

**FINAL BASIC ASSESSMENT REPORT FOR THE
PROPOSED PROSPECTING IN SEA CONCESSION AREA 7C
BY TRANS ATLANTIC DIAMONDS (PTY) LTD**

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**Appendix 5:
Socio-economic Assessment and
Considerations**

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SOCIO-ECONOMIC CONSIDERATION FOR EXPLORATION AND PROSPECTING ACTIVITIES IN SOUTH AFRICAN SEA CONCESSION AREA 7C

August 2022

Report prepared for:

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EXECUTIVE SUMMARY

Anchor Environmental Consultants (Pty) Ltd were requested to undertake a socio-economic assessment for Trans Atlantic Diamonds (Pty) Ltd who are applying for a diamond prospecting right to prospect for diamonds and other gemstones and metals in Sea Concession Area 7C. This area covers 200 246 ha and is situated 5km offshore from 12 km south to 19 km north of Hondeklipbaai. Concession area 7C is located offshore of the Kamiesberg local Municipality (KLM) and greater Namakwa District Municipality (NDM). The proposed prospecting activity is anticipated to potentially impact coastal communities in the Kamiesberg Municipality, particularly Hondeklipbaai and Koingnaas. Demographic profiles for the regional, local and project sites are provided. A brief overview of the economic performance is discussed and placed in relation to the potential impacts associated to the proposed survey area. Our approach included the analysis of the local economy, available literature, as well as District and local documents. Regional, local, and district frameworks and strategies were also included to ascertain socio-economic value of the proposed activities and future recommendations for the project site.

Summary of impacts

Table 1-1 summarizes the various potential socio-economic impacts associated with the proposed TAD prospecting project, to provide a perspective of the net societal benefits and costs. A total of six socioeconomic impacts were identified as potentially being associated with the proposed survey/prospecting activities. Negative potential impacts associated with the proposed activities are mostly assessed as Very Low significance. After mitigation measures were applied, negative potential impacts associated with the proposed activities were reduced to Insignificant. Potential impacts associated to the seismic survey and sampling/prospecting activities were identified as: Temporary disturbance of marine resources and exclusion of fishing vessels from the immediate vicinity of the survey vessel during operations, potentially impacting fisher group users (i.e., 1) Tuna pole and line; 2) Traditional linefish sector; 3) Impact on small businesses (aquaculture) and local tourism; 4) Impact on Sense of place and Health and Wellbeing; and 5) Impact on local households. The five impacts may negatively affect the livelihoods and household income of marine fisheries group. Although, these potential impacts associated to the proposed prospecting activity are of very low significance, it should be emphasized that the influence regarding the decision on the application of the proposed prospecting activity should take into account the poor economic performance of the nearby coastal communities' particularly those with high dependence on marine resources to support household income and livelihoods.

Table 1-1 Potential impacts identified associated with the prospecting activities after mitigation measures are applied.

	Impacts with mitigation	Consequence	Probability	Significance	Status	Confidence
Primary Sector	Impact 1: Tuna Pole and Long Line	Very Low	Improbable	INSIGNIFICANT	-ve	High
	Impact 2: Traditional Line Fisheries	Very Low	Probable		-ve	High
Tertiary Sector	Impact 3: Impact on Small Businesses and Local Tourism	Very Low	Improbable		-ve	Medium
	Impact 4: Sense of place and Human Wellbeing	Very Low	Improbable		-ve	High
	Impact 5: Impact on Local Households	Very Low	Improbable		-ve	High
	Impact 6: Local Socio-Economic Performance	Very Low	Possible		+ve	Medium

Table 1-2 Potential cumulative impacts identified associated with the prospecting activities after mitigation measures have been applied.

	Impacts with mitigation	Consequence	Probability	Significance	Status	Confidence
Primary Sector	Impact 1: Tuna Pole and Long line	Medium	Improbable	LOW	-ve	Low
	Impact 2: Traditional Line Fisheries	Medium	Possible	LOW	-ve	Medium
Tertiary Sector	Impact 3: Impact on small businesses and local tourism	Medium	Improbable	LOW	-ve	Low
	Impact 4: Sense of place and Human Wellbeing	Medium	Improbable	LOW	-ve	Low
	Impact 5: Impact on local households	Medium	Improbable	LOW	-ve	Low
	Impact 6: Local socio-economic performance	High	Possible	MEDIUM	+ve	Low

Key perceptions and concerns from stakeholders

From a societal cost-benefit perspective, the general perception of the community representatives and stakeholders are concerned mainly about the negative impacts of the proposed TAD prospecting project. The most prevalent concerns that have been raised included reducing fish population in the area; water pollution; lack of job offers from mines and unfulfilled promises given to the community. The stakeholders reiterate that they want to be informed of prospecting activities beforehand and demand transparency.

Key recommendations and Mitigation Measures

It is strongly recommended that mitigation measures be further developed in consultation with local stakeholders so that effective and mutually acceptable mitigation measures can be implemented during the seismic survey, prospecting and potential future mining phase (noting that mining would constitute a separate application and EIA process) activities. Communication protocols should inform on all prospecting activities including timelines and impacts. A “living framework” such as a Monitoring and Evaluation Plan (M&EP) for identifying, monitoring, assessing, and evaluating Trans-Atlantic Diamonds’ Corporate Social Responsibility (e.g., employment and training opportunities) and socio-economic impacts should be developed. This framework should be developed with IAPs and surrounding community representatives that are potentially impacted by the Trans Atlantic Diamonds’ prospecting project. Adherence to the M&EP is necessary to ensure that socio-economic deliverables are met. In addition, Trans Atlantic Diamonds should aim to incorporate codes of good practice on Broad Based Black Economic Empowerment issued under Section 9 of the Broad Based Black Economic Empowerment Act, Act 53 of 2003, as amended by Act 46 of 2013. This will include skills transfer programmes, job creation, and supporting local service industry organizations such as manufacturing, production and/or packaging services.

Project limitation

The authors of the socio-economic consideration assessment had limited interaction with all Interested and Affected Parties (IAPS) and local community representatives in the Hondeklipbaai area. This is largely due to the limited time-period provided by the Department of Mineral Resources prospecting application process. For this reason, an extension to the time-period from the acceptance of the prospecting application to the final submission of the final Basic Assessment Report (BAR) should be considered for future prospecting applications in concession areas located along remote parts of the South African coastline.

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LIST OF ABBREVIATIONS

Abbreviation	Description
Anchor/ AEC	Anchor Environmental Consultants (Pty) Ltd.
BAR	Basic Assessment Report
B-BBEE	Broad Based Black Economic Empowerment
BCLME	Benguela Current Large Marine Ecosystem Programme
CSR	Corporate Social Responsibility
DEADP	Department of Environmental Affairs and Development Planning
DFFE	Department of Forestry, Fisheries, and the Environment
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EPWP	Expanded Public Works Programme
FLO	Fisheries Liaison Officer
GDP	Gross Domestic Performance
GDPR	Gross Domestic Product
GVA	Gross Value Added
IAPs	Interested And Affected Parties
IDP	Integrated Development Plan
KLM	Kamiesberg Local Municipality
LED	Local Economic Development
M&EP	Monitoring and Evaluation Plan
MM	Matzikama Municipality
MMO	Marine Mammal Observer
NCSDP	Northern Cape Spatial Development Framework
NDM	Namakwa District Municipality
NDP	National Development Plan
PAM	Passive Acoustic Monitoring
PSDF	Provincial Spatial Development Framework
RRZ	Rural Restructuring Zones
SDF	Spatial Development Framework
SMMEs	Small, Medium and Micro Enterprises
TAD	Trans Atlantic Diamonds (Pty) Ltd
TAE	Total Allowable Effort
TLP	Tuna Pole and Line

1 INTRODUCTION

Anchor Environmental Consultants (Pty) Ltd (hereafter referred to as AEC) were requested to undertake a socio-economic assessment for Trans Atlantic Diamonds (Pty) Ltd (hereafter referred to as TAD) who are applying for a diamond prospecting right to prospect for diamonds and other gemstones and metals in Sea Concession Area 7C. This area covers 200 246 ha and is situated 5 km offshore from 12 km south to 19 km north of Hondeklipbaai. Concession area 7C is situated offshore of the Kamiesberg local Municipality (KLM) and greater Namakwa District Municipality (NDM). The proposed prospecting activity is anticipated to potentially impact coastal communities in the Kamiesberg Municipality, particularly Hondeklipbaai and Koingnaas.

