6.39
Bergrivier LM	4,407	61,897	67,474	14.05	15.31	9.01
Saldanha Bay LM	2,015	99,193	111,173	49.23	55.17	12.08
Swartland LM	3,708	113,762	133,762	30.68	36.07	17.58
City of Cape Town Metropolitan	*2,441*	*3,740,026*	*4,004,793*	*1,532.17*	*1,640.64*	*7.08*

Figure 4: Population density (source: Community Survey 2016)

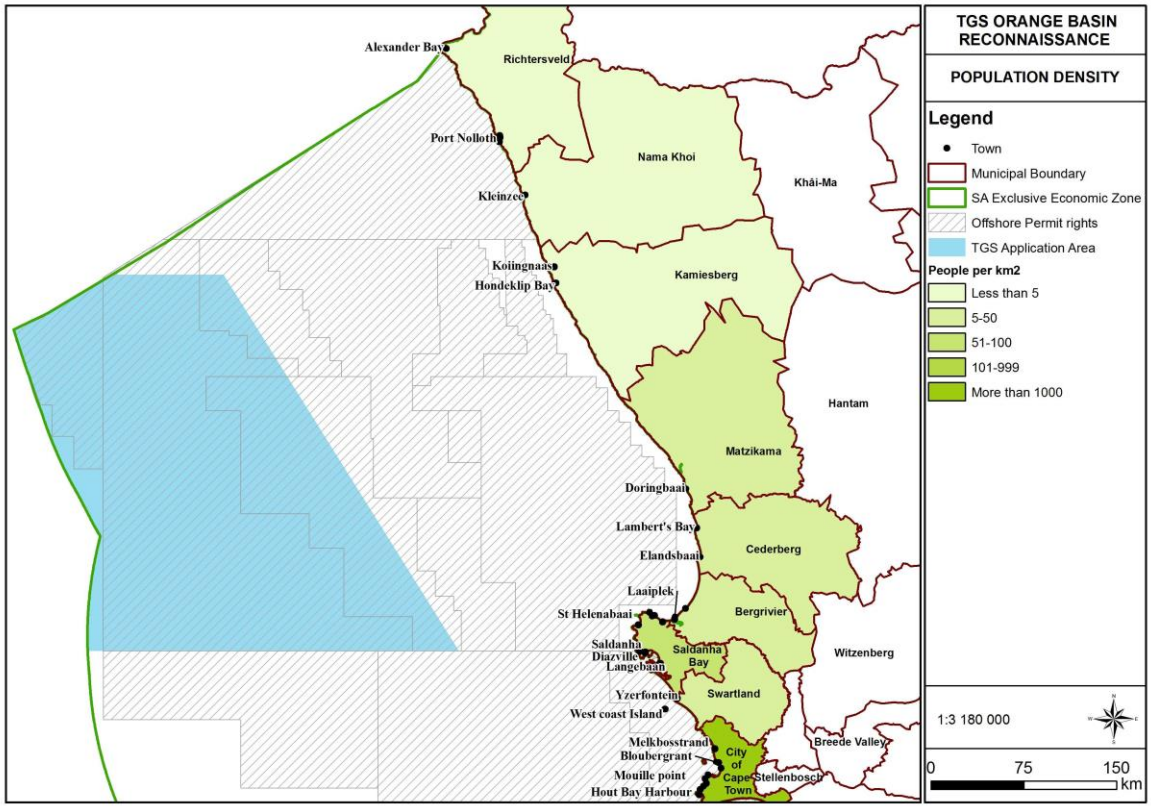
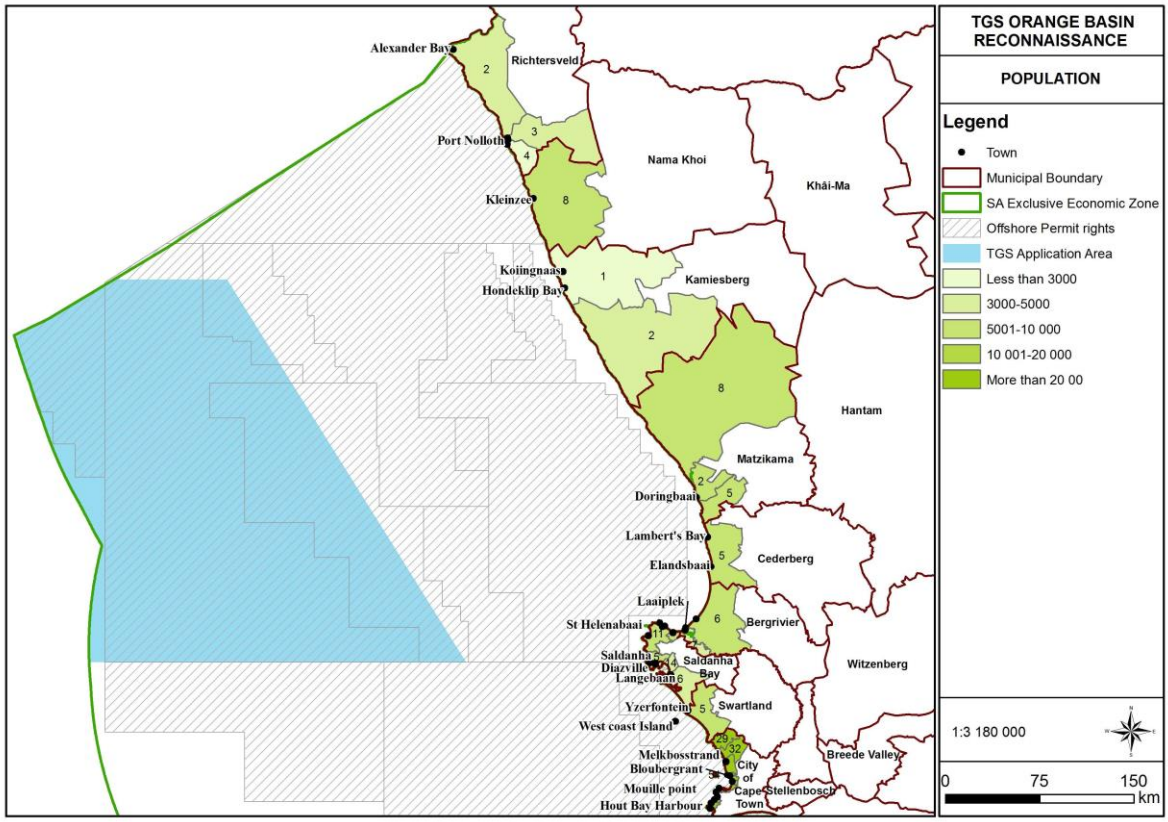


Figure 5: People per ward (source: Census 2011)



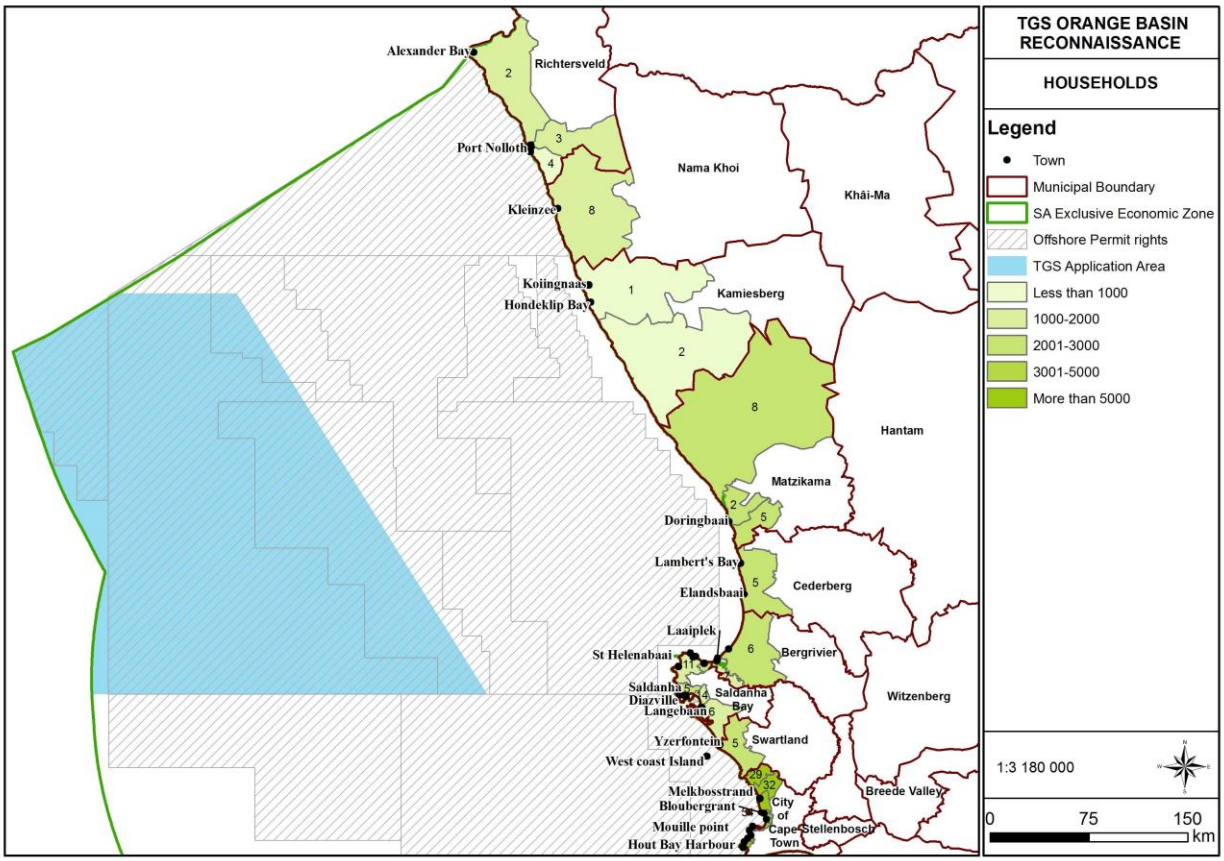
The number of households in the study area has increased on all levels (Table 2). The proportionate increase in households were greater than the increase in population on all levels. The greatest proportional increases in households were in the Swartland and Saldanha Bay Local Municipalities. The average household size has shown a decrease on all levels, which means there are more households, but with less members.

Table 2: 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	**301,405**	**353,709**	**3.80**	**3.38**	**17.35**
Namakwa DM	*33,856*	*37,669*	*3.42*	*3.07*	*11.26*
Richtersveld LM	3,543	4,211	3.38	2.97	18.85
Nama Khoi LM	13,193	14,546	3.57	3.20	10.26
Kamiesberg LM	3,143	3,319	3.24	2.89	5.60
Western Cape	**1,634,000**	**1,933,876**	**3.56**	**3.25**	**18.35**
West Coast DM	*106,781*	*129,862*	*3.67*	*3.36*	*21.62*
Matzikama LM	18,835	20,821	3.57	3.41	10.54
Cederberg LM	13,513	15,279	3.68	3.47	13.07
Bergrivier LM	16,275	19,072	3.80	3.54	17.19
Saldanha Bay LM	28,835	35,550	3.44	3.13	23.29
Swartland LM	29,324	39,139	3.88	3.42	33.47
City of Cape Town Metropolitan	*1,068,573*	*1,264,849*	*3.50*	*3.17*	*18.37*

Figure 6 shows the number of households per ward. The wards in the Kamiesberg Local Municipality have the fewest people per ward.

Figure 6: Households per ward (source: Census 2011)



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 Kamiesberg Local Municipality has the highest total dependency ratio (Table 3), while in the Richtersveld Local Municipality have the lowest. 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 the Kamiesberg and Nama Khoi Local Municipalities are the highest. This suggests high levels of poverty in these areas. Figure 7 and Figure 8 show the total and employed dependency ratios on a ward level.

Table 3: Total dependency ratios (source: Census 2011).

Area	Total dependency	Youth dependency	Aged dependency	Employed dependency
Northern Cape	**55.75**	**46.94**	**8.80**	**75.32**
Namakwa DM	***51.23***	***39.01***	***12.22***	***70.92***
Richtersveld LM	*42.51*	*33.96*	*8.55*	*61.38*
Ward 2	36.82	32.89	3.93	56.70
Ward 3	39.54	32.95	6.59	64.57
Ward 4	48.60	35.93	12.67	63.98
Nama Khoi LM	*49.45*	*37.16*	*12.29*	*73.74*
Ward 8	45.05	35.42	9.63	76.99
Kamiesberg LM	*57.89*	*41.84*	*16.05*	*78.37*
Ward 1	54.81	40.19	14.62	79.04
Ward 2	48.90	33.04	15.86	69.06
Western Cape	**44.96**	**36.44**	**8.52**	**65.47**
West Coast DM	***45.92***	***37.14***	***8.78***	***63.98***
Matzikama LM	*49.39*	*40.05*	*9.34*	*64.55*
Ward 2	48.60	38.35	10.24	67.26
Ward 5	46.38	33.96	12.41	53.32
Ward 8	53.71	41.14	12.57	71.99
Cederberg LM	*46.99*	*37.59*	*9.40*	*62.75*
Ward 5	51.76	38.06	13.70	69.48
Bergrivier LM	*46.89*	*36.62*	*10.27*	*61.61*
Ward 6	46.60	37.11	9.49	65.08
Ward 7	55.44	23.94	31.50	68.70
Saldanha Bay LM	*43.96*	*36.41*	*7.54*	*65.36*
Ward 1	39.71	36.79	2.91	68.76
Ward 3	29.02	23.68	5.35	74.04
Ward 5	39.28	27.63	11.66	54.39
Ward 6	59.99	25.93	34.06	61.44
Ward 11	44.91	32.19	12.73	63.50
Ward 12	45.16	41.60	3.56	67.57
Ward 14	42.82	34.92	7.90	54.68
Swartland LM	*44.68*	*36.21*	*8.47*	*64.27*
Ward 5	50.76	33.31	17.44	58.03
City of Cape Town Metropolitan	***43.61***	***35.65***	***7.97***	***65.39***
Ward 4	35.95	31.80	4.16	52.38
Ward 23	38.49	26.83	11.66	47.23
Ward 29	47.25	40.95	6.30	69.98
Ward 32	44.89	41.04	3.85	68.39
Ward 54	39.01	16.17	22.84	51.04
Ward 55	41.63	26.22	15.41	56.16
Ward 74	40.68	33.04	7.63	58.62
Ward 107	40.60	28.96	11.64	46.30
Ward 113	36.71	26.07	10.64	47.93
Ward 115	26.32	14.33	12.00	60.94

Figure 7: Total dependency ratios (source: Census 2011)

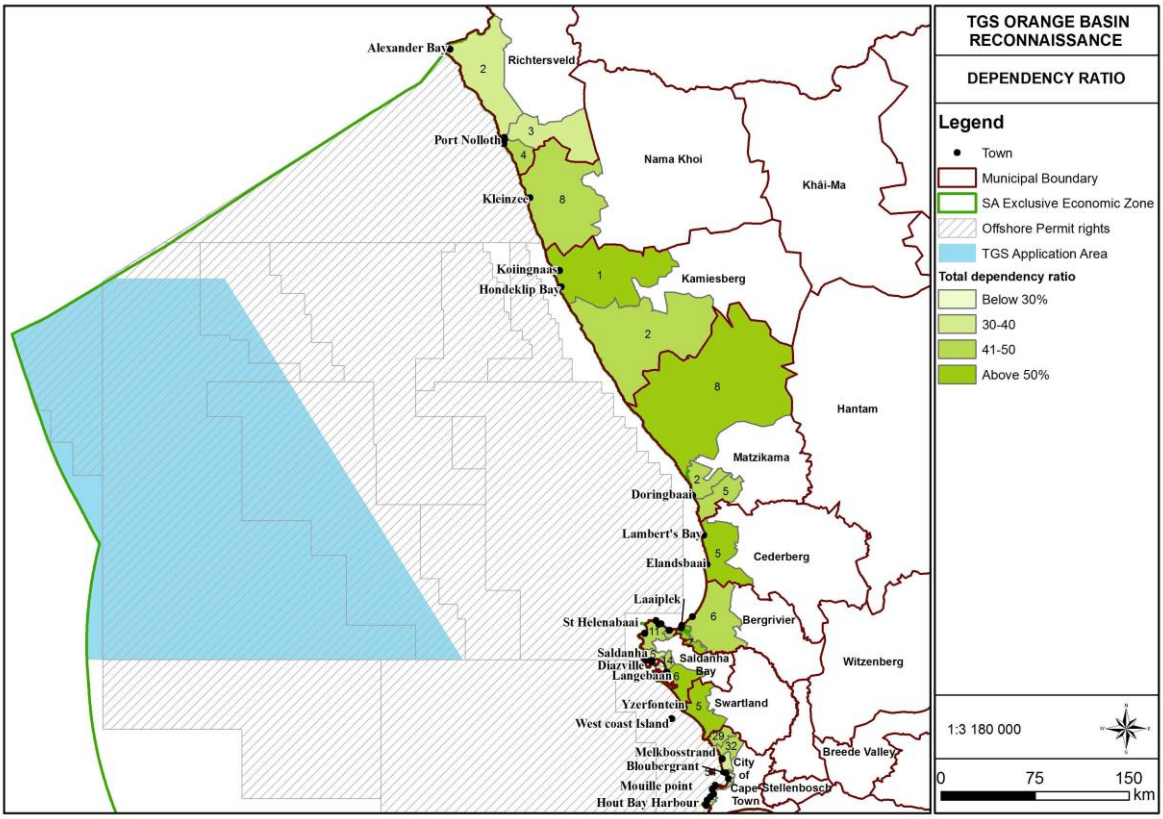
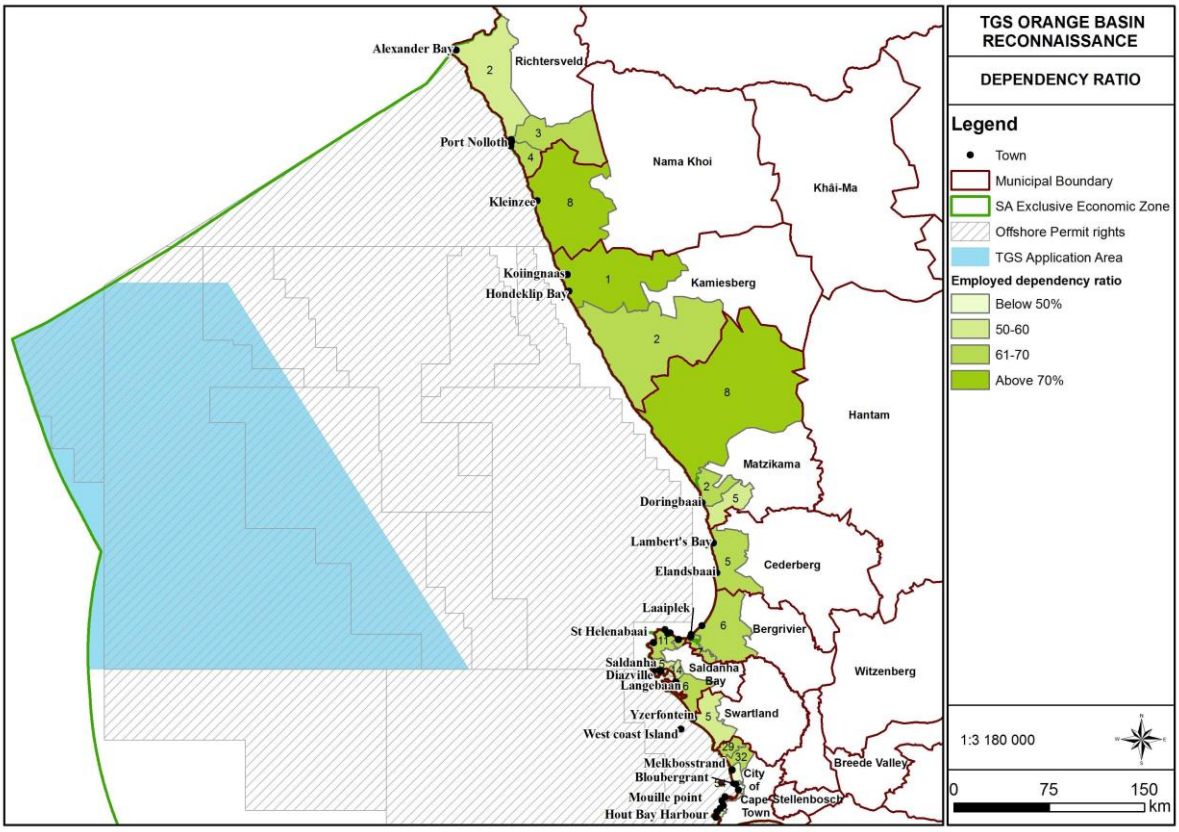


Figure 8: Employed dependency ratio (source: Census 2011).