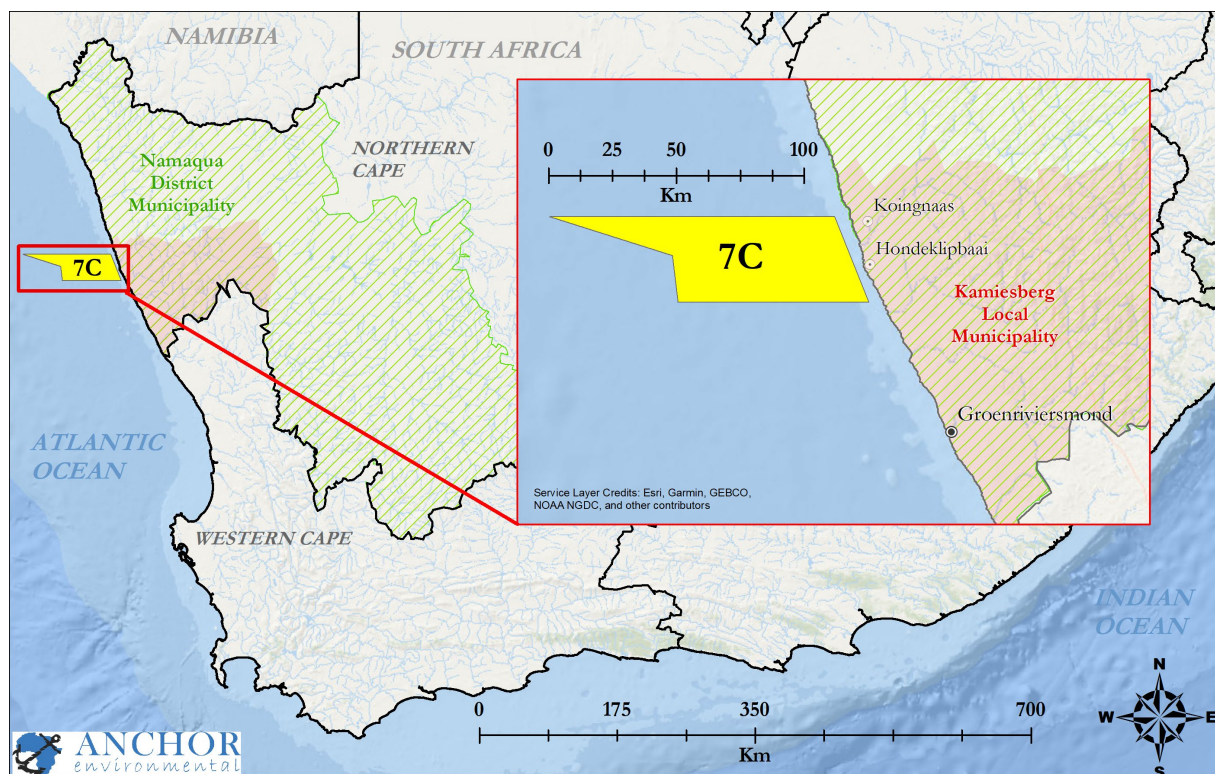


Figure 1.1 Location of the 7C concession area in the Northern Cape.

2 APPROACH AND OBJECTIVES

This study aimed to achieve several key objectives in order to assess the socio-economic impact of the proposed prospecting project by TAD. Our approach included the assessment of the project's economic value to identify the potential socio-economic impacts and how to best enhance the positive impacts. Where possible, negative impacts were avoided, minimised, or mitigated, and alternative methods were recommended (e.g., alternative technology and operational time periods). If negative impacts could not be avoided, mitigated, or minimised an offset strategy was recommended to compensate for any socio-economic loss and to restore the socio-economic environment. Socio-economic perspectives of the National, District, and Local Spatial Planning Frameworks were included

to contextualise the potential socio-economic impacts during the operational phase of the prospecting project. The following objectives are included in this study:

- To clarify the potential economic value of the proposed prospecting activities on local and regional economy.
- Present the socio-economic demographic and environment of the district and local municipalities situated close to (approximately 5km offshore) the proposed project site.
- To ascertain key concerns from stakeholders that are interested and or affected by the proposed activities (i.e., collate pre-consultation comments and responses relating to socio-economic issues).
- To determine the potential employment opportunities and Gross Domestic Performance (GDP) of the local and district municipality.
- Provide recommendations that can be included in a monitoring framework to ensure that socio-economic investments associated with the prospecting activities are maintained and evaluated throughout the operational phase.

3 PROJECT ASSUMPTION AND LIMITATIONS

This socio-economic consideration study was based on several assumptions in order to assess the potential impacts of the proposed TAD prospecting project on the socio-economic environment of the local and regional community which included the following:

- The prospecting activity will be operational for approximately a 70-day period.
- The Hondeklipbaai harbour will not be utilised for any maritime activities during the TAD prospecting project (from project inception to the end of the operational phase).
- The Saldanha Bay harbour will be used to facilitate all maritime requirements associated to the proposed TAD prospecting project.

Limitations that were identified to assess the socio-economic impacts were as follow:

- This study used the National Census statistics, last updated in 2011, in addition to partial data from more recent years. Although this data provided valuable information on the demographic profile of the district and local community, it limited this study's ability to assess the potential socio-economic impacts of the TAD prospecting project on the current economic environment.
- Lack of available research and data on the Hondeklipbaai tourism industry and fishing sector limited this study's ability to assess the potential negative or positive impact on the local socio-economic environment.

The authors of the socio-economic consideration assessment had limited interaction with all Interested and Affected Parties (IAPS) and local community representatives nearby the concession area. This is largely due to the limited time-period provided by the Department of Mineral Resources prospecting application process. This is not a serious limitation for a prospecting application for an offshore concession that is assessed to have Very Low or Insignificant negative socioeconomic impacts on local communities. However, an extension to the time-period from the acceptance of the prospecting and mining application to the submission of the final Basic Assessment Report should be considered for future mining applications in land-based and nearshore (A) concession areas located along remote parts of the South African coastline. This will allow for the inclusion of all stakeholder

perceptions and concerns, up to date demographic survey data, and analysis that would be sufficient for a more comprehensive local and municipal economic assessment.

4 OVERVIEW OF THE STUDY AREA: ECONOMY AND DEMOGRAPHIC PROFILE

To assess the potential socio-economic impacts of the proposed project it is important to understand the socio-economic context in which the proposed project is to be developed and its potential area of impact. Depending on the scale of the potential socio-economic impacts, it may extend beyond the boundaries of the project. Here, the focus will be placed on the regional, local and project area. The proposed prospecting/survey activity falls offshore of the regional Namaqua District Municipality (NDM) and local Kamiesberg Municipality (Figure 1.1). This socio-economic impact statement will thus consider this region, focussing on the potential impact of the project site.

4.1 Regional Study Area

4.1.1 Namakwa District Municipality: Demographic Profile and General Employment Trends

The Namakwa District Municipality (NDM) is in the north-western edge of South Africa in Northern Cape Province. It is comprised of six local municipalities namely, Nama Khoi, Hantam, Khai-Ma, Kamiesberg, Karoo Hoogland and Richtersveld. The NDM is the largest district in the province, making up over a third of its geographical area. It is approximately 126 836 km² and has a total population of 139 370 inhabitants and 41 613 households (Table 4-1). Municipal data also show that there are 14 145 households headed by women and 27 child-headed households (NDM 2021). Although this district is the largest in the province, it has the lowest population. This is linked to the aridity of the entire district municipality. The population consists of 50.0% female and 50.0% male, with three predominant population group: Coloured (83.1%), White (9%), Black African (7.3%), and Asian (0.65%) communities. Most of the populations' first language is Afrikaans (94.0%) followed by Setswana (1.71%), IsiXhosa (1.55%), English (1.22%) and other indigenous languages (1.62%).

The majority of the population (66.1%) were in the working age group (15-64 years), followed by the young (25.8%, 0-14 years), and the elderly (8.1%, 65+ years) (StatsSA 2011). Dependency ratios give an indication of the social and economic demands placed on working people to support their non-working family/community members and includes the population who are too young to work (0-14 years old), and those who are most likely too old to work (65+). A higher dependency ratio also means greater pressure on social systems and the delivery of basic services. The NDM population dependency ratio was 47% in 2011, which is lower than the current national average of 52% (World Bank 2021). The average level of formal education in the NDM is relatively low, with a functional literacy rate of 81.1% (higher than the average of the Northern Cape's 79.1% and lower than the national level of 84.8%) (COGTA 2020). About 6.6% of the individuals aged 20 and older have had no formal schooling, whilst 18.8% have attained a matric certificate and not studied further, 7.4% have some form of tertiary qualification, whilst the remaining 67.2% have attended school for a varying amount of time, with the largest portion (39.4% of adults) ending their education sometime during secondary school.

The average household income of the NDM falls into several ranges, with 16.7% of households earning between R0 and R10 000 p.a., the majority (58.6%) of households earning between R10 000 and R75 000p.a., and 24.9% earning more than R75 000 p.a. Average household size has increased slightly in the NDM between 2010 and 2020, as a result of a greater increase in population growth than the growth in the total number of households in the region (NDM 2022). There were 31 400 people employed in the NDM formal sector in 2018 and 4 800 in the informal sector, which constituted 11.2% of the total employment in the Northern Cape (COGTA 2020). The total number of informal jobs had increased from 3 420 in 2008. The economically active population (EAP) of the NDM was 48 000 in 2018, which comprised only 36.3% of the total population in the region, despite of 68% of the population falling between the ages of 15 and 64 in 2016 (COGTA 2020, Municipalities 2022). In 2019, the unemployment rate in the NDM was 22.3%, with 42 284 people being employed and 12 055 being unemployed, which accounted for 9% of the total number of unemployed people in the Northern Cape (NCPG 2021). The number of people in poverty in the NDM increased from 48 500 in 2010 to 60 800 in 2020, which is a 25.4% increase (NDM 2022). The region also saw an increase in its Gini coefficient from 0.548 in 2010 to 0.582 in 2020, which shows an increased level of income inequality, with most of this change occurring within the Coloured population. Despite this increase in the number of impoverished people and income inequality, the Human Development Index (HDI) for the NDM, which is a course indicator of average quality of life, determined by combining statistics such as schooling, average life expectancy, and standard of living, increased from 0.61 in 2010, to 0.73 in 2020, suggesting an average improvement in quality of life for the people in the NDM (NCPG 2021).

The NDM had an annual negative economic growth rate of -0.54% in 2018, which is a greater rate of decline than the -0.31% of the Northern Cape Province as a whole (COGTA 2020). The NDM contributed 10.7% of the total GDP of the Northern Cape in 2019. The largest employment industries within the NDM are community services and trade, which employed 28.6% and 18.2% of the employed populous in 2019, respectively. The most important sector in the NDM from a Gross Value Added (GVA) perspective are the mining sector, contributed R3.4 billion (35.6%) of the districts total GVA in 2018, the community services sector (16.1%), then the trade sector (11.8%) (COGTA 2020). Tourism spending is also important in the NDM, with 7% of local GDP coming from tourism in 2018. It is important to consider that the Covid-19 pandemic has likely had a large negative impact on the income derived from tourism in the region. Finally, agriculture is also an important, growing sector in the region, with livestock farming being prevalent in dryer regions, and high-value crops being prioritised in proximity to the Orange River (COGT 2020).

Table 4-1 Demographic profile summary of the Namakwa District Municipality, Hondeklipbaai, and Koingnaas (StatsSA 2011, COGTA 2020, NCPG 2021)

Indicator	Namakwa District	Kamiesberg Local Municipality	Hondeklipbaai	Koingnaas
Population Total	141 000	9 605	543	105
Household Total	41 100	3 319	189	61
Area (km ²)	126 838	11 742	1.09	0.66
Population group				
Coloured (%)	83.06	85.6	80.51	63.8
Black African (%)	7.32	5.3	8.27	0

Indicator	Namakwa District	Kamiesberg Local Municipality	Hondeklipbaai	Koingnaas
White (%)	8.96	8.1	8.82	31.4
Indian or Asian (%)	0.65	0.5	1.47	1
Other (%)	0.01	0.5	0.92	3.8
Gender distribution				
Male (%)	49.96	50.4	47.88	53.8
Female (%)	50.04	49.6	52.12	46.2
First language				
Afrikaans (%)	93.9	96.4	96.86	99
Setswana (%)	1.71	0	N.A	0
IsiXhosa (%)	1.55	1.4	N.A	0
English (%)	1.22	0.2	1.11	1
Sign Language	N.A	0	1.11	0
Dependency ratio (%)	47.1	57.9	48.4	19.3

4.2 Local Study Area

4.2.1 Kamiesberg Municipality: Demographic Profile and General Employment Trends

The Kamiesberg Local Municipality (KLM) is situated on the south-west coast of the Northern Cape and borders the Western Cape Province to the south, the Nama Khoi Municipality in the north, the Khâi-Ma Municipality to the north-east, the Hantam Municipality to the south-east, and the Atlantic Ocean to the west. The KLM consists of three main geographical regions, the sandy coastal lowlands, the mountainous central Kamiesberg escarpment, and the eastern plateau known as Bushmanland (KM 2022).

The municipality consist of 16 small towns, with only one coastal settlement, Hondeklipbaai, and several small inland towns, with the business center being found in Springbok (KM 2022). Agriculture within the region primarily consists of livestock farming, with the rearing of livestock (sheep and goat) and poultry, which consist of 56.9% and 25.4% of the agricultural households, respectively (StatsSA 2011). There are no perennial rivers in the municipality, therefore, water is supplied entirely from subterranean sources, which is either abstracted from windmills or from natural springs (KM 2022). The arid conditions and constrained water supply make other forms of farming largely unviable. The large expanses required for livestock farming makes managing animal populations challenging, with significant losses to profit margins occurring due to predation from jackals and eagles (KLM 2010). Animal theft is also an issue influencing the viability of livestock farming.

The KLM had a total population of 10 187, as of 2011, with 2 204 people being employed, 981 unemployed, 723 were classified as discouraged work-seekers, and 2 535 are not economically active. Unemployment stood at 30.8%, with youth unemployment at 40.4% (StatsSA 2011). A population of 63.3% falls within working age (15-65), therefore, only 34.2% of this demographic is employed. The KLM had an average dependency ratio of 57.8% in 2011, which is higher than the NDM, which indicates

a higher level of dependency, which is due to a relatively considerable proportion of children when compared to working adults (StatsSA 2011). An employed population of 78% works in the formal sector, and 13% in the informal sector (StatsSA 2011).

A large source of the regions' economy is the tourism industry, which is largely seasonal, and is based on the natural flower season between August and October. Furthermore, the KLM is home to a large amount of floral diversity, with one third of the total global succulent flora species being found here, of which nearly 40% are endemic (KM 2018). The presence of Hondeklipbaai on the coast, which is home to a small fishing community and holiday destinations, adds a small coastal tourism element to the overall economy of the region.

The leading employing industries in the KLM in the 2011 census were mining and quarrying (21.5%), General Government jobs (19.4%), community, social, and personal services (18.1%), wholesale & retail, trade, catering, and accommodation (14.3%), and agriculture, forestry, and fisheries (10%). Employment type varies greatly by location, with the rural economy primarily consisting of agriculture and the economy of Hondeklipbaai largely consisting of fishing and tourism, and the other major jobs being found in the larger towns (KM 2018).