Poverty is a complex issue that manifests itself in 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 multi-dimensionally poor by using the SAMPI's poverty cut-offs (Statistics South Africa, 2014). The poverty headcount has increased on all levels since 2011 (Table 4), indicating an increase in the number of multi-dimensionally poor households.

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 increased slightly 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. The SAMPI score has decreased in the Northern Cape (Table 4) as well as the Northern Cape municipalities included in the study. In the Nama Khoi Local Municipality, the score remained the same although there was a slight increase in the intensity of the poverty. In the Western Cape the SAMPI score decreased on a provincial level, but in the West Coast District Municipality it has increased.

Table 4: Poverty and SAMPI scores (sources: Census 2011 and Community Survey 2016).

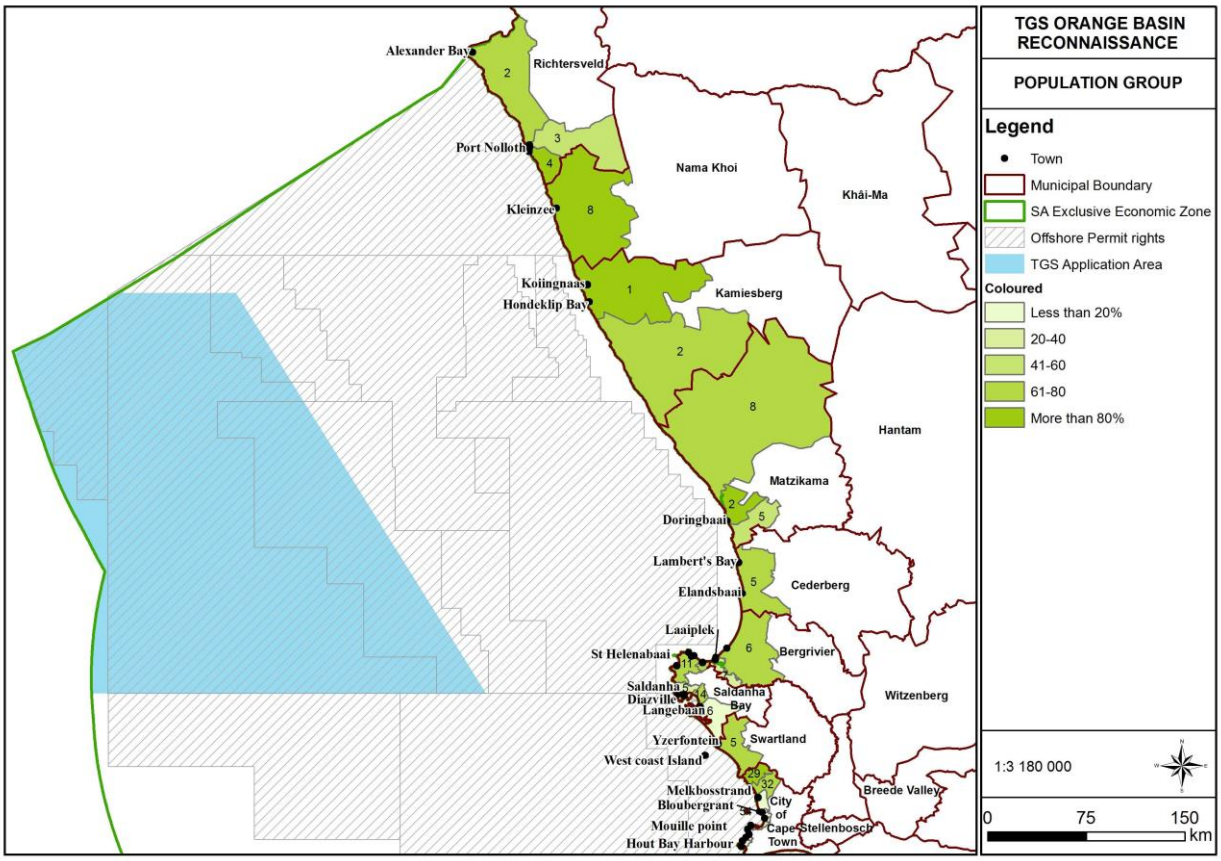
Area	Poverty headcount 2011 (%)	Poverty intensity 2011 (%)	SAMPI 2011	Poverty headcount 2016 (%)	Poverty intensity 2016 (%)	SAMPI 2016
Northern Cape	**7.1**	**42.1**	**0.030**	**6.6**	**42**	**0.028**
Namakwa DM	*3.2*	*40.2*	*0.013*	*2.8*	*41.6*	*0.012*
Richtersveld LM	3.1	39.9	0.012	1.9	38.3	0.007
Nama Khoi LM	2.5	40.4	0.010	2.5	41.7	0.010
Kamiesberg LM	5.1	40	0.020	3	39	0.012
Western Cape	**3.6**	**42.6**	**0.015**	**2.7**	**40.1**	**0.011**
West Coast DM	*2*	*41.9*	*0.008*	*2.9*	*44.5*	*0.013*

Matzikama LM	3.4	42.4	0.014	0.8	42.5	0.003
Cederberg LM	2.8	42.9	0.012	3.6	45.7	0.016
Bergrivier LM	1	43.7	0.004	1.6	41.5	0.007
Saldanha Bay LM	2.2	41	0.009	6.7	45.4	0.030
Swartland LM	1	40.6	0.004	0.9	39.9	0.004
City of Cape Town Metropolitan	*3.9*	*42.8*	*0.017*	*2.6*	*39.3*	*0.010*

5.2.2 Population composition, age, gender and home language

The majority of the people living in wards adjacent to the ocean are classified as belonging to the Coloured population group (Figure 9). The Coloured population group include Khoe and San people who in general find this classification offensive and they do not identify as such.

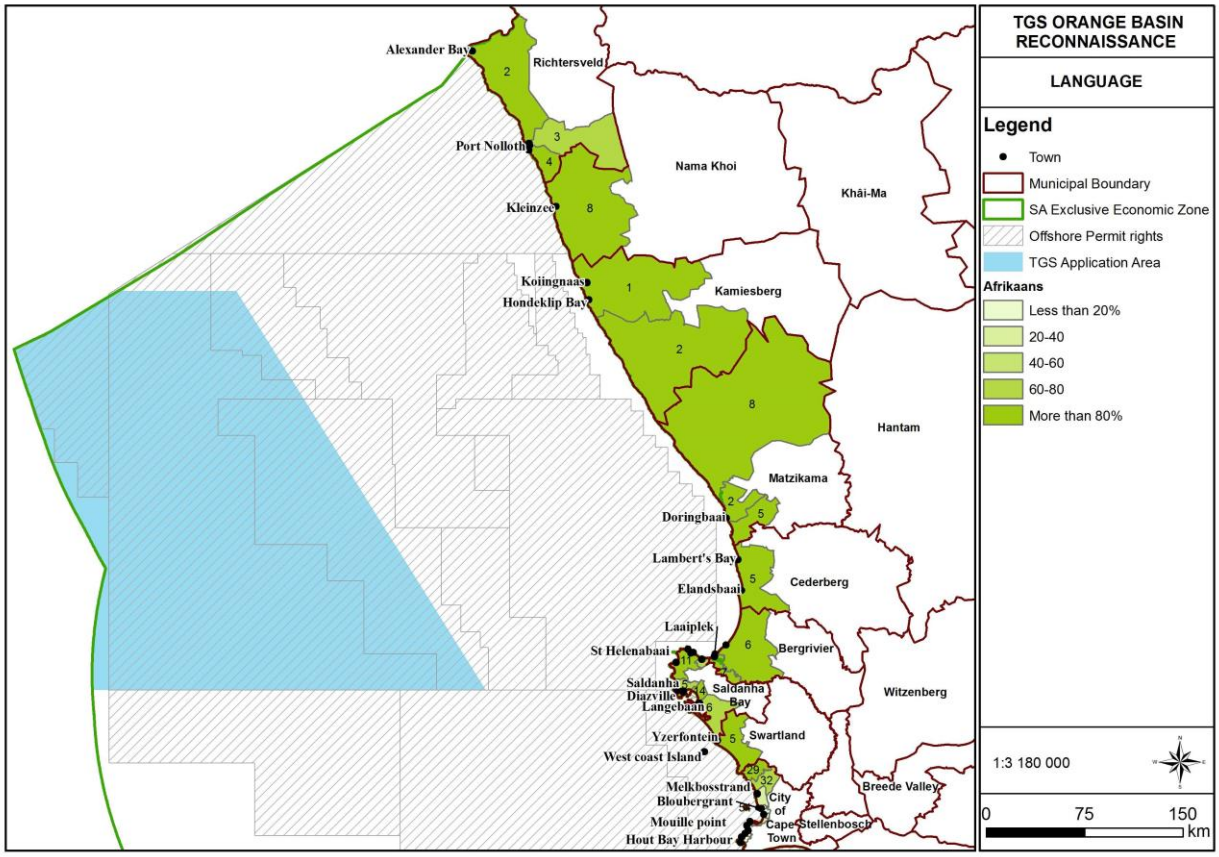
Figure 9: Classified as Coloured (shown in percentage, source: Census 2011)



The Kamiesberg Local Municipality has the highest average age (33.17 years) while the Saldanha Bay Local Municipality has the lowest (29.86 years). Average age varies on a ward level.

The gender distribution is more or less equal in most municipal areas, except for the Richtersveld Local Municipality where there is a bias towards males. This is most likely due to mining activities that are taking place in the area. On a ward level, most people have Afrikaans as home language (Figure 10).

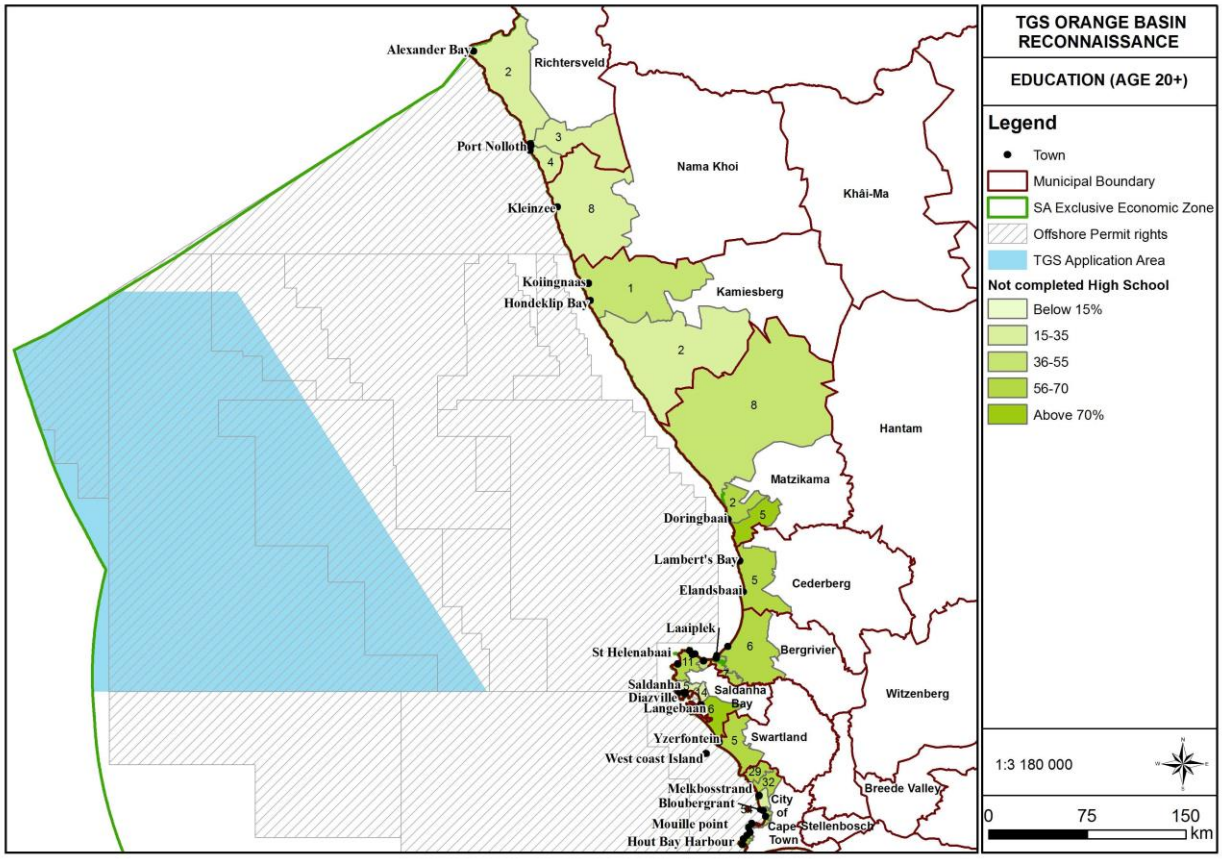
Figure 10: Home language Afrikaans (shown in percentage, source; Census 2011)



5.2.3 Education

The highest proportion of people who did not complete high school is in the Saldanha Bay (73.59%) and the Swartland (72.83%) Local Municipalities while the Matzikama (32.7%) and Nama Khoi (37.37%) Local Municipalities have the lowest proportion of people that did not complete high school (Figure 11).

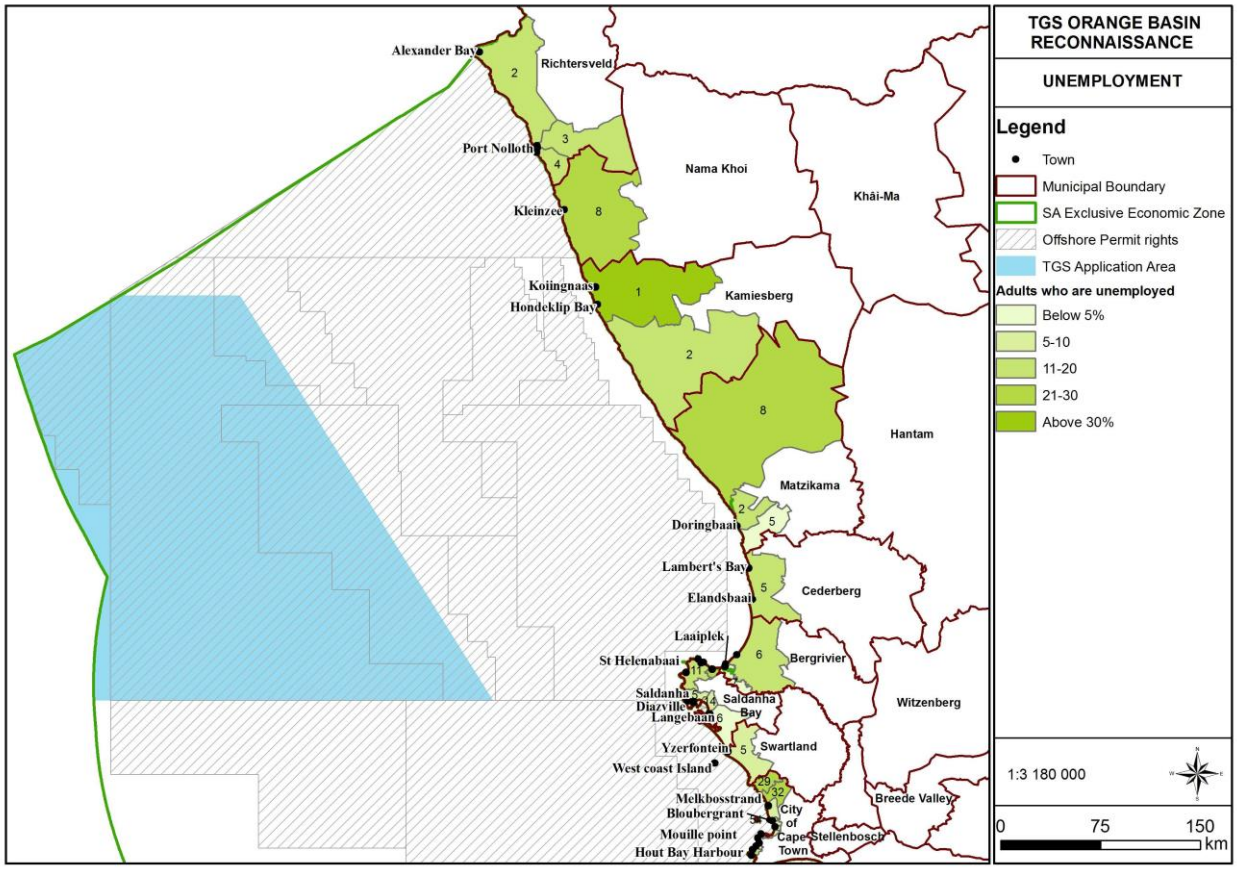
Figure 11: Proportion of people that did not complete secondary school (shown in percentage, source: Census 2011).



5.2.4 Employment

In 2011 the area with the highest proportion of unemployed people was ward 1 in the Kamiesberg Local Municipality where Hondeklip Bay is located (Figure 12). The proportion of unemployed people include those actively seeking for work as well as discouraged work seekers. The majority of people who are working, is employed in the formal sector.

Figure 12: Proportion of adults that are unemployed (shown in percentage, source: Census 2011).