The region has been struggling with economic decline, largely due to the shrinking of the land-based mining industry with time, which has led to the dwindling of the population in what were previously mining towns, largely associated with diamond mining. Industries that seem to have greater resilience include retail and accommodation, as part of the tourist industry, including coastal tourism in Hondeklipbaai, and tourism associated with the seasonal flowers (KLM 2010). The livestock-agriculture sector has also shown some resilience. However, this is constrained by the availability of water, which limits its maximum growth potential. It has been speculated that greater utilisation of the regions' coastal and marine resources, through fishing and mariculture, could represent a new economic avenue for the KLM to explore to help offset the loss of jobs associated with the ceasing of mining activities (KLM 2010).

Despite recent interest in offshore commodities, such as diamonds, this is unlikely to represent a significant economic boon to the municipality, as the associated vessels will be based at Saldanha Bay, with vessels' crews not being employed from local communities in the KLM. Additionally, it is highly unlikely that the crews will embark in Hondeklipbaai, therefore they will not contribute to the tourism and retail markets on the area.

4.2.2 Kamiesberg Municipality: Sector Contributions to GVA

The KLM contributed 7.2 % to the total GDP of the NDM in 2020 (~R764 million) and has experienced a -1.1% annual economic growth from 2010 to 2020, which is the lowest in the NDM (NDM 2022). The leading employing industries in the KLM in the 2011 census were mining and quarrying (21.5%), General Government jobs (19.4%), community, social, and personal services (18.1%), wholesale & retail, trade, catering, and accommodation (14.3%), and agriculture, forestry and fisheries (10%). Employment type varies greatly by location, with the rural economy primarily consisting of agriculture, the economy of Hondeklipbaai largely consisting of fishing and tourism, and the other major jobs being found in the larger towns (KM 2018). The economic state of the municipal area is important as it affects the ability of households to pay for services such as water, electricity, sanitation and refuse removal.

Economic growth trends are vital for predicting the direction of spatial expansion, guiding investment, and job creation in certain industries. With the negative economic growth trends present in the KLM, investment should, most likely, be focussed on industries which are not dependent on the dwindling mining sector, such as tourism, agriculture, fishing, mariculture, and associated industries, with the goal of creating employment opportunities for local communities (KM 2018).

4.3 Project Site

4.3.1 Hondeklipbaai: Demographic Profile, Economy, and General Employment Trends

Hondeklipbaai (30°18'59.34"S, 17°16'40.59"E) is a small West Coast fishing village and holiday destination situated about 95 km south-west of Sprinkbok with a population of 543, consisting of 189 households in 2011. The town is the only coastal town in the KLM and is currently capable of sustaining ocean-tourism and other sea-based industries. The primary first language in Hondeklipbaai is Afrikaans (96.9%), with some English, IsiNdebele, IsiXhosa, sign language, and Tshivenda speaking inhabitants. The population has a slightly higher proportion of females (52.1%) when compared to males (47.9% (StatsSA 2011)). Most of the population is of a Coloured descent (80.5%), followed by white (8.8%), Black African (8.3%), Indian/Asian, and other (0.9%). The average level of formal education in Hondeklipbaai is relatively low with 20.5% of the population educated to matric level, 4.9% have some form of tertiary education, 1.3% of the population have received no formal schooling, the remaining 73.3% have done some schooling and the largest group ending their formal education at some point during secondary school. It is important to note that, since the region has a significant portion of agricultural and fishing activities, many people have likely received informal skills training in these disciplines. Relatively limited levels of formal education likely limit the ability of the population to find employment outside of Hondeklipbaai should they wish to move to find areas with more job opportunities.

Annual household income falls into a several ranges R0 – R9 600 (34.3%), R9601 – R76 400 (53.2%), and more than R76 401 (12.5%). About 26% of the households in the town recorded no income in 2011. Hondeklipbaai, on average, had a dependency ratio of 48.4% in 2011, which is much lower than the KLM (57.9%), and comparable to the NDM (47.1%). This can be explained by a combination of lower birth rate and potentially lower life expectancy in Hondeklipbaai, when compared to the local municipal area. However, the small population numbers in the town could easily lead to this result being skewed. In total, 67.4% of people fall within the working age group, 24.7% of people fall within the young age group, and 7.9% of people fall within the elderly age group. High dependency ratios are commonly observed in developing countries and have been found to show significant relationship with economic growth, poverty, and employment (Vijayakumar 2013). The relatively low dependency ratio seen in Hondeklipbaai, when compared to the KLM, shows that the working population do not have to support as many dependents. At times a low dependency ratio, particular in the old population group, can be an indicator of short life expectancy, which is particularly prevalent in developing countries.

The Hondeklipbaai local economy has been undergoing a transition since the closing of the Trans Hex diamond mine in 2003 which was the largest source of employment in the town (Mahomed 2006). Since then, other industries, such as tourism and fisheries, have become more important. The town has a small, well established, fishing community, and a number of whom worked in the rock lobster

fishing sector. However, as a result of overfishing, rock lobsters are rare, and boats tend to concentrate in few areas where there is still availability (Grindley 1979).

Abalone *Haliotis midae* ranching occurs parallel to Concession 7C, along the coastline near Hondeklipbaai. Diamond Coast Abalone Pty Ltd is the abalone Ranching Right holder and activities take place in kelp beds in water predominantly shallower than 20 m, and mostly in water shallower than 5 m. This ranching operation is still in the development phase and local socioeconomic benefits from abalone ranching are expected to increase in the future. Hondeklipbaai is located within the Benguela Current Large Marine Ecosystem (BCLME), which is characterised by nutrient-rich waters and a typical abundance of marine life, which is supported through coastal upwelling systems associated with the dominant offshore winds in the region (NCSDF 2011).

The tourism sector in Hondeklipbaai primarily consists of guesthouses and campsites, which cater to holiday goers who wish to visit the sea. There are also a number of shops in the town, which cater to locals and tourists alike. Finally, the Hondeklip rock, the namesake of the bay, and two local shipwrecks (the Jahleel and the Aristeia) are local tourist attractions in the area.

4.3.2 Koingnaas: Demographic Profile, Economy, and general employment trends

Koingnaas (30°11'49.81"S, 17°16'57.02"E) is a very small mining town located approximately 4.6 km east of the Atlantic Ocean, which was previously the site of mining activities. Koingnaas has shrunk dramatically in size from its peak of 1000 individuals since the termination of the local De Beers mining activities in 2008. The subsequent purchase of the Koingnaas Mine by West Coast Resources (owned by Trans Hex) likely led to a resurgence of the town from 2011. However, the termination of mining activities in 2019 due to low profitability, has caused further decline in the town. The following stats from the 2011 census data are therefore likely not a true representation of the demographic information of the local community.

The town had a total population of 105 individuals and 61 total households as of 2011 (StatsSA 2011). The majority of the town was of Coloured Descent (63.8%), then white (31.4%), Indian/ Asian (1.0%), and other (3.8%). The population had slightly more males (53.8%), than females (46.2%). 83.8% of the population is in the working age (15-64), 11.4% are young (0-14), and 4.8% are elderly. The entire adult population had received some formal education, 25.8% had a matric pass, 13.5 % had some form of tertiary education, and the remaining 60.7% had some formal education, with the majority having completed primary school and having some secondary school.

Average annual household income fell into several ranges: R0-19 600 (16.4%), 65.6% earned between 19 601 and 153 800, and the largest group (32.8% of the total) earned between R76 401 and 153 800. Finally, 18.1% of households earn more than R153 800 p.a. Koingnaas recorded a very low dependency ratio of 19.3 in 2011, which indicates that there were very few people in the town for the working population to support. The population data supports the town's identity as primarily a mining town, through the relatively high level of formal education and annual income (when compared to Hondeklipbaai).

Employment opportunities in Koingnaas vary from residual mining opportunities, environmental rehabilitation work related to the environmental degradation associated with the mining, and shops/

services for the local community. The old coastal diamond diving village of Noup, located approximately 10.4 km north-west of Koingnaas, has been converted to accommodation for tourists to the area, and there is also a campsite located approximately 5.7 km north of Noup. Since Koingnaas is not located adjacent to the coast, it has reduced opportunities to shift to a more tourism, fishing, and mariculture-based economy, when compared to Hondeklipbaai.