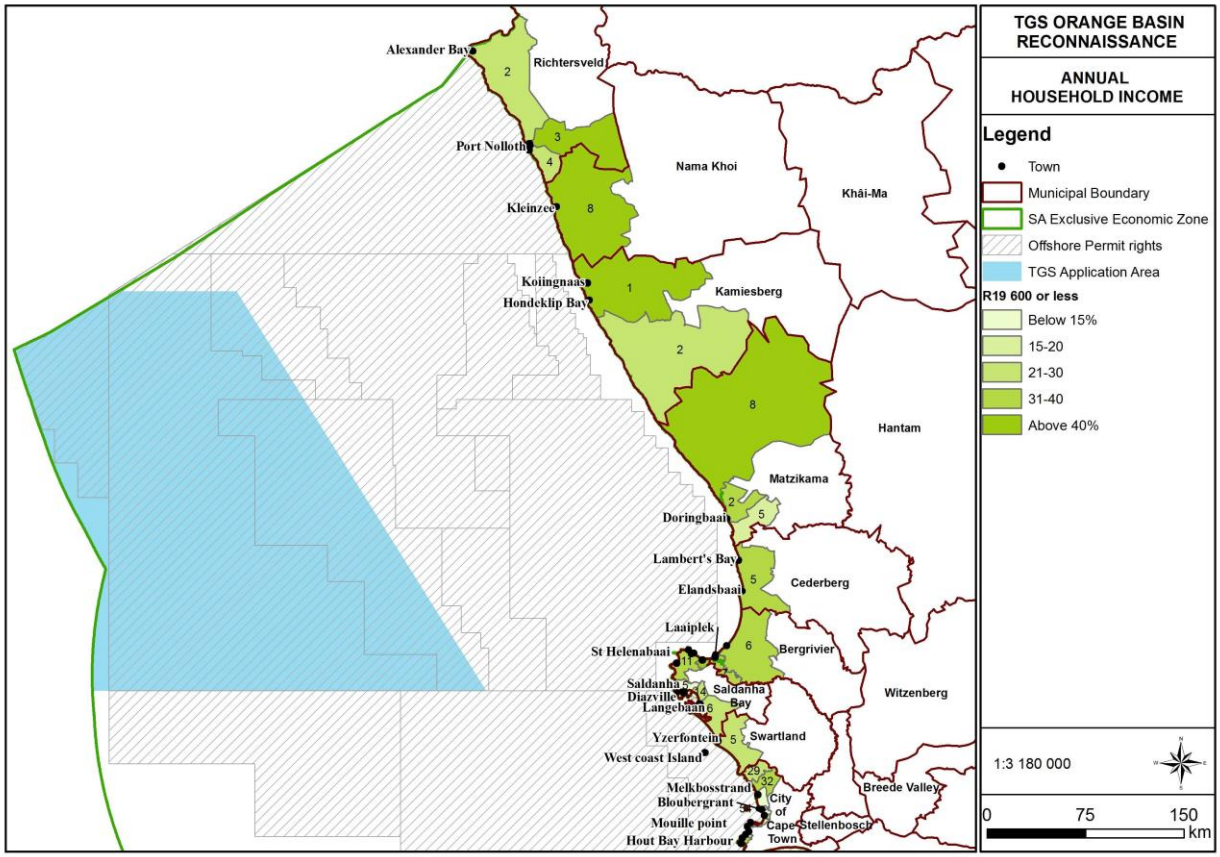


5.2.5 Household income

In 2011 almost a third of households on municipal level had an annual household income of R19 600 or less, with great variation between wards (Figure 13). Statistics South Africa (2015) has calculated the Food Poverty Line (FPL) for the Northern Cape Province as R310 per capita per month for 2011 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 LBPL for the Northern Cape Province was R457 per capita per month in 2011 and the UBPL R705 per capita per month

respectively. The FPL for Western Cape was R352 per capita per month, the LBPL was R545 and the UPL was R804. Based on this, a household with four members needed an annual household income of approximately R17 000 in 2011 to be just above the FPL. When comparing this with the SAMPI data it seems as if there are more households below the poverty lines in the area than who are multi-dimensionally 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 these were to be converted into a Rand value, the poverty line picture may have a closer resemblance to the SAMPI data.

Figure 13: Proportion of households with an annual income of R19 600 or less in 2011 (shown in percentage, source: Census 2011).



5.2.6 Housing

The majority of households live in areas that are classified as urban, except in the Matzikama Local Municipality (Figure 14). The majority of people live in formal dwellings that that are houses or structures that are on a separate stand or yard. The incidence of informal dwellings is relatively low (Figure 15), except for Ward 1 of the

Saldanha Bay Local Municipality where the majority of people live in informal dwellings. Wards 32 and 74 also have a relatively large proportion of households living in informal dwellings.

Figure 14: Proportion of households that live in urban areas (shown in percentage, source: Census 2011).

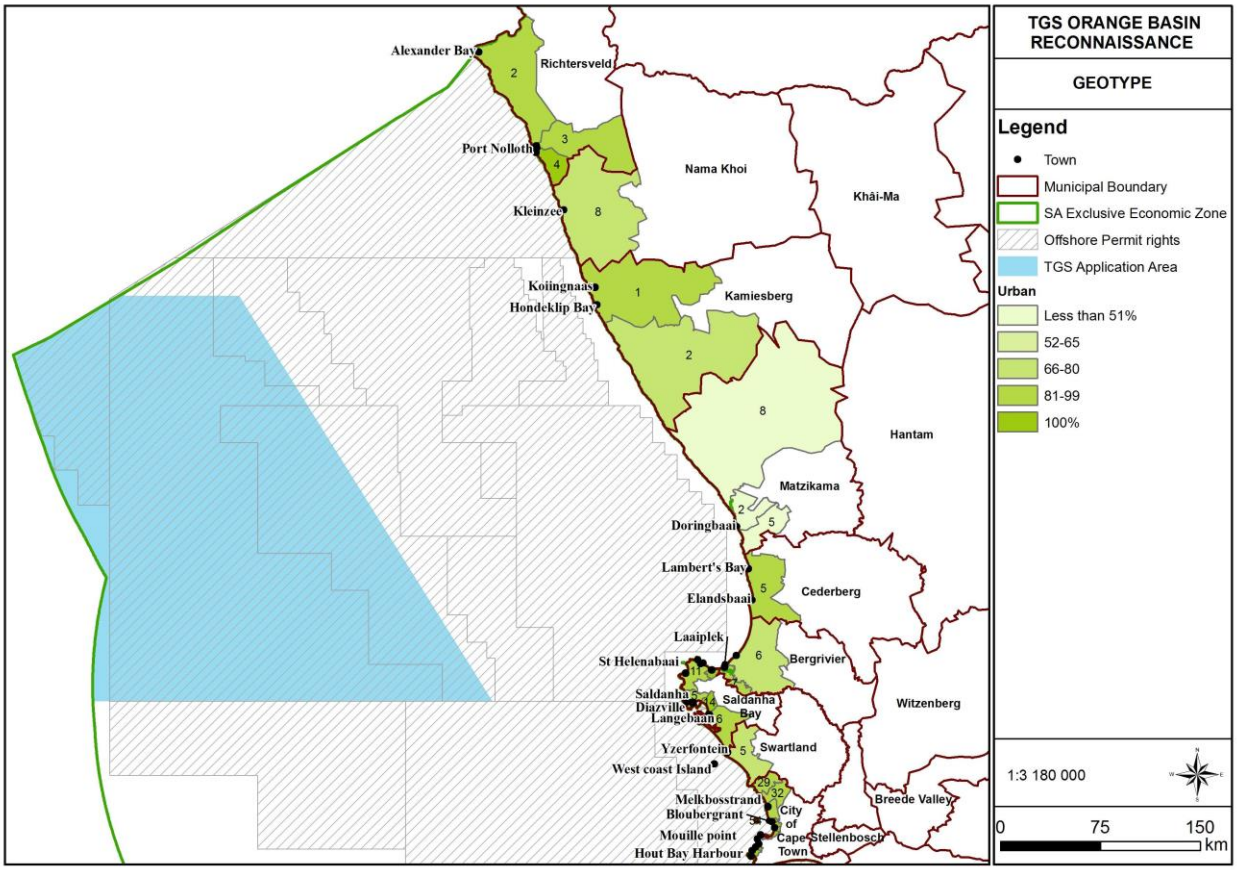
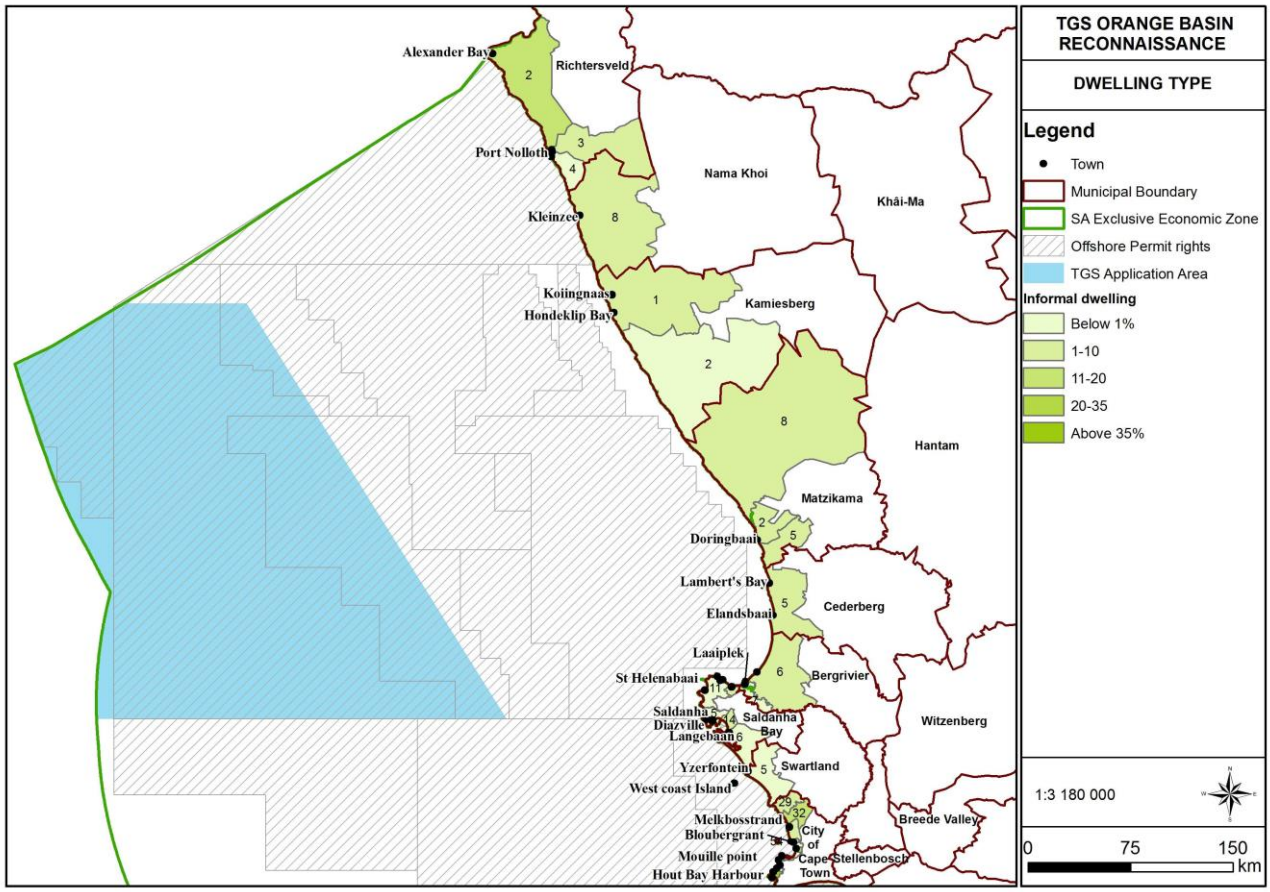


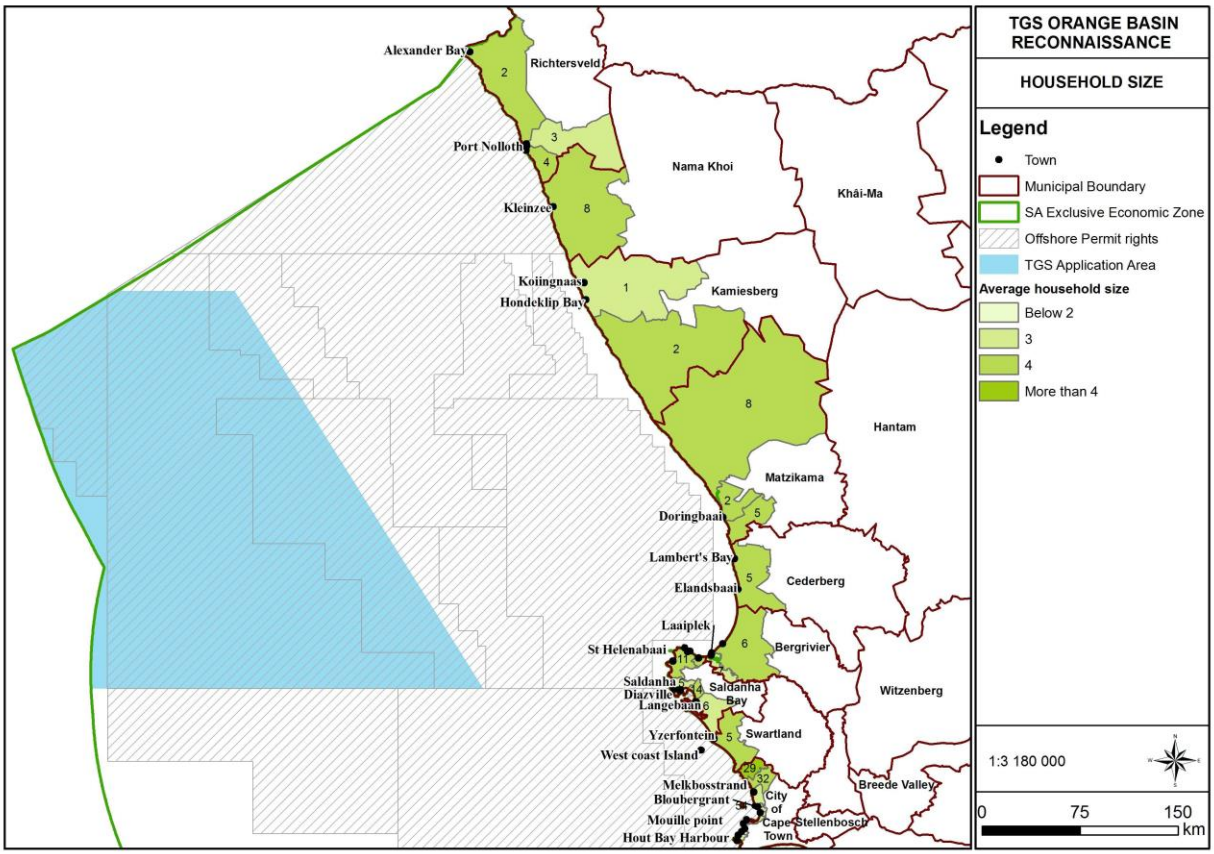
Figure 15: Proportion of households that live in informal dwellings (shown in percentage, source: Census 2011).



5.2.7 Household size

The average household size in the wards vary between 1.96 people per household and 4.86 people per household (Figure 16).

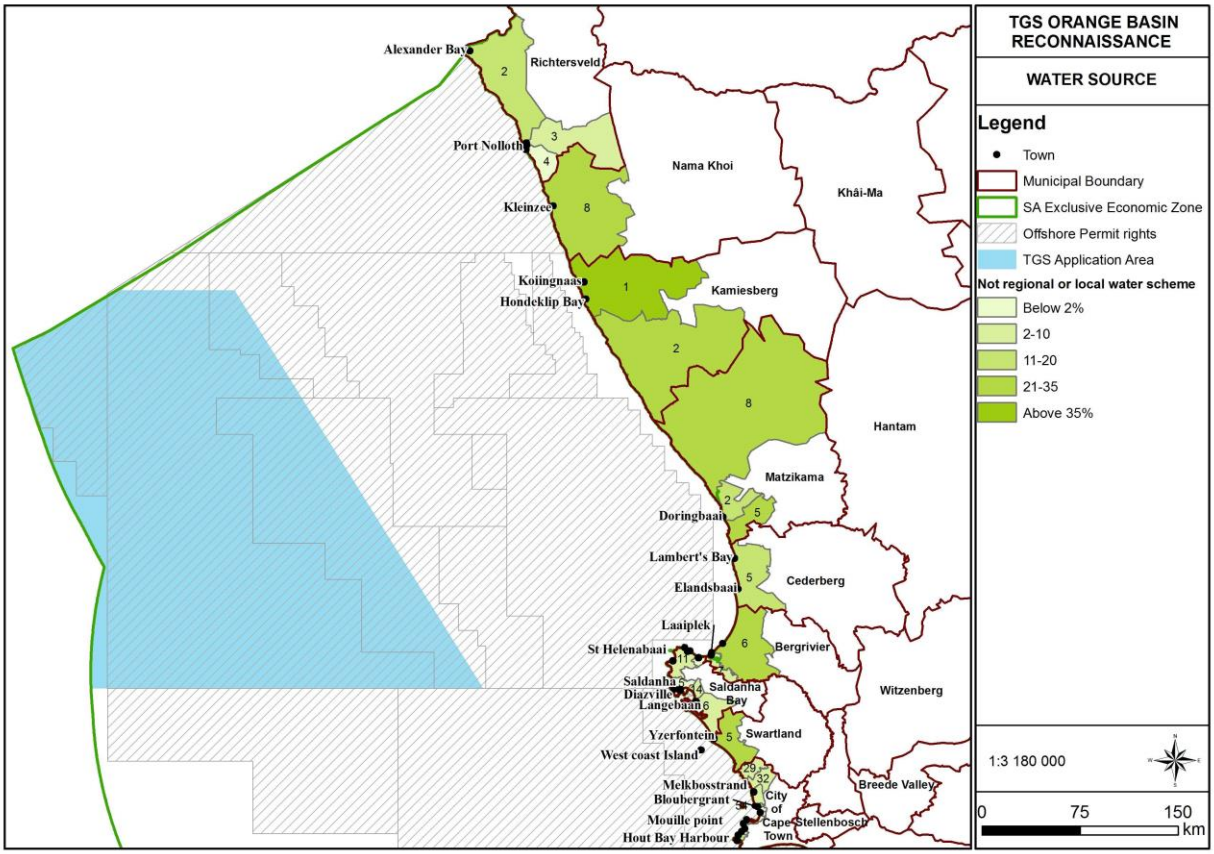
Figure 16: Average household sizes (source: Census 2011).



5.2.8 Access to water and sanitation

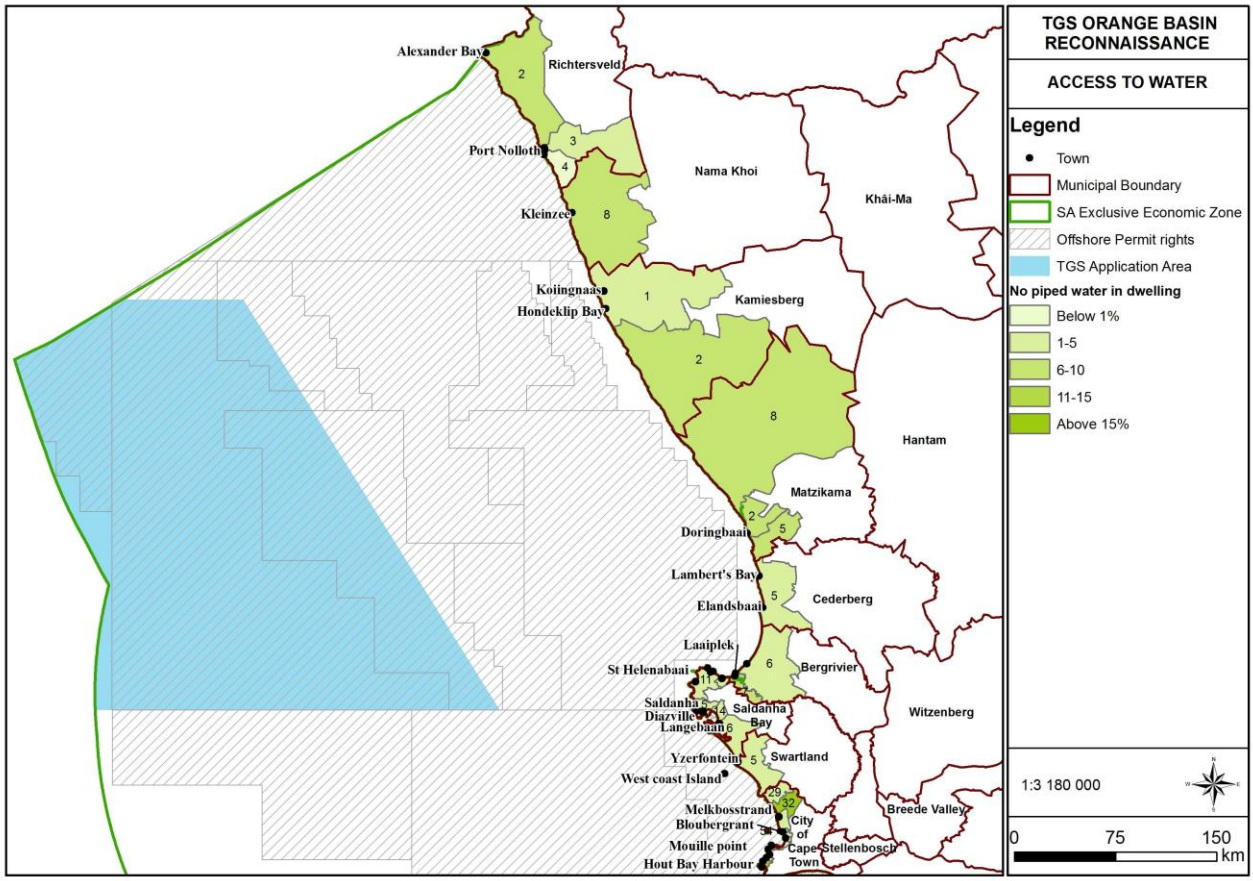
Access to piped water, electricity and sanitation relate to the domain of Living Environment Deprivation as identified by Noble et al (2006). Most households get their water from a regional or local water scheme, with the lowest incidence in Ward 1 of the Kamieskroon Local Municipality where Hondeklip Bay is located (Figure 17).