5 COMPATIBILITY WITH SPATIAL PLANNING: AN ECONOMIC PERSPECTIVE

5.1 National Development Policy and Legislative Context

5.1.1 National Development Plan (NDP)-2030

When considering the socio-economic impacts that will result from the Trans Atlantic Diamond (TAD) project, spatial development frameworks are used to place their significance into context. The National Development Plan (NDP, 2012) is a strategy for securing South Africa's future, as outlined in the Constitution. The NDP set out six key objectives to eradicate poverty and inequality in South Africa (NDP 2012). The following objectives are set out for 2030:

- Bringing South Africans of different races and socio-economic groups together around a common goal of eradicating poverty and reducing inequality.
- Encourage citizens to participate in their own strength, strengthening the democracy, and the accountability of their government.
- Increasing economic growth, exports, and the labour-absorbing economy.
- Concentrating on essential human and national capabilities.
- Increase skills, infrastructure, social security, institutions, and partnerships both inside the country and with major international partners.
- Creating a capable and growing state.
- Strengthening the collaboration of societal leaderships.

Increasing national growth and creating a development is a difficult process. As a result, the NDP suggests a multidimensional strategy for achieving a constructive growth cycle where one achievement advances the next. The primary aim for South Africa is to reduce poverty and inequality through raising living standards to the NDPs' minimum level. This will require a combination of socio-economic challenges to improve such as employment, the social wage, earnings, productive growth, and public services. These challenges are interconnected where one challenge can improve the other. For example, faster economic growth will enhance opportunities for all while providing the resources needed to improve education (Figure 5.1).

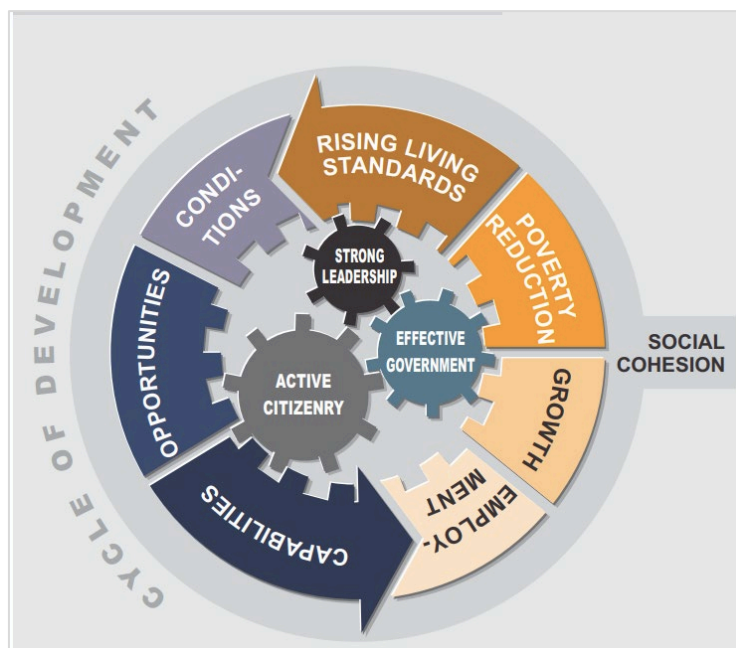


Figure 5.1 Cycle of development to achieve social cohesion (NDP 2012).

The NDP aimed to transform the economy through the increase of exports and improving human capital, production capacity, and infrastructure which will free up resources for investment and minimize the dependency on capital inflows. As a result, increased capital growth and improved public infrastructure and skills will enhance economic development. High employment and development will result in higher earnings and living standards, and therefore less inequality. Long-term economic prosperity requires a shift in the economy toward increased investment and decreased consumption.

For developing industries such as agro-processing, tourism, fisheries, and small businesses, a diversified approach is advocated. Increased capital spending is required to promote faster and more inclusive growth. Supporting investment, particularly domestic investment, incentivizing savings, and enabling enterprises and citizens to take a longer-term view of economic opportunities will be critical to the Plan's success. Industries such as agro-processing, tourism, fishing (in coastal areas), and small-enterprise growth should be encouraged, with market assistance in places with more economic potential.

The Context of Trans Atlantic Diamond Prospecting Application and the NDP:

The TAD prospecting project supports three out of the six key objectives set out by the NDP. The TAD prospecting project will be able to promote economic growth through greater labour absorption (30 employment opportunities, 18 training opportunities) during operational activities. Furthermore, concentrating on essential human and national capabilities, thereby increase skills, infrastructure, social security and partnerships both inside the country and with major international partners. Given that diamond prospecting is skilled work that potentially results in mining of a valuable export commodity that is processed and marketed through international partners and generates Forex.

5.1.2 Provincial and Local Planning Context

5.1.2.1 Northern Cape Provincial Development and Resource Management Plan/ Spatial Development Framework (2011)

The 2011 Northern Cape Spatial Development Framework (NCSDF) was drafted by the Dennis Moss Partnership and serves as a:

- “Spatial land-use directive aiming to promote environmental, economic, and social sustainability through sustainable development.
- Basis for prioritising governmental programmes and projects.
- Premise for governmental performance management.
- Manual for integrated land-use planning” (D.M.P 2019).

Within the primary development objectives in the NCSDF include:

- “To promote the growth, diversification, and transformation of the provincial economy
- To reduce the levels of poverty through social development.
- To improve the amounts of human and spatial capital.
- To improve the efficiency and effectiveness of governance and development institutions
- To enhance infrastructure for economic growth and social development.” (NCSDF 2011).

Within the SDF, there is an imperative for economic development that is forward looking and results in investment in industries with long-term potential. The authors acknowledge the shrinking of the land-based mining industry, and recommend for development to pursue other, more sustainable avenues. The NCSDF also emphasises the importance of coastal management and development, with sustainable development being a core focus. This acknowledges the importance of the maintenance of the diversity, health, and productivity of the coastal ecosystems within the Northern Cape. As such, development and economic activities occurring within the coastal zone should minimise impacts to ecosystem functioning and avoid the degradation of this functioning, where possible. The lack of access to coastal and marine resources due to mining-related access control has been further flagged as an issue limiting the transition towards more sustainable coastal development in the province.

The context of Trans Atlantic Diamond Prospecting Application and the Northern Cape Spatial Development Framework (2011).

The proposed prospecting activities share little alignment with the NCSDF, as mining activity is not considered to be a sustainable activity by its nature. Since the prospecting activities will be offshore, they will not result in any further terrestrial land-degradation or access control, which is in-line with the NCSDF. There will be no access restrictions for fishermen or recreational activities during the prospecting process, which is in line with the NCSDF.

It is imperative that TAD take steps to minimise the environmental impacts of the prospecting to avoid negatively impacting the natural coastal resources in the region. Should environmental impacts be minimised, the prospecting activities should have a negligible impact on the region’s future sustainable coastal development, as stipulated within the NCSDF. Furthermore, since no land-based infrastructure will be required for the prospecting in the Northern Cape, it will not contribute to coastal development in the province.

At a micro-scale, the few job opportunities offered on the prospecting vessel could contribute to poverty alleviation and social development for a few people, yet it is unlikely to be significant as it is restricted to a small number of crew. Should prospecting reveal an economically viable resource and the project proceed to the mining phase (following a successful application for a mining right), the primary benefits for the Northern Cape Would be through trickle down effects associated with the tax revenue received from the mining activities. In synopsis, the proposed TAD prospecting activities are primarily neutral with respect to the NCSDF, with the activities having minimal positive for the province and also minimal negative impacts.

5.1.2.2 Namakwa District Municipality Integrated Development Plan 2021-2022

The Integrated Development Plan aims to include the entire municipality and its inhabitants in determining the best options for long-term growth. The IDPs' primary purpose is to enable municipalities to manage strategic objectives and other requirements set out in the IDP, NDP and other socio-economic frameworks. The strategic objectives set out within the IDP, include improving service delivery of basic goods and services, supporting vulnerable groups, improving administrative and financial viability and capability, as well as to generally improve the standard of governance within the municipality (NDM 2021). The IDP emphasises the economic transformation towards the development of more sustainable industries, such as farming, fisheries, and tourism. The improvement of environmental and developmental affairs in line with global agreements such as the Paris Accord, the 2030 Agenda for Sustainable Development, etc is also important. Finally, the IDP places a large focus on aiding the people in their recovery from the Covid-19 pandemic.