Figure 17: Proportion of households that does not get water from a regional or local water scheme (shown in percentage, source: Census 2011).



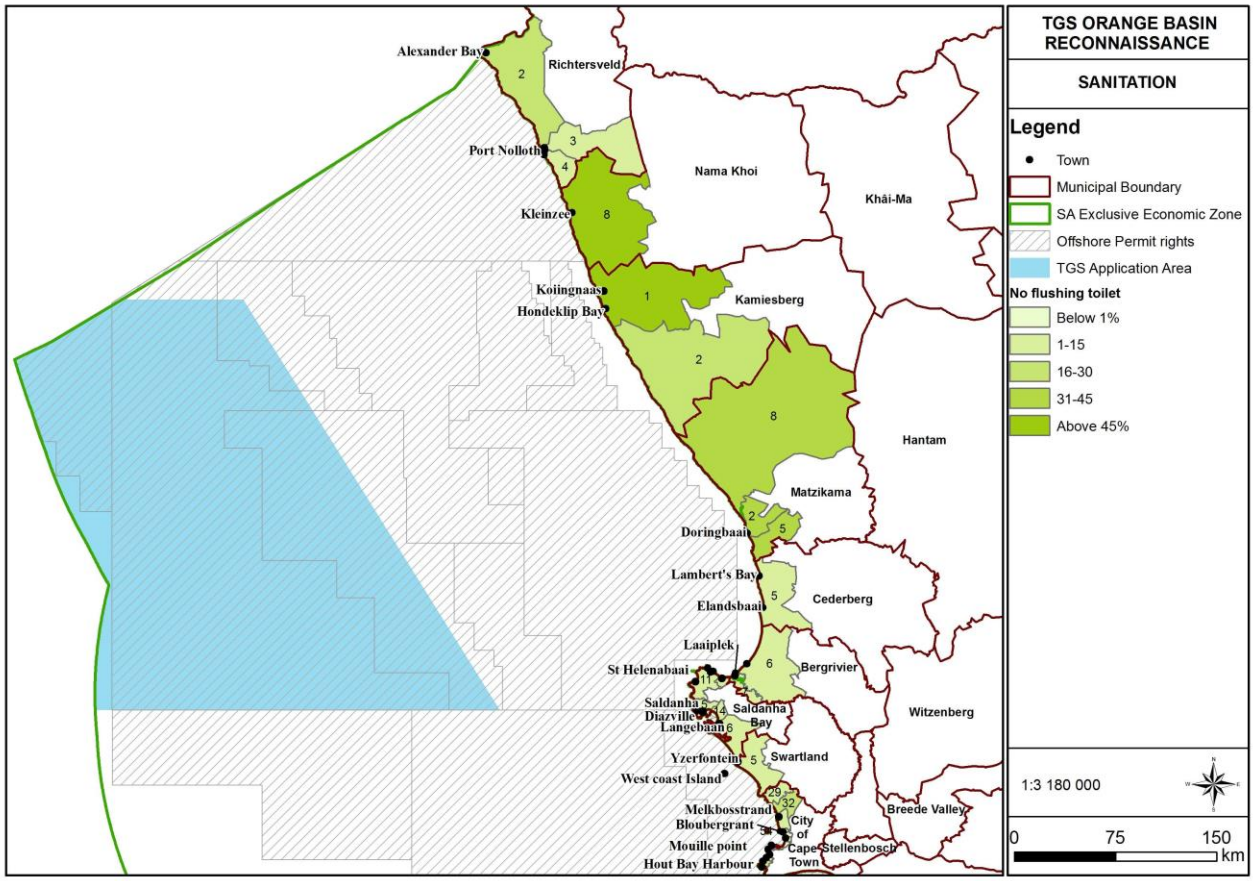
The incidence of access to piped water inside the dwelling varies and tend to be lower in the Northern Cape municipalities (Figure 18).

Figure 18: Proportion of households that does not have piped water in the dwelling (shown in percentage, source: Census 2011).



Access to a flush toilet is in general lower in the Northern Cape Municipalities (Figure 19).

Figure 19: Proportion of households that does not have a flush toilet (shown in percentage, source: Census 2011).



5.2.9 Energy

Electricity is seen as the preferred lighting source (Noble et al, 2006) and the lack thereof should thus be considered a deprivation. Even though electricity as an energy source may be available, the choice of energy for cooking may be dependent on other factors such as cost. The majority of households have access to electricity for lighting purposes (Figure 20) but a lower proportion use electricity for heating (Figure 21) and cooking (Figure 22) purposes.

Figure 20: Proportion of households that use paraffin, candles, wood or nothing for lighting purposes (shown in percentage, source: Census 2011).

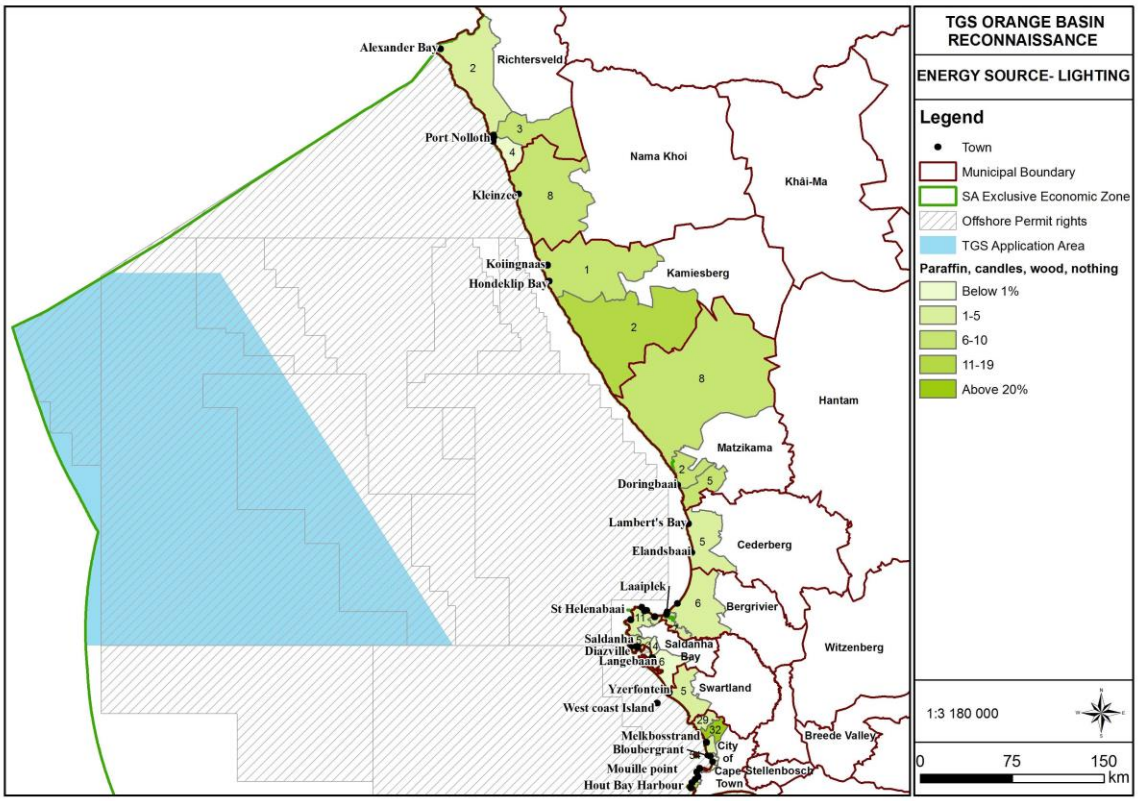


Figure 21: Proportion of households that use paraffin, wood, coal, dung or something else for heating purposes (shown in percentage, source: Census 2011).

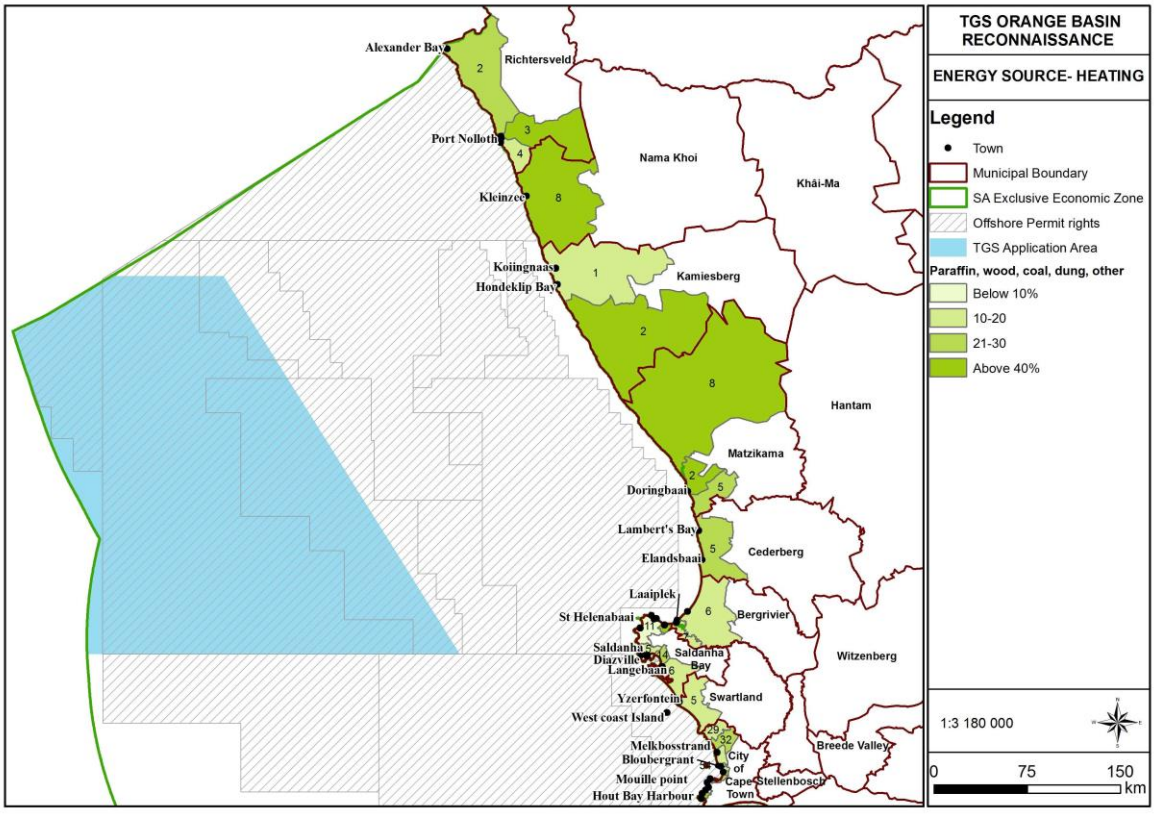
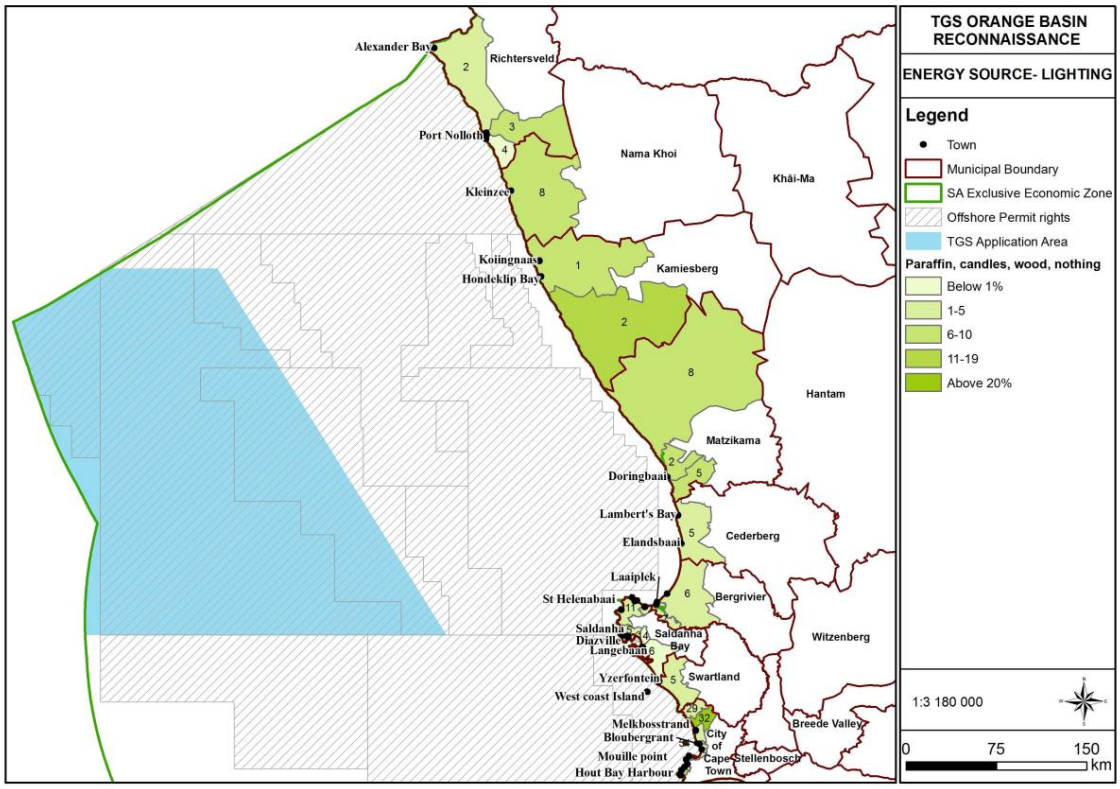


Figure 22: Proportion of households that use paraffin, wood, coal, dung or something else for cooking purposes (shown in percentage, source: Census 2011).



6 Stakeholder Identification and Analysis

6.1 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 be affected by the proposed projects. The following stakeholder groups were identified and their interest in the projects will be discussed briefly in the section below.

6.2 List of stakeholders

The following stakeholders that may have an interest in or affected by the proposed TGS seismic survey project have been identified:

Figure 23: Detail of Stakeholder Groups.

Stakeholder Grouping	Organisation
Internal Stakeholders	
TGS Geophysical Company (UK) Ltd	TGS Staff involved with the project
Seiche	Seiche Staff involved with the project
Government	
Governmental departments and directorates	• Western Cape Provincial Government • Northern Cape Provincial Government • Petroleum Agency of South Africa • Department of Environment, Forestry and Fisheries • Department of Mineral Resources and Energy • South African Navy Hydrographic Office (SANHO) • Namakwa District Municipality • West Coast District Municipality • City of Cape Town Metropolitan Municipality • Richtersveld Local Municipality • Nama Khoi Local Municipality • Kamiesberg Local Municipality • Matzikama Local Municipality

Stakeholder Grouping	Organisation
	• Cederberg Local Municipality • Bergrivier Local Municipality • Saldanha Bay Local Municipality • Swartland Local Municipality • South African Heritage Resources Agency (SAHRA)
State-owned entities and regulators	• Transnet National Ports Authority • South African Maritime Safety Authority
Business	
Fishing Industry	Fishing Industry associations Commercial fishing sectors: demersal trawl, midwater trawl, demersal hake longline, demersal shark longline, small pelagic purse-seine, large pelagic longline, tuna pole-line, traditional line fish, West Coast rock lobster, small-scale fisheries, beach-seine and gillnet fisheries (netfish), fisheries research
Petroleum and Gas Industry	Various companies that have expressed interest in oil or gas exploration in the West Coast area Companies conducting seismic surveys
Other industries	Industries providing support services such as equipment, fuel, accommodation, meals and other supplies
Environmental	
Environmental Interest groups	Green Connection Coastal Links We Are South Africans Other relevant environmental interest groups
Societal	
Social Organizations	Masifundise Development Trust Small-scale fisheries cooperatives such as Aukatowa small scale fisheries cooperative Small-scale fishing communities such as Steenbergs Cove ABALOBI Coastal Justice Network Community forums (e.g., employment, youth)
Residents/ Community	
Local coastal communities	Hout Bay, Saldanha Bay, St Helena Bay, Lambert's Bay, Hondeklip Bay, Port Nolloth, Velddrif, Paternoster, Jacobsbaai, Langebaan, Grotto Bay, Elands Bay, Strandfontein, Doringbaai
Local indigenous people	Nama, Khoi and San groups, including Cochoqua Tribal House, the Guriqua Tribe and the Katz Korana Royal House

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. 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.

Table 5 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 TGS activities, 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 5: Stakeholder matrix.

Degree to which they are impacted on				
	High	Local coastal communities Local indigenous people	Fishing Industry	TGS Geodata UK Ltd Seiche Petroleum and Gas Industry
	Medium		Other industries Environmental Interest groups Social Organizations	Governmental departments and directorates State-owned entities and regulators
	Low			
		Low	**Medium**	**High**
		Ability to influence company's activities		

When considering the project affected stakeholders it is important to consider the potential impacts after the seismic surveys are conducted. The stakeholders that will be impacted on most but have the least ability to influence the company's activities are local coastal communities and indigenous people, who is also seen as the most vulnerable group. Their fears about future impacts and uncertainty about the potential impacts on their livelihoods are already causing an impact on their emotional and physical wellbeing. There is a power imbalance between TGS and the local communities. It is therefore of great importance that TGS and the local communities

communicate frequently in an open and honest manner to avoid a standoff. Communities are supported by environmental and social interest organisation, and these organisations have the ability to mobilise community activists and fund potential court cases.

The community perception is that the government has already decided that it will allow this and similar projects to continue. The government is seen as a powerful stakeholder with significant ability to influence the decision-making process.

The placement of stakeholders in the stakeholder matrix may change with time, and it should be revisited frequently.

6.3 Local Indigenous people

South Africa has many different cultural groupings, among which the Khoisan are regarded as the original inhabitants of South Africa. This is not a homogenous group, and consists of smaller groups such as the Khoi, San, Nama and Griekwa. This group were of the first South Africans to experience the brutality of colonial suppression by the Portuguese under the leadership of Bartholomew Diaz in 1488 (Klaasen, 2018). In 1657 the first farms were taken from then and given to the Dutch settlers. For the Khoisan, land was not a commodity, but an integral part of their identity. Land was not for the possession of any one person, but for the use of all living there, even if it did not belong to the original group within that particular territory. Different worldviews regarding land caused great conflict. The land issue and identity of the Khoisan remained a contentious point right through the colonial and apartheid eras. The Khoisan were excluded through the controversial Restitution of Land Rights Act in 1994, as this only applied to land that were dispossessed after 1913. Their extended period of oppression excluded them from land claims, and as a result they were excluded from the reconciliation process post-apartheid. Nowhere in South Africa's Constitution of 1996 was there any space for groups like the Khoisan to reclaim dispossessed land. For the Khoisan land have both material and spiritual significance. The historical land issues are of great significance for the coastal communities.

The Khoisan's approach to culture is a holistic one. Aspects such as land, identity, leadership structures, language and religion are all inter-related. The early Europeans were prejudiced towards the Khoisan as the Khoisan seemed to have missed every standard that indicated what was regarded as civilization according to European standards (Boezak, 2017): a king, jurisdiction, laws, script, arts, agriculture, money, marriage and religion. Despite scientific evidence supporting the Khoisan's claim that they are in fact South Africa's aboriginal people, the South African government has thus far not shown much political will to grant 'first nation' status to them. Their right to self-identification has been met with historical distortion and official denialism. After the abolishment of slavery, the free slaves and the Khoisan were all lumped together as the joint working classes and collectively called 'people of colour' (Boezak, 2017). Since 1948 the Apartheid regime continued to reclassify the majority of Khoisan people as 'Cape Coloured' and used the Group Areas Act of 1950 to forcefully remove them from their remaining ancestral land. The Khoisan Leadership Act is regarded as a step in the right direction, but some of the criteria are not taking into consideration their historical fragmentation.

The historical context of the Khoi and the San groups must be taken into consideration in interpreting and understanding their concerns with reference to the proposed project.

7 Social risk

Social risk is a confusing term because it has different meanings in different discourses. In the SIA/corporate project discourse, 'social risk' is a largely similar concept to 'non-technical risk' and is the preferred term (Vanclay et al, 2015). The World Bank defines social risk as "the possibility that the intervention would create, reinforce or deepen inequity and/or social conflict, or that the attitudes and actions of key stakeholders may subvert the achievement of the development objective, or that the development objective, or means to achieve it, lack ownership among key stakeholders". For the Bank, social risk is considered to be both risk (threats) to the success of the project, but also risk (social issues) created by the project, which in turn become threats to the project. In a corporate setting, social risk can be regarded as the business risks (e.g. extra costs) to the company that arise from any social impacts or social issues created by the project, such as through unforeseen costs of mitigation, future litigation and/or compensation pay-outs, worker strikes, retaliatory acts of sabotage, and reputational harm (Vanclay et al, 2015).

Non-technical risks relate to the managerial, legal, social and political issues faced by a project, in contrast to the technical risks (i.e. the physical, structural, engineering and environmental risks). Non-technical risks are potentially serious financial risks to a project because of the protest actions local communities can take, and therefore should be considered and addressed (Vanclay et al, 2015).

Risk inevitably involves a concern with good and bad outcomes (Eiser, 2004). Such values will be implicit in any exchange. What any audience will be listening for is an indication of what they need to do – not simply for a prediction of what consequences may or may not happen, but also for an indication of how good or bad these consequences will be, and what they, or anyone else, is expected to do about it. The best way to communicate risk is to adopt a less didactic model of communication. It is already widely recognised that, to be effective, the communication of risks cannot be merely one-way. It must involve exchange and interaction between all parties. There are obstacles to putting such good intentions into practice. The 'experts' need to be prepared to give up not only time, but also some of their power (Eiser, 2004).

The 'public' need to be willing to be engaged in the decision process and take some responsibility for the outcomes if these have been shaped to take account of their views. All this can be costly, in terms of time, patience and the risk of disappointment if not everything one wants could be achieved. The real advantage over the traditional, less consultative, approach is that the debate or discussion can focus on what people want to know and issues of value, rather than merely probability can be considered (Eiser, 2004).

Another important social factor to consider is the "social licence to operate". In 2003 Pierre Lassonde drew attention to the observation that "*Without local community support, your project is going nowhere."* He described social license as *"…the acceptance and belief by society, and specifically local communities, in the value creation of activities"*. Social licence cannot be obtained by going to a government ministry and making an application or simply paying a fee. It requires far more than money to truly become part of the communities in which a company operates (Lassonde 2003). A primary objective of gaining a social license is to minimize project risk. *"Successful operations require the support of the communities in which they operate now, and in the future, to ensure continued access to land and resources"* (Render 2005). The social license to operate can be further described as the degree of match between stakeholders' individual expectations of corporate behaviour and companies' actual behaviour.

Seismic surveys are currently a controversial and political subject in South Africa. On 1 September 2022 there was a high court ruling against Shell conducting seismic surveys. The ruling found that coastal communities were not properly consulted (Judgement on Sustaining the Wild Coast vs Minister of Mineral Resources and Energy and others, 1 Sept 2022). The debate about the potential impacts of seismic surveys has been ongoing and in the public domain for the last couple of years but intensifying in the second half of 2022. For many people it is an emotional issue and goes much deeper than scientific research on potential impacts on the marine environment. For some people the core of the issue is the impact on their indigenous and culture rights, their customs and traditions and their livelihoods.

Others feel that the seismic surveys are only the first step and that it will open the door to exploration for oil and gas. They are already aware of changes in the marine environment due to existing impacts such as shipping traffic, mining in the sea, climate change and over-fishing. Their concerns are related to the potentially negative impacts associated with the oil and gas industry, especially from an environmental perspective and the impact that using oil and gas will have on climate change. They feel that South Africa must move away from fossil fuels and act in line with the government's policies and international commitments in this regard. There are also people with the opinion that a developing country like South Africa cannot afford to not explore for oil and gas. Their feeling is that the energy transition will take some time, and that oil and gas are better than coal mines.

It is a contentious issue that can potentially cause damage to the social fabric of local communities, but also lead to civil unrest and reputational damage. From a social perspective these social risks must be highlighted. In the current socio-economic environment associated with the project area, there are significant non-technical risks associated with seismic surveys, irrespective of the company that will conduct the survey.

Table 6: Summary of potential social risks for the proposed project

Risk	Source	Motivation
Opposition to the project through appeals and court cases causing a significant delay in the process	Local indigenous communities and fishers Environmental NGOs Social Justice groups	During the SIA consultation process and as seen in the South African press it was clear that communities will not welcome seismic surveys. There is an example of a community winning a court case against a company wanting to do the survey. Communities may want to appeal the outcome of the EIA process and will resort to legal means if required because they know that resources are available to them from NGOs. These appeals and legal processes may cause a significant delay in the authorisation process which will have knock on effects.
Damage to corporate reputation	Local indigenous communities and fishers	TGS's corporate reputation can be damaged if communities feel that the process has not been conducted in what the communities see as a meaningful manner. Due to historical tension

		between some of the communities and another company doing seismic surveys that has attracted media attention in the past, there is a chance that this may be associated with TGS as many community members do not distinguish between the different surveying companies. This may impact TGS on an international level, as rights groups may be concerned about grassroots impacts, human rights and social and environmental justice, and the shares are influenced negatively.
Lack of social license to operate	Local indigenous communities and fishers Environmental NGO's Social Justice groups	Given the media attention surrounding the Shell ruling in September 2022 and the court interdict against Searcher in March 2022 there is a general mistrust against any company that want to conduct seismic surveys. Communities demand meaningful consultation, which go beyond the requirements of an EIA process. They want to feel that they can make informed decisions and have sufficient time to digest the technical information. Community members expressed misgivings about the government and its ability to protect their interest. They feel that the decision to support the application has already been made.
Community protests and potential for civil unrest.	Local indigenous communities and fishers	Communities feel angry and disempowered. They do not differentiate between the different companies that apply for seismic surveys. They see a different face standing in front of them, sharing similar information, but never providing answers to their questions. They feel that they are not listened to and disregarded. Several coastal communities expressed their frustration. The communities communicate with each other via WhatsApp groups, and there is a strong possibility of social mobilisation that can lead to civil unrest and worse case scenario to violent protests.

Social risk's population-based nature sets it apart from traditional risk events such as cyberattacks, workplace safety incidents, and natural disasters. Traditional risk events impact a distinct set of people, while social risk can impact broad segments of society.

Social risk has five characteristics (Ludke, 2021):

- **Human.** Traditional forms of risk most often manifest themselves because of a discrete event or incident. Social risk is built on who we are as human beings and shaped by socio-economic status, social mobility, community environment and mental health.

- **Dynamic**. Social risk is always evolving and formed by how people react to events and ideas. For example, social risk is not necessarily the pervasive nature of socio-economic inequalities in the global economy, it is how the population react to these inequalities

- **Dispersed.** Social risk is a consequence of today's connected society where nearly everyone has the ability to increase their voice through technology and networks of family, friends, colleagues, and social media followers.

- **Distinctive**. Social risk is unique to each organization because it forms as humans organically react to events and ideas, no two social risk events are alike.

- **Scalable**. Social media platforms amplify public conversations. This accelerates social risk as it can scale very quickly from an isolated idea or conversation into a broader movement.

If TGS choose to identify and mitigate social risk, the following general recommendations should be considered:

- **Create an ecosystem of diverse partners**. A diverse ecosystem will create an "early warning system" to help identify social risk before it manifests as a threat or crisis—provided you stay engaged with this ecosystem in a genuine dialogue.

- **Ask, don't tell**. When developing a social risk management strategy, getting honest feedback can help you avoid pitfalls and build credibility. Similar to engaging partners, this must be approached by listening rather than telling.

- **Communicate constantly**. In an age of social risk, communicating is not about pushing information to audiences. Rather, it is a methodical approach to all facets of a communications strategy that fosters dialogue.

- **Act with humanity**. Social risk is driven by human emotions that must be respected and appreciated.

Addressing social risk requires looking at its causes from a systemic standpoint, not on an event-by-event basis. The solutions must be focused on the same societal level as its causes, including poverty, injustice, inequality, or misinformation. Social risk touches all of society, and it comes from the perceptions and beliefs all humans have.

8 Description of potential impacts

8.1 Social Impact Assessment

> *"Almost all projects almost always cause almost all impacts. Therefore, more important than predicting impacts is having on-going monitoring and adaptive management."* Frank Vanclay

Considering the statement above, it must be considered that some social impacts will not be discussed in detail and that the focus will be on the most severe impacts. Nevertheless, it must be considered that the social environment is dynamic and adapts to change. The focus should be on the active management of social impacts rather than on the prediction and once-off mitigation thereof. Successful mitigation and management of social impacts requires long-term commitment and involvement and should form part of the strategic planning and management of the project until decommissioning. Suggestions for the management of social impacts are included in the report in the form of a social impact management plan (SIMP). The implementation of the relevant management suggestions should start as soon as possible since the social impacts of the project started when the project was announced. Another important consideration in this project is the social context in which it will be executed. Impacts are assessed from a community perspective, and where it will influence a specific group of stakeholders it will be indicated as such. An attempt was made to simplify the impact assessment and to focus on aspects that can aid the decision-making process.

Social impacts are the result of social change, and to fully understand the potential impacts it is important to know the impact pathways. A social change process is 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.). Social change processes can be measured objectively. The way in which social change processes are perceived, given meaning, or valued, depend on the social context in which various societal groups act. Some groups in society are able to adapt quickly and exploit the opportunities of a new situation. Others (e.g. vulnerable groups) are less able to adapt, and will bear most of the negative

consequences of change. These social change processes may, in certain circumstances and depending on the context, lead to the experience of social impacts. Social impacts are therefore completely context dependent (Vanclay, 2003).

8.2 Impact assessment criteria

It must be stated that the impact tables and ratings were adapted from the environmental sciences and that it is not always possible to compartmentalise the social impacts. For the sake of consistency this has been attempted, but it is not innate to social sciences. Allowance for the changing and adaptive nature of social impacts should be made when interpreting the impact tables.

The rating criteria used in determining the significance ratings are summarised in the tables below:

Figure 24: Criteria for determination of impact consequence.

Aspect	Score	Definition
Nature	- 1	Likely to result in a negative/ detrimental impact
	+1	Likely to result in a positive/ beneficial impact
Extent	1	Activity (i.e. limited to the area applicable to the specific activity)
	2	Site (i.e. within the development property boundary),
	3	Local (i.e. the area within 5 km of the site),
	4	Regional (i.e. extends between 5 and 50 km from the site
	5	Provincial / National (i.e. extends beyond 50 km from the site)
Duration	1	Immediate (<1 year)
	2	Short term (1-5 years),
	3	Medium term (6-15 years),
	4	Long term (the impact will cease after the operational life span of the project),
	5	Permanent (no mitigation measure of natural process will reduce the impact after construction).
Magnitude/ Intensity	1	Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected),
	2	Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected),
	3	Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way),
	4	High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease), or

	5	Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease).
Reversibility	1	Impact is reversible without any time and cost.
	2	Impact is reversible without incurring significant time and cost.
	3	Impact is reversible only by incurring significant time and cost.
	4	Impact is reversible only by incurring prohibitively high time and cost.
	5	Irreversible Impact

Figure 25: Probability scoring.

Aspect	Score	Definition
	1	Improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions; <25%),
	2	Low probability (there is a possibility that the impact will occur; >25% and <50%),
	3	Medium probability (the impact may occur; >50% and <75%),
	4	High probability (it is most likely that the impact will occur- > 75% probability), or
	5	Definite (the impact will occur),

Figure 26: Criteria for the determination of prioritisation.

Aspect	Score	Definition
Cumulative Impact (CI)	Low (1)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change.
	Medium (2)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.
	High (3)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change.
Irreplaceable loss of resources (LR)	Low (1)	Where the impact is unlikely to result in irreplaceable loss of resources.
	Medium (2)	Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.
	High (3)	Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).
Degree of Confidence	Low	<30% certain of impact prediction
	Medium	>30% and <60% certain of impact prediction
	High	>60% certain of impact prediction

8.3 Social impacts and mitigation

In this section each impact will be described. The project will not have a construction phase and the mitigation measures for each impact that are relevant will be discussed at the end of the section.

8.3.1 Uncertainty

The fishing communities are uncertain about the impact that the seismic survey will have on their livelihoods. They feel that there is not enough information available to them to determine whether the surveys will have an impact on their activities. In the past year a number of companies approached them to participate in EIA processes about seismic surveys. They want to have some definitive answers about the potential impacts from specialists. They would like to engage with them for more than two hours to make sure that they understand exactly what the project entails and what the potential impacts are. Only then will they be able to make informed decisions. The fishing communities have made a living from the sea for hundreds of years and they have learned how to read the ocean and the weather to know where and when fish are moving. They are concerned that the surveys could disrupt the behaviour of snoek (that is endemic to the area and a major source of income) and other fish that they rely on. They have noticed changes in the patterns of the fish they catch due to industrial activities in the past. Some examples are the potato factory in Lambert's Bay that discharges warm water in the sea and the coffer dams constructed by the diamond mines. After a previous seismic survey at the Wild Coast, people observed dead Black Steenbras that were reported to have protruding nostrils. Furthermore, they also noticed changes in the patterns of the fish that they ascribed to climate change. For the fishing communities, the sea is an integral part of their identity, and they possess local knowledge that are not yet written up in scientific reports.

The marine fauna and fisheries reports indicate that low to negligible impacts on marine life and that all the impacts are reversible. However, the communities are not convinced. According to them, the fish can either go deeper in the sea to get away of the source of noise, which would be a tragedy for them, or they can go closer to the

shore, which would be beneficial for them. They feel that no-one can predict with certainty how the fish would respond to the noise, just that they would try to move away from the source.

The impact of seismic surveys on the catchability of marine fish remains a contentious issue for communities, with some claims that seismic surveys may negatively affect catch rates. However, little empirical evidence exists to quantify the impact or identify the mechanisms of such impact. The communities feel that there is simply not sufficient data available to negate or substantiate these claims and much more research on the topic is needed, especially from a local perspective. The consensus seems to be that there is a great knowledge gap in this regard. Community members feel that companies doing seismic surveys or those who have an interest in the data obtained through seismic surveys can make a great contribution to scientific knowledge of this field by funding independent research on the topic in South African waters.

People's livelihoods are already impacted by external factors such as fishing quotas, climate change, commercial over-fishing, mining in the sea and the recent Covid pandemic. They fear that the seismic surveys will contribute to an already dire situation and be a tipping point that will render them helpless and without their last source of income. They see seismic surveys as a gateway to oil and gas exploration and are concerned about the potential impacts that the results of the seismic surveys can unlock. There is a high level of uncertainty about the future of the ocean, which causes great concern and distress amongst the fishing communities, especially because the uncertainty is related to their livelihoods, and they are already struggling to make ends meet. Uncertainty also takes its toll on people psychologically and may result in mental health issues for some people in the long run.

8.3.2 Further marginalisation of vulnerable groups

In South Africa, claims for and access to natural resources are deeply embedded in people's histories, identities, and livelihood experiences. As in the case of land, access to and rights over fisheries resources is a highly contested issue where individuals and communities have equated such rights with human rights (Williams,2021).

Globally, fishing activities for many communities sees strong cultural and traditional links spanning many generations, and its value is seen beyond the means of earning a living (i.e. economic values). Whilst fishing takes place at sea, other activities related to fishing such as boat and net maintenance, the selling and trading of fish, etc. take place on land. Men and women are involved in fishing and indigenous knowledge and skills such as gutting and cleaning fish, reading the sea, and finding fish are transferred from generation to generation. The activities associated with fishing create a particular identity or characterise an area as a result of these activities (Williams,2021). Fishing is part of the cultural identity of the people living in fishing villages on the West Coast.

Many of the people on the West Coast belong to the Nama, Khoi or San people. Most of the Khoi people were traditionally cattle or sheep herders, while the San people were traditionally hunters and gatherers (www.san.org). They were the first inhabitants of southern Africa and one of the earliest distinct groups of homo sapiens. They have endured centuries of gradual dispossession at the hands of waves of new settlers, including the Bantu, whose descendants make up most of the black population of South Africa (https://foreignpolicy.com/2018/10/19/south-africas-first-nations-have-been-forgotten-apartheid-khoisan-indigenous-rights-land-reform/).
The process of land distribution instituted by the Government since 1994 has largely excluded the Khoi and the San people, as the government has not acknowledged them as the country's first peoples and their land was mostly taken before the apartheid era. There is a growing movement of indigenous activists that believe it is time to rightfully claim their traditional land.

One of the Khoi and San's biggest challenges is the racial classification system used in South Africa. They are being classified as 'Coloured' - a label that was used during Apartheid for citizens that did not fit the binary race model and included mixed-race children and Afrikaans-speaking non-whites. This categorisation condemned much of the Khoi and San's history to oblivion and facilitated the appropriation of their land. It excluded them from land restitution as it was conceived to be a benefit to black South Africans, and they were not considered to be black. As such the Khoi and San are

considered to be very vulnerable and marginalised groups. Being marginalised means that they may easily be overlooked by corporate groups or businesses unfamiliar with the local history. Their needs, their views and even themselves as a stakeholder group can easily be omitted – both intentionally and unintentionally. In a previous application for a seismic survey by another company in the area the Khoi and San felt that they were not consulted with. Therefore, they are sceptic about the intentions of any company doing seismic surveying. They felt that they were discriminated against by not being consulted during that previous application, deepening their status as marginalised groups, and causing distraught to them as groups. Many of the fishers are of Khoi and San descendance, and they feel that they simply cannot win in any situation – whether it is fishing rights, land rights or culture identity.

With increasing interest in the West Coast area by seismic surveyors, which is viewed as the precursor for oil and gas companies to start developing the area, these communities risk increased marginalisation and an increase in vulnerability with every application where their voices are not being heard. They feel that currently they need to fight to make their voices heard. They have been using legal avenues, as they feel that just speaking up is not effective and has failed to give them the desired outcomes. Communities feel that their cultural heritage is threatened.