The context of Trans Atlantic Diamond Prospecting Application and the Namakwa District Integrated Development Plan (NDIDP)

The NDIDP has the strategic objective of facilitating local economic development and poverty alleviation, which might be partially fulfilled through the creation of several jobs on the prospecting vessel, should these crew members be selected from vulnerable communities, this will also align the project with the NDIDP. However, it must be noted that, since the survey vessel will be based out of Table Bay or Saldanha Bay and most of the associated economic benefits of the prospecting will also be centred in these areas. It is unlikely that the TAD prospecting activities will have any meaningful economic benefits or benefits to service delivery or poverty alleviation in terrestrial settlements adjacent to the 7C concession. Prospecting activities should follow strict environmental protocols to reduce the possible environmental impacts associated with the activities and disturbance of the sea floor. Furthermore, the local aquatic resources in proximity to the prospecting area need to be maintained as a reduction in the productivity of the local fish stocks could negatively impact the livelihoods of the vulnerable fishing groups.

5.1.2.3 Kamiesberg Local Municipality Integrated Development Plan 2021/ 2022.

The Kamiesberg IDP has the main objective of integrating national and provincial initiatives with the intention of improving the lives of all South Africans. The IDP identified the impacts of the global economic downturn associated with the Covid-19 pandemic on the local economy. Furthermore, the

closure of the De-Beers diamond mine at Koingnaas also had a significant economic impact on the municipality, both through the loss of employment opportunities for the local communities, as well as the loss of rates and fees the municipality charged the company. Since the municipality had a population of only 10 800 in 2018, the loss of an income stream like this can have a large economic effect. Sound financial management was, therefore, considered to be the most important strategy to achieving the service delivery goals stated below. The financial situation facing the municipality can be summarised as: “The reality is that the development needs of our communities as articulated in this IDP review, exceeds the funding available to address all needs” (KM 2021).

In total, 7 outputs are desired from the IDP, including:

1. “The implementation of a differentiated approach to municipal financing, and support.
2. The improvement of access to basic services.
3. The Implementation of the community ward programme.
4. To take actions supportive of the Human Settlement Outcome.
5. To deepen democracy through a refined ward committee model.
6. To improve administrative and financial capability.
7. To form a single window of coordination”.

The desired outcomes for the KLMIDP can be further broken down into 10 strategic objectives:

1. “The promotion of Local Economic Development with specific focus on shared growth.
2. To create an enabling environment for economic growth in Kamiesberg that attracts investors, encourages innovation and facilitate pro-poor intervention.
3. To ensure a municipality that is committed to an innovative approach, prudent investment of public funds, good governance, financial viability and optimal institutional transformation that accommodates diversity in service delivery.
4. To develop socially integrated, safe, and healthy communities.
5. To ensure ecological integrity and climate response through sustainable practices.
6. To develop progressive strategies to optimize the use of available human resources.
7. To facilitate real opportunities for youth, women, and disabled and appropriate care for the aged.

8. To provide and maintain superior decentralized consumer services (Water, sanitation, roads, storm water, waste management and electricity).
9. Reduction of infrastructure backlogs i.e. human settlement, water, roads, electricity etc.
10. To ensure compliance as prescribed by relevant legislation”.

The context of Trans Atlantic Diamond Prospecting Application and the Kamiesberg Local Municipality Integrated Development Plan (KLMIDP)

The proposed TAD prospecting activities along the coast of the KLM has some alignment to the KLMIDP, primarily through the potential job opportunities offered for the individuals who will be selected to work on the prospecting vessel. The few jobs offered during the prospecting activities are however, likely to have a small impact at the district and provincial levels (mentioned above) as a result of the survey vessel operating from Saldanha or Cape Town ports. The prospecting activities are not going to significantly offset the loss of employment felt by the departure of De-Beers and the Covid-19 pandemic as the number of staff required for offshore prospecting is much less than is required for land-based prospecting. Furthermore, should sea-based mining activities ever occur in the 7C concession, this is also unlikely to lead to the employment of any substantial number of local individuals.

Further economic revenue streams are important for a country such as South Africa and the KLM could benefit from trickle-down effects associated with rates and fees charged to the mining companies which, in turn, benefits the people of South Africa. TAD needs to ensure that the environmental impacts associated with the prospecting activities are minimised and that the ecological integrity of the surrounding coastline is maintained in accordance with strategic objective 5 of the KLMIDP.

6 PERCEPTIONS AND CONCERNS OF KEY STAKEHOLDER GROUPS

The perceptions and concerns of stakeholders (Interested and Affected Parties, IAPs) are included in this study in order to understand the socio-economic perspective and environment. It is essential to understand the positive and negative concerns of IAPs to guide the Corporate Social Responsibility (CSR) of TAD. Multistakeholder perceptions identified during the pre-consultation process revealed several key concerns and issues that would need to be addressed for the proposed prospecting application. CSR has become an important component in mining activities but has often been overlooked or is ambiguous in developing countries (Mzembe & Downs, 2014; Hilson 2012). CSR could be defined as an economic contribution to a socio-economic environment that naturally results in a socio-economic impact (Visser 2008). Socio-economic responsibilities employed by businesses are often negatively perceived (e.g., marketing ploy), particularly for mining activities (Viveros 2014). The scope and definition of CSR is not always clearly defined between business and management and can be a source of tension between stakeholders and companies (Waarnaars 2012). Therefore, multistakeholder perceptions and the inclusion of IAPs are essential in understanding the broader scope of CSR and more complex issues relevant to the IAP of the proposed project area (i.e., Hondeklipbaai). Several stakeholders' comments related to socio-economic concerns are summarised below to provide a varied perspective of the proposed prospecting activities in Concession area 7C.

6.1 Fishing

Community members expressed several concerns relating to the fishing industry that the prospecting activities, particularly drilling will produce mud/sediment plume, which will have an impact on the area's fish resources, and the community strongly suggests that another method be utilized to avoid water quality deterioration. In addition, noise from the drilling would scare away the local fish populations. Prospecting and mining activities usually leads to a reduced availability of limited fish stocks in the area, which would threaten their livelihoods. Further concerns were expressed that once mining begins, it would become harder for them to acquire fishing permits and dissatisfaction with how hard it has been for them to acquire these permits currently. Beyond the impact to the fisheries in the area, members of the community was unsettled with the prospecting activities as they feel that they are culturally connected to the ocean, and the sea by Hondeklipbaai which provides many of their livelihoods and feel that destructive mining activities could threaten this identity.

6.2 Water Quality

Community members expressed concerns that prospecting, and mining activities would negatively impact water quality in the nearby Atlantic Ocean, which they feared, would both effect the health of the local fish population, as well as their own health when they utilised the ocean for business and recreation.

6.3 Lack of Benefits

The community was unsettled about the drilling and prospecting activities would not benefit them in any way, and that they only stood to lose out should environmental degradation occur as a result of these activities. Members of the community felt that they should be able to benefit from the profits of the prospecting/ mining activities, with one individual suggesting that the community and TAD form a 50/50 partnership in order to guarantee that the mining activities benefit the community. Community members further elaborated that should mining activities provide employment opportunities for the community, they would be left without a job once mining activities cease, as was the case with other mines in the greater area. In general, the community feel that they need to be shown the exact benefits that the prospecting would bring them prior to the initiation of prospecting activities.

6.4 General Distrust and Transparency

The community expressed distrust for the mining industry, indicating that they had been lied to and misled by mining companies, such as De Beers and Trans Hex, in the past. They, therefore, want clarity on exactly which company was applying for the prospecting rights, and who owns this company. They further want full transparency throughout the application and mining process, and that any promises and pledges made to the community by TAD be recorded and followed through on. Community members also want TAD to share a video showing exactly what the prospecting activities will entail, and to see the exact effect that it will have on the sea floor so that they may better understand the impacts of the prospecting.