The San has published the San Code of Research Ethics that provides a guideline for researchers and companies that want to work in their sphere of influence on how to conduct themselves and how to interact with the San. From their perspective, an EIA application is also viewed as a form of research. This guideline can be applied to the Khoi and other people in the fishing communities as well. The San Code of Research Ethics is based on:

- Respect for individuals, community and culture;
- Honesty;
- Justice and fairness;
- Care; and
- Process (following San research protocol).

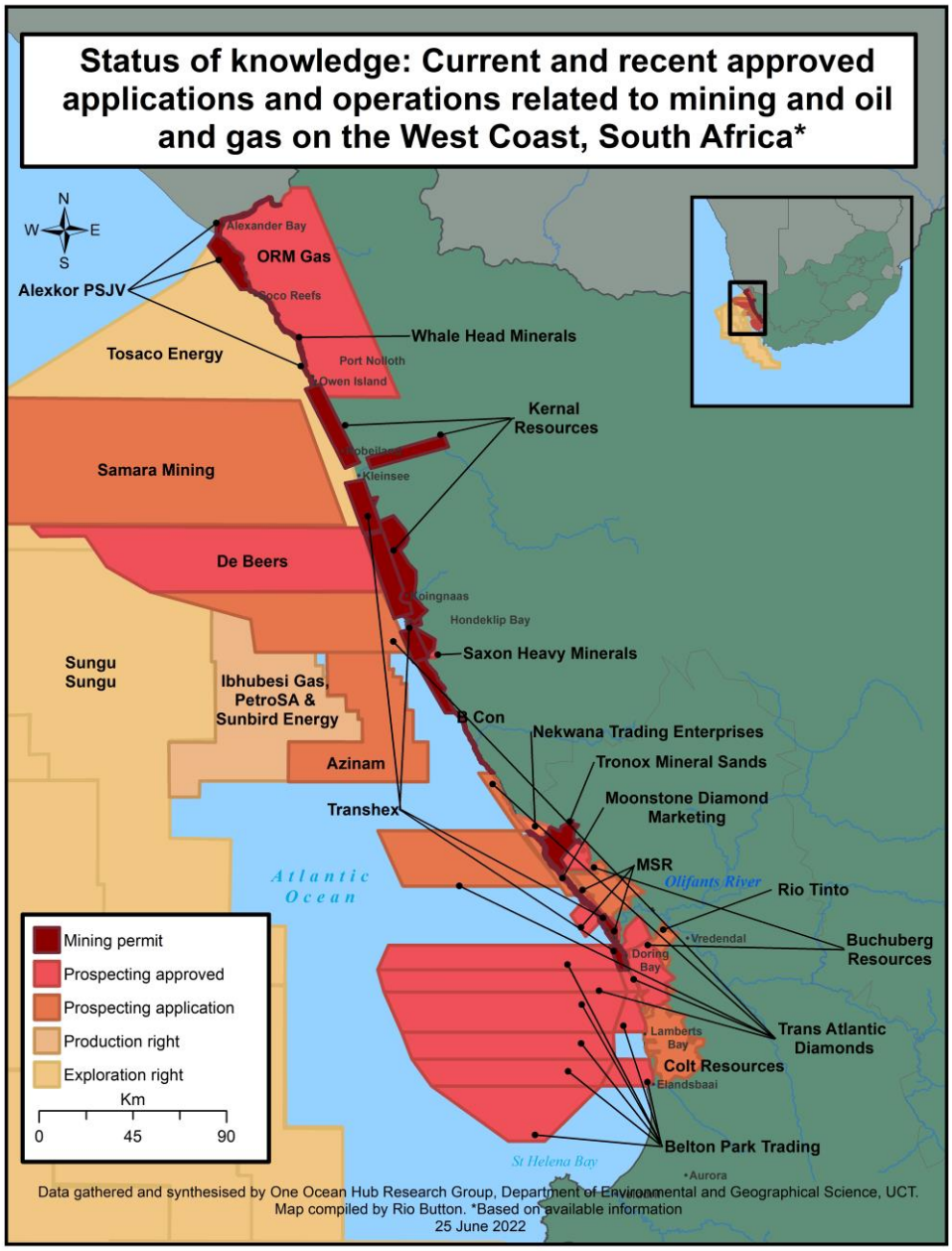
The San Code of Research Ethics states that lack of care can be demonstrated by talking down to communities, confusing them with complicated scientific language, or

treating communities as ignorant. It further states that a lack of care is also represented by failing to ensure that something is left behind that improves the live of the San.

8.3.3 Concerns about cumulative impacts

A great source of concern for the fishing communities is the effect of cumulative impacts on their livelihoods and sense and spirit of place. There are a number of applications in process as well as approved applications relating to seismic surveys, mining, and oil and gas exploration in the West Coast area. There are also existing mining activities, significant shipping traffic and commercial fishing taking place in the ocean. The concern is that at some stage a tipping point will be reach where the marine life no longer recovers from the activities in the ocean or take a long time to recover to the extent that it would no longer be viable to make a living from the sea in those areas. In Norway small-scale fishing successfully co-exists with oil extraction in the ocean, but for the small-scale fishers on the West Coast, it remains uncertain to what extent it will be the case for them as well. Although cumulative impacts are assessed as part of the EIA process, there are limitations associated with budgets, timeframes, and access to resources. The competent authorities have a legal and moral duty to consider the cumulative impacts of the activities taking place and are planned to take place on the livelihoods and heritage of the vulnerable communities in the area from a strategic perspective. There must be a balance between the contribution these activities can make to South Africa's economy and sustaining the livelihoods of the vulnerable communities on the West Coast. The communities are clear that they do not necessarily want to stop development, they want to make sure that their livelihoods and heritage are protected, and that the rights of future generations will not be compromised. Once these have been affected negatively, it may not be possible to easily undo the damage.

Figure 27: Current and recently approved applications and operations relating to mining, oil and gas.



8.3.4 Perceived impact on livelihoods

A livelihood refers to the way of life of a person or household and how they make a living, in particular, how they secure the basic necessities of life, e.g., their food, water, shelter and clothing, and live in the community (Vanclay et al., 2015). The coastal communities in the area of interest are mostly fishing communities that make their livelihoods from the sea and have been doing so for generations. They rely on the ocean for food and economic security, as well as their identity and heritage. They

know how to make a living from the sea. If it is no longer possible for them to make a living from the sea, or if their ability to make a living from the sea is reduced it will result in a great increase in poverty in the area as there are very limited alternative options for them to make a livelihood. Their skill sets are strongly linked to the sea and cannot be transferred to other economic activities without skills development, training activities and the economic diversification of the area. Men and women rely on the sea for their livelihoods, and it is closely linked to the culture and identity of the people. This makes these communities extremely vulnerable. Furthermore, an increase in poverty in the area will place an additional burden on tax payers.

The small-scale fishers can travel approximately 15 nautical miles offshore with their boats. Some of them have indicated that they already sometimes need to go further to be able to catch enough fish, which is not only more expensive for them in terms of the diesel required for their boats, but it is also more dangerous. In the mining areas around Port Nolloth they are struggling to get access to the sea and the areas where they are allowed to fish are getting smaller.

Livelihoods are already compromised due to the fishing quota system, over-fishing, lack of employment opportunities, pollution, effects of climate change and the recent Covid 19 pandemic. However, with reference to the assessment of the impacts on the catch rates from the fisheries assessment undertaken by CapMarine (2022), the impact on livelihoods is not because of the actual impact on catch rates, but because of the perceived impact of the oil/gas industry on fishing industry.

8.3.5 Impacts on sense and spirit of place

Sense of place refers to an individual's personal relationship with his/her local environment, both social and natural, which the individual experiences in his/her everyday daily life (Vanclay et al, 2015). It is highly personal, and once it is affected, it cannot be restored. It is also difficult to quantify. The environmental philosopher Glenn Albrecht noted a consistent theme of distress caused by coal mining in Australia by the assault on the people's sense of identity, place, belonging, control, and good health. He identified a melancholia from the loss of solace and comfort connected with their home which he termed 'solastalgia' – a form of homesickness that one gets

when one is still at 'home' associated with the major project impacts they experienced (Albrecht et al, 2007). Social impacts can therefore range from significant health impacts to the loss of a cherished landscape and associated loss of a sense of place.

Spirit of place refers to the unique, distinctive, and cherished aspects of a place. Whereas 'sense of place' is the personal feelings an individual has about a place, spirit of place refers the inherent characteristics of the place (Vanclay et al, 2015). In this case the spirit of place includes the ocean and the properties assigned to it.

Many things can impact on a person's perception of sense of place. For the fishing communities the ocean is an integral part of their being, therefore anything that is perceived to potentially harm the ocean would also cause harm to them. The ocean provides them with food and thus keeping them from starvation. For many the sea is a sacred place. Its water has healing powers that take care of the sick. Many loved ones have given their lives to the ocean while they were out trying to make a living, and their remains have never been found. The sea kept their bones, making the ocean the graveyard where their loved one's rest. For some people the thought of disturbance in the sea causes great distress. The heritage aspects relating to this are discussed in the heritage impact assessment report. Although this cultural and spiritual connection with the sea might be difficult to understand for outsiders, it must be respected as a cultural right.

8.3.6 Impacts on the social licence to operate

Social licence to operate (SLO) is a popular expression to imply that the acceptance of the community is also necessary for a project to be successful. It appears as if TGS does not currently have social licence to operate in the fishing communities. Based on the events surrounding previous applications and recent reports about seismic surveys in the media, the communities expressed that they do not trust TGS or any other company conducting seismic surveys. Applications for seismic surveys and community opposition to these surveys have been widely reported and debated in the media during the last year (Compare News 24, 13 Jan 2022; Mail and Guardian, 20 Jan 2022; Eye Witness News, 1 September 2022 amongst others). Numerous NGOs specialising in social and environmental justice have aligned with communities and

assist them with opposing seismic surveys. Some community members think that seismic surveys are opening the door for oil and gas exploration, which is a great concern for them, mostly due to the anticipated impacts on their livelihoods.

Given that there are a number of applications for seismic surveys in the Orange Basin, and that each application is subjected to a Basic Assessment process, communities are confused and reaching saturation regarding consultation. From their perspective, with each new application, it is a new face standing in front of them, from a new company, but "basically everyone wants the same thing". Communities do not distinguish between different seismic survey companies. They feel as if their questions are not answered, and concerns are not addressed – each consulting firm just repeat the same technical information about what a seismic survey entails to them. Although this is not TGS's fault and they are following a prescribed legal process, it impacts on their social licence to operate and on the seismic survey industry as a whole.

The term "social fabric" embraces numerous complex and interrelated phenomena, including demographic and economic factors, behavioural issues (e.g. investment choices, political dynamics), social institutions (e.g. families), social organisations (e.g. municipalities and churches), and social networks, or relationships amongst people. The social fabric is underpinned by people's beliefs and sentiments, including a sense of belonging and identification with a particular social unit (Atkinson et al, 2017).

The social fabric in the communities have been damaged through previous negative experiences with businesses in the area. A number of factories in the greater area have closed or moved away and in the process of doing so created great hardship for the communities remaining behind. Very little severance was paid, and this aggravated the communities. Mines closed without proper rehabilitation plans. In some places, access to the areas where they earn their livelihoods are becoming increasingly restricted, especially through the activities of mining companies. This has reached a point where the communities have realised that they need to fight for the protection of their livelihoods as historically companies have in most cases not treated them fairly or with respect. It is unlikely that any company that would like to undertake an activity in the ocean will be given social licence to operate by the community. The

community have been traumatised by historical events and behaviour of companies too many times. On the other hand, there are members in the community that welcome any new development and feel that living from the sea has its limitations and would soon be impossible. The dynamics between the different groups in the community, caused by the myriad of seismic survey applications, has already done significant harm to the social fabric of the fishing communities. People with individual agendas cause conflict in the community, and given the vulnerability of the community, the dire socio-economic conditions and high levels of poverty, illiteracy and unemployment, community members are susceptible to these forms of manipulation.

> ***Example of deterioration of social fabric:***
>
> *An individual rallied the youth in the community by telling them that they will be given work by a company doing seismic surveys (that was at the time busy with their public participation process) and ask them to complete forms and sign it. The company itself is unaware of this activity. Other members of the community find out about this and informed the consultants. Older community members fear that the signatures will be used to show community support to the project. Community members that lived together in peace and harmony for years are suddenly not talking to each other, and the community is divided.*

Another aspect that affects TGS's current social license to operate negatively, is that previous applicants such as Searcher and Shell failed to conduct sufficient meaningful consultation with the small-scale fishers in the past. The MPRDA Regulations as amended in 2020 define meaningful consultation as: *consulting in good faith, in a way that gives the landowner, lawful occupier and/or interested and affected persons all the relevant information, and reasonable time and opportunity to make an informed decision regarding the impact of the proposed activities.*

The communities feel disrespected and marginalised by the processes followed up to date by previous applicants in the area. Engaging with the communities in a meaningful way, following the appropriate structures and protocols, will go a long way in improving TGS's social license to operate. It does not guarantee that the communities will accept TGS or any other company wanting to conduct seismic

surveys. It must be kept in mind that improving social license to operate takes time and effort.

8.3.7 Stakeholder fatigue and disillusionment

Signs of stakeholder fatigue are visible in the communities. Stakeholder fatigue may occur where many stakeholder initiatives have taken place in the past, especially in circumstances where they did not lead to tangible outcomes for stakeholders. There are a number of applications for seismic surveying, exploration and mining in the area that the stakeholders were invited to. The most obvious way to deal with this would be to avoid working with communities, suffering from stakeholder fatigue (Durham et al, 2014), but this is not always possible and infringe on their rights. The EIA process requires public participation and information sharing. The volume of consultation and information shared are confusing to the communities. Stakeholders start to feel overloaded, which negatively affects their willingness to participate and lessens the quality of their input. Over time only those who are deeply interested, that is strongly supportive of strongly opposing may still participate. This can hinder potential projects, and can particularly occur when the stakeholders consulted are not actively involved in decision-making. To be effective and to reduce stakeholder fatigue, engagements need to be targeted, with clear aims and results. Stakeholders need to be clear on what the goal or end benefits to themselves would be for participating. It must be kept in mind that the more stakeholders contribute their time and knowledge, the more they will expect in return from the project, so one always need to ensure that the relationship remains balanced.

Related to stakeholder fatigue is stakeholder disillusionment, which can occur during a project or can be a legacy of past involvement in stakeholder participation. Disenchantment can result from failure to manage credibility, relevance and legitimacy, particularly when communication is poor or expectations are not met. Stakeholders can feel let down from previous involvement and disenchantment can also result from failure to keep promises. A number of stakeholders have already indicated that they feel their voices don’t matter and participating in all the processes are not making a difference.

Credibility, relevance and legitimacy can be enhanced when (www.i2insights.org):

- Other invited stakeholders are considered to be appropriate;
- Stakeholders with opposing views who are included are generally respected;
- There are clear objectives;
- The processes used are transparent and seen to be appropriate;
- There is continuity in the participation, allowing relationships to be maintained, trust to be developed, and stakeholder knowledge and skills to be built on;
- Attention is paid to appropriate timing of participation processes;
- Results are delivered in a timely manner;
- The participation and communication processes are effective and ongoing throughout the application process;
- Participation is adapted to changing circumstances;
- Understandable language is used;
- The process for participation for all stakeholders is clearly stated and appropriate;
- Stakeholders feel that their interests have been understood and taken into account;
- The multiple stakeholders involved are seen to be a balanced group;
- Use unbiased facilitators where possible.

TGS can only influence what happens in their own application. By attending to issues discussed and keeping promises made to stakeholders, they give their own application process the best possible chance and make it more likely that stakeholders will participate in the future.

8.3.8 Community expectations

Not everyone in the fishing communities is opposed to the project or to oil and gas exploration. Their perceptions are that the ability to make a living from the sea is already declining. It is a hard live and they want a better life for their children. There are very limited alternative opportunities for making a livelihood and very limited job opportunities. They will support industrial development in the area if it brings opportunities for their children for employment and skills development. They want to know that they will benefit from the process that will be set in motion by the seismic

surveys. They know they will not be direct beneficiaries from the extraction of oil and gas, but that they will be the ones that pay the price. Their expectations are that the oil and gas companies will invest in these communities and assist them with creating alternative livelihoods and obtaining the necessary skills and experience in that regard. Although TGS will be doing a survey to gather data that will be utilised by oil and gas companies, and TGS's activities will be of a temporary nature, with little benefit to the locals, the communities do not distinguish between data collection and exploration or extraction. For them these companies are one and the same, and they have similar expectations of TGS.

The proposed project collects data that would be of great value for the companies interested in extracting oil and gas in the area in future. Should this happen, it would have a positive impact on the economy of South Africa, seen together with the Government's plans for the development of a new industrial port at Boegoebaai. In a country with very high unemployment levels and suffering from a recession and an energy crisis, this is seen as a positive future development by many role players. As such, the communities feel that the government supports the application, and that community consultation is simply a matter of ticking the boxes. The question of who pays the price and who gets the benefit is relevant in this context. The price that the fishing communities will pay eventually, will be high as it may have an extremely negative impact on their livelihoods with little or no benefit to them, unless measures are put in place to protect their livelihoods. It must be considered that community livelihoods are broader than just catch rates and fishing, but includes the capabilities, assets (including both material and social resources) and activities required for a means of living.

8.3.9 Social unrest

Generally, social unrest occurs when a group gathers publicly to express dissatisfaction or anger centred around a common cause and is usually accompanied by a demand for societal change. Poor socio-economic conditions caused by unemployment rates, corruption, inflation, and bad governance can contribute to social unrest. South Africa has a history of using protests to air grievances. Social

unrest is often triggered by an event or action that provokes strong feelings amongst community members.

Some of the communities are adamant that they would not allow gas or oil extraction in the area, and that includes collecting the required data from the ocean. There have already been court cases in this regard, and there are also court cases that are ongoing. Some community members have threatened with violence against surveying vessels. Others have threatened that they will take action to fight seismic surveys, in any way that they seem appropriate. This is a very emotional issue for many people and that could erupt into social unrest. Related to this is potential for conflict between community members who support the project and those that are against the project.

8.3.10 Mitigation and management

TGS's activities for this application would be of short duration if approved, and if viewed in isolation considering only technical risks as discussed in various specialist reports conducted as part of the EIA process, the impacts will be negligible. However, communities feel that there are significant gaps in the available data and from a social perspective the non-technical or social risks can potentially cause significant impacts. Although the marine fauna and fisheries specialists have indicated that the impacts on the marine fauna would be negligible, the communities, with generations of experience in the ocean, fear that the behaviour of the fish will change and that this would affect their catch rates and consequently their livelihoods. What is seen as a minor impact in a large eco-system may be experienced as a major impact by an individual. The marine fauna might not be affected greatly, but the fishing community fear that marine fauna might change its behaviour in response and that is a main concern from a social perspective.

It must be considered that from a social perspective perceived impacts (something that is believed to be a potential impact rather than something that has been established as being an actual impact) should be treated as real impacts. Perceived impacts affect how people feel about the project and how they feel and behave generally, thus perception is reality for them (Vanclay et al, 2015). While the public's assessment of risk is perceptual in nature, their fears should not be dismissed as

irrational and therefore unimportant. Living with the fear and uncertainty is an impact in itself (Burdge, 1998).

There are current impacts on the livelihoods of the communities from aspects such as pollution, shipping traffic, mining in the sea, over fishing and climate change. The cumulative impact of additional activities in the ocean where these communities earn their livelihoods is of concern to them, especially if a number of companies engage in exploration activities in the area in an unplanned manner. They urge the government to approach the matter from a strategic perspective. The strategic approach is not the responsibility of TGS but must be managed by government.

The short-term nature of the seismic reconnaissance and proximity from communities must be considered when suggesting mitigation measures. The mitigation measures suggested must be seen as building blocks for any potential further developments or activities that may be conducted by TGS in future.