6.5 Issues and Queries Associated with the Process

Community members expressed frustration with the short notice periods involved with the pre-consultation phase and feel that TAD should approach the community with their intention to apply for prospecting rights prior to hiring any consulting firms to undertake studies. They feel that this approach would have given them sufficient time for the entire community to be contacted and allow them to participate effectively in the process. The community wished to know what the impact will be if they choose to oppose the prospecting application. Finally, the community insisted that they do not allow any prospecting activities to occur until representatives from TAD visit Hondeklipbaai to consult with the community.

In conclusion, the general perception of the community representatives and stakeholders are concerned mainly about the negative impacts of the proposed TAD prospecting project. The most prevalent concerns that have been raised included reducing fish population in the area; water pollution; lack of job offers from mines and unfulfilled promises given to the community. The stakeholders reiterate that they want to be informed of prospecting activities beforehand and demand transparency.

7 POTENTIAL SOCIO-ECONOMIC IMPACTS

7.1 PRIMARY SECTOR

The Kamiesberg Municipality's economy is best described under the jurisdiction of the Namakwa District Municipality. The total economy of Kamiesberg only made up 7% of the district's economy in 2015. Kamiesberg Municipality accounts for the lowest contribution to the district with R665 million in 2018 growing from R525 million in 2008 (NDM 2020). The primary sector of the Kamiesberg Municipality is dependent on mainly the mining and quarrying (21.5%) and agriculture, forestry and fishing industries (10.0%) which provide most employment (KM 2018). In addition, aquaculture and conservation and ecological restoration are two emerging sectors identified since 2016. However, they do not provide sufficient employment to address the level of unemployment in the area. This is due to numerous factors such as the scarcity of water, less inland freshwater rivers to support large scale fishing, no railways, harbours and airports, amongst others. Another major concern is that most of the population live in dispersed settlements about 80 km from each other and connected via gravel roads. Hence, livestock farming has been targeted as a sector of potential growth to promote sustainable livelihoods for people (KM 2018). The agricultural activities in the Kamiesberg include sheep and goat farming, and crops consisting of fodder for livestock. There are potential opportunities for seaweed or kelp, oyster farming, marine food fish farming, abalone processing, halophytes, brine shrimp (*Artemia sp.*), and shallow water hake (KM 2018).

The South African fisheries sector has an estimated value of R6 billion (DAFF 2021), contributing 0.1% to national GDP. Of the 22 commercial sectors (listed in SAG 2013/14) the most economically valuable, and with the greatest catch volumes, are the demersal-trawl (hake) and small-pelagic sectors (pilchards, anchovy, and red-eye round herring) (Brick & Hasson 2016; SAG 2013/14). The Western Cape is estimated to account for most of the industry value (90%), employment and income, with the primary commercial fisheries (as well as main fisheries ports, and therefore associated industry services) concentrated along the west and south coasts of South Africa (Hara et al. 2008; Karaan & Rossouw 2004). In the Northern Cape, Port Nolloth, Boegoebaai and Hondeklipbaai were identified as having immense potential for both harbour infrastructure, marine/aquaculture, small town precinct development, tourism and job creation through projects of Expanded Public Works Programme (EPWP).

There has been a recent increase in applications for prospecting and exploration rights along the west coast and increased prospecting/survey activity in the short term and marine mining in the long-term is anticipated. This means that cumulative impacts of marine prospecting and mining must be considered at a broader spatial scale in a strategic manner for each potential impact identified. Obtaining detailed information on the scale, extent, methodology (and hence intensity) of various current and pending applications is. However, not possible within the prescribed timeframes of a Basic Assessment Process for a single application (such as this one). This requires a revised strategic level Environmental Impact Assessment to assess cumulative impacts with a medium or higher level of confidence. The last strategic level Environmental Impact Assessment (EIA) that assessed marine and coastal diamond mining impacts in the region was a Benguela Current Large Marine Ecosystem Programme (BCLME) study undertaken over the period 2004–2007 (Penney *et al.* 2007).

It is, however, logical and reasonable, to anticipate that many of the potential impacts assessed for this project would continue together with other projects that are ongoing or scheduled to come on-

line. The result is that the spatial extent of many impacts would change from “local” to “regional”, whilst the duration would change from “short-term” (<2 years) to at least “medium term” (2–15 years) or even “long-term” (>15 years, mostly reversible in the case of prospecting, but not always for mining). The intensity of impacts is anticipated to remain as they are assessed here for operations of this nature but may be higher for other sea-based mineral and energy projects in different areas with different objectives. The cumulative effect of each of the identified impacts is therefore provided in the Impact Assessment tables below using this precautionary approach (assumption of simultaneous / consecutive prospecting and mining activities in the region). These cumulative impacts are assessed “after mitigation”. The assessment of cumulative impacts has a “low confidence” rating due to the uncertainty of the timing and location of other anthropogenic activities in the region.

The Marine Specialist Study identified three fishery sectors (Tuna pole and line fisheries Traditional line fish and West Coast Rock Lobster that may overlap with the concession area, and these are briefly discussed in the following sections below. The socio-economic significance of the potential impacts that would result from the proposed prospecting activities is determined below to assist with informed decision-making in the prospecting rights application. The significance of an impact is assessed as a combination of the consequence (based on the intensity, scale and duration) of the impact occurring and the probability that the impact will occur.

7.1.1 Tuna pole and Line

The South African tuna pole and line sector (TPL) targets longfin tuna (*Thunnus alalunga*), yellowfin tuna (*Thunnus albacares*), bigeye tuna (*Thunnus obesus*) and skipjack tuna (*Katsuwonus pelamis*) between November and May. Due to the seasonality of the TPL fishery, fishers also have access to snoek (*Thyrsites atun*) and yellowtail (*Seriola lalandi*), which are also important targets of the traditional line fishery. The tuna pole fleet consists of approximately 100 vessels ranging from small outboard powered ski boats (7-9 m length) to inboard diesel-powered deck boats (6-25 m length). The reported longfin tuna catches in 2018 was 2 471 tonnes, with a wholesale value of R 124 million, or 1.2% of the total South African commercial fisheries value (Japp & Wilkinson 2021). The commercial tuna pole fishing grounds lie between Cape Agulhas and the Orange River, but the fleet operates predominantly out of Cape Town and Hout Bay harbours and most fishing effort takes place within 100 nautical miles of these ports (particularly in the Cape Canyon area). No TLP fishing effort occurs or grid block overlaps with Concession Area 7C (Figure 7.1). Snoek fishing activity within the area is not evident. Impacts on the TPL fleet due to the proposed prospecting activities within Concession Area 7C are expected to be insignificant (Table 7-1).

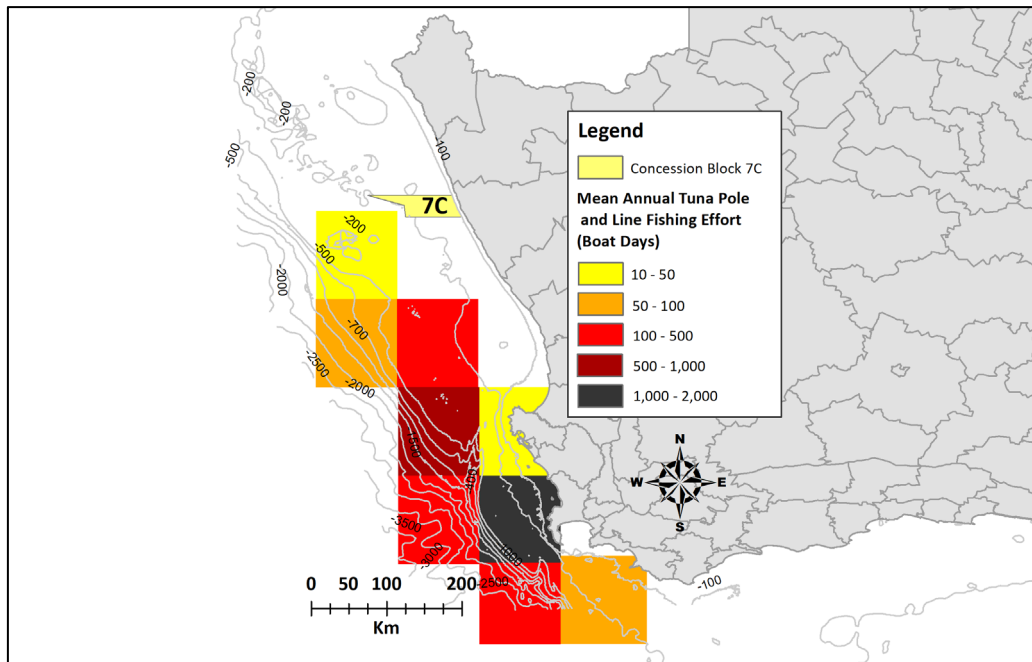


Figure 7.1 Mean annual tuna pole and linefishing effort (boat days) in relation to Concession Area 7C (Source: Norman et al. 2018).