Figure 28: Potential mitigation for impacts on existing livelihoods.

No	Mitigation Measures	Phase	Timeframe	Responsible party for implementation	Monitoring party (frequency)	Target	Performance indicators (monitoring tool)
1	TGS should develop a community engagement protocol that is based on the San Code of Research Ethics. This should be done in consultation with the affected communities and include a communication strategy and grievance mechanism.	All phases	Commence in the planning phase and continue throughout the life of the project	TGS	Keep records of all communication with communities throughout the life of the project	Establish good relationships with fishing communities	Written community engagement protocol Communication register, social risk and incident register
2	TGS should contribute to assisting with collaboration on independent research on how fish species on the West Coast such as snoek respond to seismic surveying. Collaboration across seismic operators with holders of hydrocarbon exploration and the industry as a whole to collectively fund pro-active research would provide opportunity for the development and implementation of a structured and experimentally sound acoustic study. This would quantitatively inform the authorities and stakeholders of acoustic impacts to the various faunal groups in South African Waters.Communities should be consulted on the issues that should be researched.	All phases	Commence in the planning phase and continue throughout the life of the project	TGS	Meetings with communities. Meetings with independent research organisations	Protect the livelihoods of the fishing communities	Minutes of meetings Written agreements with independent research organisations such as universities

3	Consult with communities on ways in which to positively contribute to the communities.	All phases	Commence in the planning phase and continue throughout the life of the project	TGS	Meetings with communities	To give something back to the communities	Minutes of meetings Written agreements with candidates
4	A representative from TGS should consult with the traditional leadership of the affected communities to establish what their understanding of meaningful consultation is and how communities should be consulted in future. This will assist with establishing the relationship between TGS and the traditional communities. If needed, the meetings can be facilitated by an external party. This is an explicit request from community members and failing to do so will increase the reputational risk for TGS and weakens their social licence to operate further. It will also cause significant delays in the application process. Given the current socio-political conditions in the coastal communities following prescribed legal processes is not sufficient to be seen as meaningful consultation from a community perspective.	All phases	Commence in the planning phase and continue throughout the life of the project	TGS	Meetings with leadership	To ensure that there will be no misunderstanding about what meaningful consultation entails in future. It will also assist with clearing up past misapprehensions	Minutes of meetings

5	Assessing all cumulative impacts of the seismic survey industry on the livelihoods of communities, addressing perceptions and alleviating fear from a strategic perspective is not TGSs' responsibility and falls outside the scope of one environmental impact assessment. It is the responsibility of the relevant authorities and the industry. However, the seismic survey industry should reassess their position and social licence to operate as an industry in a South African context and conduct a strategic environmental assessment of the impact of the industry and embark on an awareness raising and education campaign. Having meetings will not be sufficient. Participatory processes and workshops where communities can engage in experiential learning should be considered. If the seismic survey industry fails to address the community's need for education and cooperation it will result in significant delays and increase the risk for social unrest.	Before the study commence	Before the study commence	TGS to initiate discussions with the industry governing bodies.	Meetings with industry role players and relevant authorities	Ensure that communities can make informed decisions and engage in meaningful conversations about seismic surveys.	Workshops, awareness raising campaigns and community education

8.4 Impact ratings

Impact	Phase	Pre-Mitigation							Post-Mitigation							Confidence	Impact Prioritisation		Priority Factor	Final Score
		Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER		Cumulative Impact	Irreplaceable Loss		
Uncertainty	Planning	-1	4	4	4	3	5	-18.75	-1	4	2	3	2	4	-11	High	3	3	1.50	-16.5
Concerns about cumulative impacts	Planning	-1	4	4	4	3	5	-18.75	-1	4	2	3	2	4	-11	High	3	3	1.50	-16.5
Further marginalisation of vulnerable groups	Planning	-1	4	4	4	3	5	-18.75	-1	4	2	3	2	4	-11	High	3	3	1.50	-16.5
Stakeholder fatigue and disillusionment	Planning	-1	4	3	3	2	4	-12	-1	3	3	2	3	3	-8.25	High	2	1	1.13	-9.28
Perceived impact on livelihoods	Operation	-1	4	4	4	3	3	-11.25	-1	4	3	3	3	3	-9.75	Medium	2	3	1.38	-13.41
Impacts on sense and spirit of place	Operation	-1	4	5	3	3	3	-11.25	-1	4	5	3	3	3	-11.25	Medium	2	3	1.38	-15.47
Impacts on social licence to operate	Operation	-1	4	4	5	4	5	-21.25	-1	4	2	4	3	4	-13	High	2	2	1.25	-16.25
Community expectations	Operation	-1	4	4	4	3	4	-15	-1	4	2	3	2	4	-11	High	2	3	1.38	-15.13
Social unrest	Operation	-1	4	2	3	3	3	-9	-1	4	2	3	2	3	-8.25	High	2	1	1.13	-9.28

9 Conclusion and recommendations

TGS's activities for this application would be of short duration if approved, and if viewed in isolation considering only technical risks as discussed in various specialist reports conducted as part of the EIA process, the impacts will be negligible. However, communities feel that there are significant gaps in the available data and from a social perspective the non-technical or social risks can potentially cause significant impacts. Although the marine fauna and fisheries specialists have indicated that the impacts on the marine fauna would be negligible, the communities, with generations of experience in the ocean, fear that the behaviour of the fish will change and that this would affect their catch rates and consequently their livelihoods. What is seen as a minor impact in a large eco-system may be experienced as a major impact by an individual. The marine fauna might not be affected greatly, but the fishing community fear that marine fauna might change its behaviour in response and that is a main concern from a social perspective.

Another concern is the cumulative impact of activities in the ocean where these communities earn their livelihoods. Their fears about the tipping point where their source of livelihood does not recover from all the activities in the ocean, and they are no longer able to make their livelihood as fishing communities must be considered. Currently these communities are able to sustain themselves, although it is difficult. The communities are not against development, but they want to see it happen in a sustainable way that does not jeopardise their source of livelihood. They have already seen how their livelihoods are being affected by mining that is taking place in the sea, pollution, climate change, over fishing and businesses such as factories that come and go and often and do not leave in a socially responsible way.

TGS, as well as other companies that want to do surveys or exploration in the area, currently do not have social license to operate. A large part of this is due to a lack of meaningful consultation by previous applicants from a community perspective. If TGS or any other seismic survey company wants to proceed with the project, they will need

to engage in meaningful conversation with the communities and try to restore relationships. From a community and social risk perspective this is not negotiable.

Seismic reconnaissance projects are controversial in South Africa and has been in the news frequently in the last year. For many stakeholders it is an emotional matter, for others the potential of impacting their livelihoods is the biggest fear. There are also stakeholders that feel that the exploration for fossil fuels is not in line with sustainable development and the fight against climate change. Other stakeholders feel that it is imperative for the growth and development of the South African economy to engage in these investigations. It is a complex and wicked[2] problem.

Based on the findings, the following recommendations are made:

- TGS should develop a community engagement protocol that is based on the San Code of Research Ethics. This should be done in consultation with the affected communities. This should include a communication strategy and grievance mechanism.

- TGS should contribute to assisting with collaboration on independent research on how fish species on the West Coast such as snoek respond to seismic surveying. Collaboration across seismic operators with holders of hydrocarbon exploration and the industry as a whole to collectively fund pro-active research would provide opportunity for the development and implementation of a structured and experimentally sound acoustic study. This would quantitatively inform the authorities and stakeholders of acoustic impacts to the various faunal groups in South African Waters.

- Consult with communities on potential ways in which to make a positive contribution to the communities.

[2] a **wicked problem** is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize.

- A representative from TGS should consult with the traditional leadership of the affected communities to establish what their understanding of meaningful consultation is and how communities should be consulted in future. This will assist with establishing the relationship between TGS and the traditional communities. Given the socio-political environment, opposition to the project and associated non-technical risks, further meaningful engagement with the leadership and communities are critical from a social perspective. Given the risk of stakeholder fatigue, it would be most beneficial if this can take place on an industry level.

- TGS should initiate discussions in their industry. The seismic survey industry should reassess their position and social licence to operate as an industry in a South African context and conduct a strategic environmental assessment of the impact of the industry and embark on an awareness raising and education campaign. Having meetings will not be sufficient. Participatory processes and workshops where communities can engage in experiential learning should be considered. If the seismic survey industry fails to address the community's need for education and cooperation it will result in significant delays and increase the risk for social unrest.

From a social perspective it is clear that the communities and majority of local people are opposed to the project. If the project is considered in isolation, the impacts are negligible. However, the project does not happen in a vacuum, and the social environment is much wider than the footprint of the project. If the social risks and potential damage to cultural and indigenous rights are considered the impact on the social fabric of already vulnerable communities may be significant. At this stage communities feel that they cannot make informed decisions. Although all legal processes have been followed, the seismic survey industry is not moving at the pace of the community, and in the long run this will be detrimental to the industry. Potential future benefits and the economic development of the country should the surveys find any significant resources are not disputed. From a social perspective it is recommended that the project proceed subject to the mitigation measures (i.e. meaningful consultation, local research, education, and awareness raising in the

project-affected communities) forming part of the conditions for authorisation and being implemented prior to the commencement of the actual survey.

10 References

Barnett, E. & Casper, M. 2001. **Research: A definition of "social environment".** American Journal of Public Health. 91(3): 465.

Bell, P.A., Fisher, J.D., Baum, A. & Greene, T.C. 1996. **Environmental Psychology – Fourth Edition.** Florida: Harcourt Brace College Publishers.

Bergrivier Local Municipality. May 2022. **Final Amended Integrated Development Plan.**

Bless, C., Higson-Smith, C. & Kagee, A. 2006. **Fundamentals of Social Research Methods. An African Perspective. 4th Ed.** Cape Town: Juta and Company Ltd.

Boezak, W. 2017. **The cultural heritage of South Africa's Khoisan.** Indigenous People's Cultural Heritage. 253-272.

Bruce, B., Bradford, R., Foster, S., Lee, K., Lansdell, M., Cooper, S. and Przeslawski, R. 2018. **Quantifying fish behaviour and commercial catch rates in relation to a marine seismic survey.** Marine Environmental Research 140: 18–30.

Cederberg Local Municipality. **Integrated Development Plan 2022-23**

City of Cape Town. **Integrated Development Plan. New term of office. July 2022-June 2027**

Coetzee, M. 2002. Summary document on the IDP LA21 relationship. **Local pathway to sustainable development in South Africa**. Package presented to the World Summit on Sustainable Development, Department of Provincial and Local Government, Johannesburg.

Constitution of the Republic of South Africa, 1996

David, M. & Sutton, C.D. 2004. **Social Research: The Basics.** London: Sage Publications.

De Jong, K., Amorim, M.C.P, Fonseca, P.J., fox, C.J. and Heubel, K.U. 2018. **Noise can affect acoustic communication and subsequent spawning success in fish.** Environmental Pollution 237: 814-823.

Du Preez, M. & Perold, J. 2005. **Scoping/feasibility study for the development of a new landfill site for the Northern Areas of the Metropolitan Municipality of Johannesburg. Socio-Economic Assessment.** Mawatsan.

Durham E., Baker H., Smith M., Moore E. & Morgan V. (2014). **The BiodivERsA Stakeholder Engagement Handbook**. BiodivERsA, Paris.

Esteves, A.M., Franks, D. & Vanclay, F. 2012. **Social impact assessment: The state of the art**, Impact Assessment & Project Appraisal 30(1): 35-44

Global Reporting Initiative. [Sa] **Focal Point South Africa**. Available: https://www.globalreporting.org/network/regional-networks/gri-focal-points/fp-southafrica/Pages/default.aspx

IFC. **Stakeholder Engagement: A Good Practice Handbook for companies doing business in Emerging Markets**. Washington.

International Association for Impact Assessment. 2003. **Social Impact Assessment: International Principles.** Special Publication Series no.2. IAIA; Fargo.

Interorganizational Committee on Principles and Guidelines for Social Impact Assessment. **US Principles and Guidelines – Principals and guidelines for social impact assessment in the USA.** Impact Assessment and Project Appraisal, 21(3):231-250.

International Finance Corporation, 2012. **Performance Standards on environmental and social sustainability**. Washington, DC: International Finance Corporation.

International Labour Organisation [Sa] **Ratifications for South Africa**. Available: http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102888

International Organisation for Standardisation, 2010. ISO 26000 **Guidance on Social Responsibility.** Geneva: International Organization for Standardization.

Kamiesberg Local Municipality. **Integrated Development Plan 2022/2023.**

Klaasen, J.S. 2018. **Khoisan Identity: A Contribution towards Reconciliation in Post-Apartheid South Africa.** Studia Historiae Ecclesiasticae 44(2):1-14.

Marine Living Resources Act 18 of 1998. Republic of South Africa.

Matzikama Local Municipality. **Integrated Development Plan Amendment May 2022.**

Nama Khoi Local Municipality. **2022/2023 – 2027/28 Integrated Development Plan 2022/2023.**

Namakwa District Municipality. **Integrated Development Plan 2022-2027.**

National Heritage Resources Act 25 of 1999. Republic of South Africa.

National Planning Commission. 2012. **National Development Plan 2030: Our future–make it work.** Pretoria: National Planning Commission.

National Water Act 36 of 1998. Republic of South Africa.

Northern Cape Province Office of the Premier. **Strategic Plan 2020-2025.**

Promotion of Administrative Justice Act 3 of 2000. Republic of South Africa

Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019. Republic of South Africa.

Republic of South Africa. 1998. Ministry for Provincial Affairs and Constitutional Development. **White Paper on Local Government**. Notice 423 of 1998. Government Gazette, 393(18739) Pretoria: Government Printer

Republic of South Africa. 2013. **South Africa Yearbook 2012/2013**. Pretoria: Government Communication and Information System.

Richtersveld Local Municipality. **Draft Integrated Development Plan 2022/2027. 1st revision of the 5th Generation.**

Saldanha Bay Local Municipality. May 2022. **Integrated Development Plan**.

Statistics South Africa. **Census 2011.**

Statistics South Africa. 2016. **Community Survey 2016 Provinces at glance.** Pretoria: Statistics South Africa. Pretoria: Statistics South Africa.

Statistics South Africa. 2015. **Methodological report on rebasing of national poverty lines and development on pilot provincial poverty lines – Technical Report.** Pretoria: Statistics South Africa.

Statistics South Africa. 2014. **The South African MPI: Creating a multidimensional poverty index using census data.**

Swartland Local Municipality. May 2022. **Integrated Development Plan.**

Traditional and Khoi-San Leadership Act: Act No 3 of 2019. Republic of South Africa.

UNEP, 2002. **EIA Training Resource Manual.** 2nd Ed. UNEP.

United Nations. 2013a. **Overview of the UN Global Compact**. Available: https://www.unglobalcompact.org/AboutTheGC/index.html

Vanclay, F., Esteves, A.M., Aucamp, I. & Franks, D. 2015. **Social Impact Assessment: Guidance for assessing and managing the social impacts of projects**. Fargo ND: International Association for Impact Assessment.

Vanclay, F. 2003. **Conceptual and methodological advances in Social Impact Assessment.** In Vanclay, F. & Becker, H.A. 2003. *The International Handbook for Social Impact Assessment*. Cheltenham: Edward Elgar Publishing Limited.

West Coast District Municipality. May 2022. **Integrated Development Plan 2022-2027.**

Western Cape Government: Provincial Strategic Plan 2019-2024.

World Wide Web:

https://www.dffe.gov.za/projectsprogrammes/operationphakisa/oceanseconomy#introduction (accessed 19/09/2022)

https://ewn.co.za/0001/01/01/court-sets-aside-decision-for-shell-to-conduct-seismic-blasting-on-wild-coast (Accessed 02/09/2022)

https://foreignpolicy.com/2018/10/19/south-africas-first-nations-have-been-forgotten-apartheid-khoisan-indigenous-rights-land-reform/ (accessed 25/08/2022)

www.globalafricanetwork.com (accessed 16/08/2022)

https://i2insights.org/2021/11/18/making-engagement-effective/

https://www.linkedin.com/pulse/your-stakeholders-getting-tired-you-alan-mee/ (accessed 19/09/2022)

http://www.municipalities.co.za (accessed 22/08/2022)

https://mg.co.za/environment/2022-01-20-seismic-surveys-on-west-coast-pose-threat-to-small-scale-fishers-livelihoods-and-culture/ (Accessed 02/09/2022)

https://www.news24.com/fin24/economy/south-africa/another-seismic-survey-is-heading-to-sa-waters-this-time-from-australia-20220113 (Accessed 02/09/2022)

https://www.un.org/africarenewal/magazine/july-2022/green-hydrogen-viable-option-transforming-africas-energy-sector (accessed 16/09/2022)

Ilse Aucamp

Social Scientist

Summary

Ilse Aucamp holds a D Phil degree in Social Work obtained from the University of Pretoria in 2015. She also have 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.

Dr Aucamp is an experienced facilitator, trainer and lecturer and presents modules on social impact assessment and public participation on several short and university courses. She is past chairperson of the sections coordinating committee of the International Association for Impact Assessment (IAIA) having been section chair for the SIA section before. She has served on the National Executive Committee of IAIA's South African affiliate for a number of years. She advises the Centre for Environmental Rights on social issues, and is also on the advisory panel of the SIAhub, an international website aimed at SIA practitioners. 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. In 2016 and 2017 she was invited to be part of the *Expert Meeting on Non-discrimination* for the World Bank's Environmental and Social Framework. The aim of the group is to assist the World Bank with writing guidance notes for the framework on how to engage with vulnerable groups such as children, the elderly and disabled people. In addition, Dr Aucamp assisted the Government of the Seychelles with developing a SIA framework for the country.

Dr Aucamp has managed and conducted several public participation processes during her career. Dr Aucamp has conducted more than 117 social impact assessments during the last nineteen years. These include assessments on different kinds of projects, from housing developments, energy projects, transport projects, to mining and recreational projects. Her experience includes facilitation and training, strategic assessments, social management and monitoring plans and social development initiatives.

Qualifications

- 1994, BA (Social Work), University of Pretoria
- 2004, Master's degree in Environmental Management (Cum Laude), Potchefstroom University for Christian Higher Education
- 2015, D Phil (Social Work) University of Pretoria.

Registration(s)

- South African Council for Social Service Professions(Registration number: 10 – 16558)

Further training 2001-

- Introduction to SIA - Burdge
- Sustainable Livelihoods Training – Khanya Development Trust
- Achieving the full potential of SIA – Vanclay & Esteves
- Involuntary Resettlement – Appleby, Rawa & Rivas de Neffa

Affiliations

- International Association for Impact Assessment (South Africa) – National Executive Committee member 2005 - 2010
- International Association for Impact Assessment – Chair of Section Coordinating committee 2009 – 2010
- International Association for Impact Assessment – Chair of Social Impact Assessment Section 2005 – 2008
- LEAD Fellow: Cohort 12
- Advisory panel member: socialimpactassessment.net (SIAhub); Centre for Environmental Rights

Countries of work experience

South Africa, Swaziland, Taiwan, United Kingdom, Angola, Namibia, Mozambique, Zambia, Seychelles, Lesotho, Nigeria

Nationality

South African

Years of experience

25

Date of birth

18 January 1973

Languages

	Speaking	**Reading**	**Writing**
Afrikaans	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent

PROFESSIONAL EXPERIENCE

Social Impact Assessment and related projects 2001 -

- Renewable energy including Soventix – De Aar 225MW Solar PV project, Mogalakwena Solar Project and Scaffel Solar.
- Port feasibility and social assessments including Oranjemund Port Feasibility Study, Expansion of the Port of Lüderitz Feasibility Study and Expansion of the Port of Saldanha SIA.
- Industrial development including Kathu Supplier Park, Sephaku Chemical Plant, Phola-Kusile Coal Conveyor, Ferrometals Storm Water Management, Uranium plant – Welkom, Hoedspruit Ethanol Plant, Saldanha Separator Plant, Babelegi Smelter and Ubombu Sugar.
- Lesotho Lowlands Bulk Water Supply Scheme (Zone 2&3)
- Residential developments including Rietvlei and Rietspruit, Rietpoort Residential Development, Westonaria South Housing Development, Doornkuil Residential Development, Fleurhof Residential Development, Klapmuts Residential Development, Celebration Northriding and Perle de Fleuve residential development.
- Mines including Klipfontein Mine, New Largo Coal Mine, Sishen Mine: Western Waste Rock Dumps, Sishen Complex Mining Right Application,

	Sishen Mine: expansion of Lylyveld South Pit, Smokey Hills Mine, Kalplats Mine, Burnstone Mine, Rössing Uranium, Kitumba Copper Mine, Wallmansthal Fluor mine, Zandkopsdrift mine, Leiden mine, Paardeplaats mine, Aquilla mine and Kalahari mine. • Waste sites such as Kendal Ash Disposal Facility, Camden Ash Dump, Biotshepi Landfill and Eskom Landfill Lephalale. • Power generation projects including Khanyisa Power Station, Coal 3 and 4 Power Stations, Vaal South power station and Waterberg power stations. • Roads include the Strategic Socio-economic analysis N2/R72, upgrade of the K46 and Bushbuck Ridge bypass road. • Terrain suitability study Palabora Mining Company. • Recreational facilities such as Westridge Mall, West Rand Casino, Viking Bay and Rustenburg Mall. • Lebone II College of the Royal Bafokeng. • Shallcross, Stanger and Komatipoort Filling Stations. • Social and Labour Plans such as Kalplats Mine, Kalahari Mine, Highveld Crushers. • Social aspects of Social & Environmental Management System: Kelvin Power. • Integrated Management Plan: Vredefort Dome World Heritage Site. • Karoo Array Telescope. • Coastal Livelihood Assessment Paternoster & Melkhoutfontein. • Powerlines including Garona/Aries, De Beers/Eskom Voorspoed Mine, Mamelodi /Hatherley transmission lines, Soweto Integration Power Lines, Eskom /Tabor-Spencer, Eskom Kudu, Solar Park Integration Project, Eskom Camden-Theta Transmission lines and KZN Integration Project. • Golf Estates including Lizard Point, The Ponds, Huddle Park, Royal Maluti and Northern Golf Courses. • Township developments for Putfontein, Klipfontein, Vlakfontein, Duduza, Chief Alfred Lithuli, Rooikop Station, Payneville, Etwatwa and Mayfield, amongst others.
Closure planning	• Assessment of the local socio-economic impacts of the closure of Exxaro's Zincor plant near Springs, Gauteng • Stakeholder Engagement Strategy for Social Mine Closure: Husab Mine, Erongo Region, Namibia
Social Audits/Due diligence 2001-	• Kelvin Power • EnviroServ • Shoprite Angola
Gender Analysis 2018-	• Lesotho Lowlands Bulk Water Supply Scheme (Zone 2&3)
	• Human Rights Impact of Grave Relocation Mogalakwena Mine

Human Rights Analysis 2020-	• Human Rights Due Diligence ANRML Nigeria
Social Management Implementation: 2009 –	• Mokolo Crocodile Water Augmentation Project • Upgrade of Staff infrastructure in Etosha National Park (2012-2014)
Policy development 2015-	• Developed Stakeholder Engagement Policies, Plans and Procedures for Calgro M3 • Developed a Social Impact Assessment Policy for the Seychelles • Assessment of the impact of modernisation of mining on mine-affected communities as part of the the Research Programme on Successful Application of Technology Centred Around People (SATCAP) • Mineral Sector Support for Economic Diversification (MinDiver) Project, Nigeria – Project advisor: Development of Social Accountability framework, and Integration of Social Accountability Activities along the Mining Industry Value Chain and Project Life Cycle
Stakeholder Engagement 2001 –	• Stakeholder engagement lead: Mpofu Wind Farms • Facilitation of DWA National Estuarine Monitoring Programme workshop • Public participation on numerous small projects, e.g. Naschem Explosives Factory, Witwatersrand Gold Refinery, Middleburg Ferrochrome, Watervalboven Chemicals • Establishment of a Water Users association – Grootegeluk mine • Grootegeluk Coal Mine • Stuart Coal Colliery • Gauteng Government Precinct • Thabeng Eco reserve and Golf Estate • Mogol Club, Lephalale • Leeuwpan Environmental education centre • Ponds Golf Estate • Manzengwenya Dive Camp, St.Lucia • Kalahari Mine • Huddle Park Golf Estate • De Beers/Eskom Voorspoed Mine power line • Eskom Tabor-Spencer power line • Colombus Stainless • Lebone II College of the Royal Bafokeng
Training 2001-	• Presented training on the implementation of voluntary principles on security and human rights to Calgro M3 • Presented and facilitated course on social entrepreneurship in partnership with the University of Pretoria, Unisa, SAVF and Future Families

- Facilitated, developed and coordinated the Population, Environment and Development (PED) Nexus course for the international non-government organisation Leaders in Environment and Development (LEAD), the United Nations Population Fund and the Department of Social Development
- Presenting module on Social Impact Assessment and Public Participation to Masters' Degree Students in environmental management at the University of the Orange Free State
- Presenting module on Social Impact Assessment and Public Participation to honours' degree students in environmental management at the University of South Africa
- Presenting module on Social Impact Assessment to final year students in environmental management at the Tshwane University of Technology
- Presenting module on Social/Community Issues in Risk Assessment for the Environmental Risk Assessment course at the Centre for Environmental Management at the University of the Northwest
- Presenting training courses in Environmental Management topics and Social Impact Assessment at the Centre for Environmental Management at the University of the Northwest
- Presenting training in Social Impact Assessment to Masters' Degree students in the Department of Geography and Environmental Sciences at University of the Northwest
- Presenting training in Social Impact Assessment to final year engineering students in the Department of Engineering at University of Pretoria
- Presenting training in Social Impact Assessment to Masters' Degree students in the Department of Social Work at University of Pretoria
- Assisted with developing and presenting the Masters' Degree in Social Impact Assessment at the Department of Sociology, University of Johannesburg and presented modules
- Presenting training in Social Impact Assessment and Environmental Impact Assessment for the NGO Leaders in Environment and Development and the Department of Social Development
- Drafted Guidelines for Socio-economic Impact Assessment for the Integrated Environmental Management Series Guidelines, Department of Environmental Affairs and Tourism
- Present SIA course at the Centre for Environmental Management.
- Present SIA course at Eskom.

Human behaviour studies 2009 -

- Human behaviour studies in gold mining areas as input for modelling for radiological impact assessment studies (Clients include Harmony, Anglo Gold Ashanti, Bosveld Phosphates, Tronox and others)

PROFESSIONAL HISTORY

Date	Company	Position
2013 -current	Equispectives Research and Consulting Services	Director
2006 -2014	Ptersa Environmental Management Consultants	Director
2005 - 2006	Strategic Environmental Focus	Public participation Co-ordinator & Social Scientist
2004 - 2005	EIMS	Manager: Stakeholder Engagement Unit
2004	Clean Stream Environmental Services	Senior Environmental Practitioner
2002 -2003	Ptersa Environmental Management Consultants	Social Scientist
2001 - 2002	Joy School of Teaching, Taichung, Taiwan	Teacher
1999 - 2000	RS Locums. United Kingdom of England	Locum Social Worker
1995 - 1999	South African National Defence Force	Senior Social Worker

PAPERS AND PUBLICATIONS

- **Aucamp, I** & Woodborne, S. 2021. Conceptualizing cumulative social impacts in complex development environments. In Blakley, J.A.E. and Franks, D.M. (Eds) *Handbook of Cumulative Impact Assessment.* Edward Elgar Publishing, United Kingdom
- **Aucamp, I**., King, N. and Retief F. 2020. The social dimension of environmental management. In Smit, S.J. and Makomeni, T. (Eds). *Environmental Management. A business management approach.* Juta
- **Aucamp, I**., & Woodborne, S. 2020. "Can social impact assessment improve social well-being in a future where social inequality is rife?" *Impact Assessment and Project Appraisal* DOI: 10.1080/14615517.2019.1676068
- **Aucamp, I**., King, N. and Retief F. 2018. The social dimension of environmental management. In King, N.D., Strydom, H.A. and Retief, F.P. (Eds). *Fuggle & Rabie's Environmental Management in South Africa.* Juta
- **Aucamp, I**. & Lombard, A. 2017 "Can social impact assessment contribute to social development outcomes in an emerging economy?." *Impact Assessment and Project Appraisal* 1-13. IAPA Best paper of 2018
- Aucamp, I., 2016. *Resilience and Wellbeing: A SIA perspective.* Paper presented at the annual conference of the International Association for Impact Assessment 2016 in Nagoya, Japan
- Aucamp, I., 2016. *SIA in the context of poverty and inequality.* Paper presented at the annual conference of the International Association for Impact Assessment 2016 in Nagoya, Japan
- Aucamp, I., 2015. *Social Impact Assessment as a tool for Social Development in South Africa: An Exploratory Study.* Unpublished D Phil thesis. University of Pretoria
- Vanclay, F., Esteves, A.M., **Aucamp, I.** & Franks, D. 2015. *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects.* Fargo ND: International Association for Impact Assessment

- King, N., **Aucamp, I.C.** & Aucamp, S. *Human Rights and Effective Public Participation: Are we doing the right things or just doing things right?* Workshop presented at IAIAsa Conference, 2015, Champagne Castle, KwaZulu Natal.
- *New developments in the SIA field.* Paper presented at IAIAsa Conference, 2015, Champagne Castle, KwaZulu Natal.
- **Aucamp, I.**, Woodborne, S., Perold, J., Bron, A. & Aucamp, S. 2011. Looking beyond impact assessment to social sustainability. In Vanclay F. & Esteves A. (Eds.), *New Directions in Social Impact Assessment: Conceptual and Methodological Advances.* Cheltenham: Edward Elgar
- *Can SIA be used as a tool for Social Development?* - Paper presented at the annual conference of the International Association for Impact Assessment 2014 in Vina del Mar, Chile
- *Ensuring that Environmental Management Plans contribute to ongoing environmental management and drive social and economic development in developing countries* – Paper presented with D Erasmus and C Norman at the annual conference of the International Association for Impact Assessment 2014 in Vina del Mar, Chile
- *Partnering in Impact Assessment – best practice guidelines* – document produced with J Arts, C Faith-Ell and A Esteves as a result of a series of workshops conducted at IAIA conferences between 2009 and 2013
- *The Legal Mandate for SIA in South Africa* - Paper presented at the annual conference of the International Association for Impact Assessment 2012 in Porto, Portugal
- *Social Experts, a necessity not a luxury* –Paper presented with L van der Merwe at the annual conference of the International Association for Impact Assessment 2012 in Porto, Portugal
- *Do you know who I am?* - Paper presented at the annual conference of the International Association for Impact Assessment 2011 in Puebla, Mexico
- *Moving beyond social impact assessment to social sustainability* - Paper presented at the annual conference of the International Association for Impact Assessment 2011 in Puebla, Mexico
- *Challenges to SIA in a South African Context* - Paper presented at the annual conference of the International Association for Impact Assessment 2009 in Accra, Ghana.
- *Social Impact Assessment as a planning tool - can social tools tango?* – Paper presented at the annual conference of the South African Affiliate of the International Association for Impact Assessment 2006 at Kwa Maritane, North West Province.
- *Power to the people – lessons learned from Social Impact Assessment for linear projects* - Paper presented at the annual conference of the International Association for Impact Assessment 2006 in Stavanger, Norway
- *Social Impact Assessment – A prickly pear in the toolbox* – Paper presented at the annual conference of the South African Affiliate of the International Association for Impact Assessment 2004 at Champagne Castle, Kwazulu-Natal
- *Social Impact Assessment in South Africa* – Paper presented at the annual conference of the International Association for Impact Assessment 2005 in Cambridge, Boston, USA
- *Social Impact Assessment and Housing Developments* – Paper presented at the World Congress on Housing 2005 in Pretoria, South Africa.
- Member of technical advisory committee for World Congress on Housing 2005. Transforming Housing Environments through design
- Conference coordinator – IAIAsa 2009 annual conference
- Member of international SIA steering group in IAIA developing guidelines for SIA
- Advisory member for the Centre for Environmental Rights

- Technical coordinator – IAIAsa 2016 annual conference in Port Elizabeth
- Technical programme member –IAIA International 2018 conference in Durban

San-Marié Aucamp

Research Psychologist

Summary	San-Marié is the founding member of Equispectives Research and Consulting Services with over 25 years' experience working in the social environment, predominantly in the mining sector. Experience in other sectors include energy, manufacturing, government, automotive, financial services, telecoms and IT, and FMCG. She has experience in compiling and reviewing Social and Labour Plans, conducting Social Impact Assessments and developing customised social monitoring and evaluation tools for clients.
Qualifications	Currently busy with PhD in Consulting Psychology at the University of South Africa MA (Research Psychology), University of Pretoria, 2003 University of Pretoria, Not for degree purposes – Mathematical Statistics 1 (while working full-time), 1996 University of South Africa, Not for degree purposes – Mathematics 3 & Computer Science 1 (while working full-time), 1994 Higher Education Diploma (Post graduate), University of Pretoria, 1992 BA (Hons) Psychology, University of Pretoria, 1991 BA (cum laude), University of Pretoria (majored in Psychology and Criminology), 1990
Registration(s)	Health Professions Council of South Africa – Research Psychologist and Psychometrist in independent practice
Affiliations	Psychological Society of South Africa – member Society for Industrial and Occupational Psychology of South Africa – member Services SETA – Past National Council Member
Countries of work experience	South Africa, Zambia, Botswana; Lesotho, Ghana, Kenya, Namibia, Hong Kong, Seychelles, Tanzania Managed multi-country projects (from South Africa) with fieldwork in Swaziland; Uganda; Rwanda; Nigeria; Cameroon; Namibia, Hungary, Japan, China, India
Nationality	South African
Years of experience	27

PROFESSIONAL EXPERIENCE

Social Impact Assessments & Social and Labour Plans **2007 –**	Design, execution and project management of SIA's, SLP's and social research input as part of multi-disciplinary projects Conducting baseline studies for SIA's using **social indicators** such as poverty rate, unemployment rate, crime, literacy levels, income, household size, access to water, etc. Reporting, data analysis and client liaison Review SLP's

Human behaviour studies **2009 -**	Human behaviour studies in gold mining areas as input for modelling for radiological impact assessment studies
Social & marketing research **1997 –**	Translating client needs in research projects – including measurement, tracking, monitoring and evaluation Design, implementation and project management of research projects (qualitative and quantitative methodologies, including statistics and indices) Reporting, analysis and client liaison Worked on more than 100 research projects Project size varies from about 10 to 3 500 respondents Project respondents varied in age, gender, cultural group and educational level Project types include employee satisfaction, customer satisfaction, product tests, branding, etc. Industry experience and clients include the mining, manufacturing, agriculture, government, automotive, financial services, telecoms and IT as well as FMCG sectors Worked on multi country projects as either team member or team leader
Training **1997 -**	Research methodology for second year psychology students (1998) Guest lecturer in modules on Social Impact Assessment, Public Participation and Social and Labour Plans at UNISA, Tshwane University of Technology, University of Johannesburg, Centre for Environmental Management (North West University) Public meeting facilitation skills – SAPREF (2010) Social Impact Assessment Training – Seychelles (2017)
Social Life Cycle Assessment **2013 -**	Develop data collection tool Data collection, interpretation and reporting of results Social life cycle assessment reporting Develop reference criteria/benchmarks to track social performance Audit/measure industry/client against benchmarks

PROFESSIONAL HISTORY

Date	Company	Position
2007 - present	Equispectives Research & Consulting Services	Member – Social specialist
2006 -present	Ptersa Environmental Management Consultants	Member
2004 - 2006	Synovate	Senior key accounts manager (main client: BMW)
2002 - 2004	ACNielsen	Client service executive
2000 - 2002	ACNielsen	Omnibus manager
1998 - 1998	University of Pretoria	Intern research psychologist & assistant lecturer
1995 - 1997	Department of Health	Administrative officer
1993 - 1995	Department of Health	Assistant administrative officer
1992- 1993	Self-employed	Mathematics tutor
1988 - 1991	Woolworths	Part-time cashier

Ad Hoc Projects	Saville and Holdsworth Ltd South Africa (1998) ABSA Brokers (1999) MarkData (1999/2000) BMW (2006)
Further training / Short courses	Introduction to SIA – IAIA International (Rabel Burdge) Sustainable Livelihoods Training – Khanya Development Trust Professional Selling Skills Personnel evaluation Hay method of job evaluation Negotiating skills (Scotwork) Diagnostic market research and psychodynamic mapping (Censydiam) Bar-On EQ-I (Jopie van Rooyen & Associates) Career Counselling Workshops (Prof K Maree & Prof C Foxcroft, PsySSA 2008) Ethnography and Observational Research (Esomar – 2011) Mining Social and Labour Plan (Global Prospectus – 2012)

PUBLICATIONS

Fiedeldey-Van Dijk, C. & Aucamp, S. (1998, July). *Faces of complexity in research methodology: Delphi contributions*. Paper presented at the 14th World Congress of Sociology, Montréal, Canada.

Aucamp, S. (1999). *A systems view of interpersonal communication.* Unpublished manuscript. Recommended reading for the Interpersonal Processes section of the MA (Research Psychology) Course in 1999.

Aucamp, S. (2002). *Identification of mental models of managers with reference to success criteria for brokers.* Unpublished master's dissertation, University of Pretoria, Pretoria.

Richards, A. & Aucamp, S. (2006, July). *Mirror, mirror on the wall, who's the fairest of them all. A reflection of web spaces as research tools in the .co.za tribe.* Paper presented at the 16th World Congress of Sociology, Durban, South Africa.

Aucamp, I.C., Woodborne, S., Perold, J.J., Bron, A. & Aucamp, S. (2011). *Looking beyond impact assessment to social sustainability.* In Vanclay, F. & Esteves, A.M. (2011). *New Directions in Social Impact Assessment: Conceptual and Methodological Advances.*

Contributor to: Vanclay, F., Esteves, A.M., Aucamp, I. & Franks, D. (2015) *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects.* Fargo ND: International Association for Impact Assessment.

King, N., Aucamp, I.C. & Aucamp, S. (2015, August). *Human Rights and Effective Public Participation: Are we doing the right things or just doing things right?* Workshop presented at IAIAsa Conference, Champagne Castle, KwaZulu Natal.

Aucamp, S. (2015, August). *Social Life Cycle Assessment as a method to identify social impacts for an industry consisting of small businesses.* Paper presented at IAIAsa Conference, Champagne Castle, KwaZulu Natal.

Aucamp, S. (2015, August). *Using Psychology as a tool in impact assessment: friend or foe?* Paper presented at IAIAsa Conference, Champagne Castle, KwaZulu Natal.

Aucamp, S. (2016, November). *S-LCA for the Clay Brick Industry: a practical approach.* Paper presented at 1st Southern Africa LCA Colloquium, Cape Town, Western Cape.

Aucamp, I.C., Aucamp, S. & Renaud, D. (2018, June). *Seychelles leading the way: Development of an SIA Framework.* Paper presented at IAIA18 International Conference, Durban, KwaZulu Natal.

Aucamp, S. (2022). *Community Social Impact Assessment.* In Visser, M., Akhurst, J., Carolissen, R. & Matamela, N. (Eds). *Community Psychology South African Praxis.* Hatfield: Van Schaik Publishers.