Table 7-1 Impact rating of the prospecting activity on the Tuna Pole and Line fishery.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Low 1	Short-term 1	Very Low 3	Improbable	INSIGNIFICANT	-ve	High
No mitigation measures required								
With mitigation	Local 1	Low 1	Short-term 1	Very Low 3	Improbable	INSIGNIFICANT	-ve	High
Cumulative impact	Regional 2	Low 1	Long-term 3	Medium 6	Improbable	LOW	-ve	Low

7.1.2 Traditional Linefish Sector

Most (85%) subsistence fishers in South Africa employ traditional line fishing methods, which is generally considered labour intensive and associated to low revenue output (Brick & Hasson 2018). Linefishers operate in shallow water (generally <100 m depth) and would potentially be negatively impacted by coastal and nearshore seismic exploration, prospecting and mining operations (particularly recreational, small-scale and subsistence shore fishing). Traditional linefishers use simple handheld lines or rod with no more than 10 baited hooks per line, whereas the commercial linefishers use motorised boats and is managed by Total Applied Effort (TAE) (DAFF 2013). The traditional line fishing sector targets multiple species (up to 200 species) of which 95 species are commercially and recreationally significant (DAFF 2013). The line fisheries along the west coast (Line fish management Zone A - Orange River to Cape Infanta) mostly target the nomadic coastal migrant species, snoek

(*Thyrsites atun*) and yellowtail (*Seriola lalandi*), as well as the reef dwelling Hottentot Sea bream (*Pachymetopn blochii*). Snoek typically contributes the greatest catch by weight in the commercial line fisheries (total landings of up to 5 800 tonnes) (Kerwath *et al.* 2017). The management framework includes a comprehensive suite of line fish regulations including minimum size limits, daily bag limits, closed seasons, closed areas, commercial fishing bans for certain species and the capping of the commercial effort with zonal based Total Allowable Effort (TAE) (Kerwath *et al.* 2017).

Linefishers operate in shallow water (generally <100 m depth) and would potentially be negatively impacted by coastal and nearshore seismic exploration, prospecting and mining operations (particularly recreational, small scale and subsistence shore fishing). A spatial analysis of the reported commercial line fish catch data does show some overlap with traditional line fishing activity on the inner margin of the concession Area 7C (Figure 7.2). Overlapping partially to a single commercial line fish reporting grid block of 0.0044 tonnes where an annual average of 0.0031 tonnes of fish were landed between 2006 and 2011. This is equivalent to about 0.00003% of the national total catch. Furthermore, linefishing activities in Concession Area 7C will potentially only be affected by small temporary closures/exclusion zones around survey vessels and geotechnical survey sites during prospecting and the spatial scale and intensity of potential impacts on target species is expected to be insignificant in relation to their distributions and movement patterns. The socio-economic impact is assessed as ‘very low’ and ‘insignificant’ after recommended mitigation measures (Table 7-3).

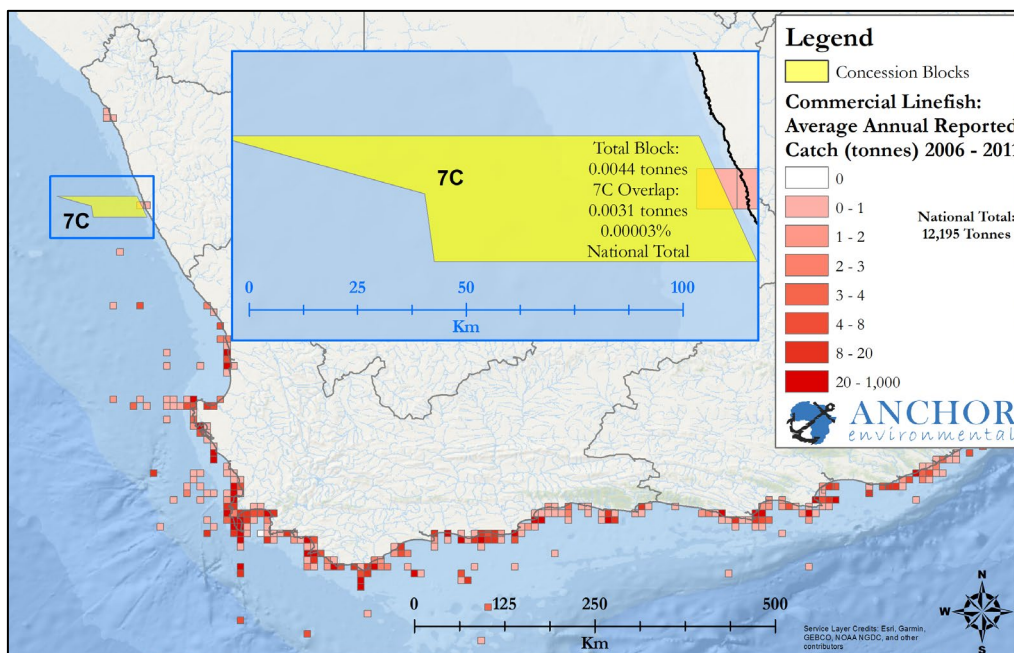


Figure 7.2 Reported annual commercial linefishing catch the calculated proportion of the average national total catch made within Concession Area 7C (Data source: DFFE).

Table 7-2 Impact rating of the proposed prospecting activity on the Traditional Linefish Sector.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Low 1	Short-term 1	Very Low 3	Probable	VERY LOW	-ve	High

Essential mitigation measures:

- Undertake surveys when fishing effort is lower (preferably outside of fishing seasons).
- Appoint a Fisheries Liaison Officer (FLO) to facilitate communication with the local fishing community. The FLO should report daily on vessel activity and respond and advise on action to be taken in the event of encountering fishing vessels in the survey area.

With mitigation	Local 1	Low 1	Short term 1	Very Low 3	Possible	INSIGNIFICANT	-ve	High
Cumulative impact	Regional 2	Medium 2	Long-term 3	Medium 7	Possible	LOW	-ve	Medium

7.1.3 West Coast Rock Lobster

Commercial west coast rock lobster, *Jasus lalandi*, fishing was historically concentrated along the South African West coast from the Namibian border to just east of Cape Point. Catch records prior to 1914 are sparse, but catches appear to have peaked in the period 1950 to 1965, when between 13 000 and 18 000 tons of lobster were landed annually. Different management measures have been introduced since 1933 including size limits, closed seasons, prohibition of landing berried females or soft-shell animals, and a TAC. Early management measures appeared to control catches until the mid-1960s, but in the late 1960s, catch rates began to decline, probably due to overfishing and quotas could not be filled. Decreases in the TAC to between 4 000 and 6 000 tons and the universal implementation of an 89 mm carapace length minimum size limit restored some balance in the period 1970/71 to 1989/90.

Commercial rock lobster fishing is now split into two sectors: a nearshore component that uses hoop nets deployed from small vessels and an offshore component that uses traps deployed from larger deck boats with greater than 1.5 tonne allocations. The offshore sector is not restricted to a particular fishing zone or area but is allowed to fish according to an agreed inter-area schedule. In the nearshore sector, right-holders may only use hoop nets and may not move between areas. Recreational permit holders may harvest four rock lobsters per day during season using hoop nets and poles, or by diving without the use of scuba.

Area or zonal allocations were introduced in the early 1980s. The 1990/91 season again saw catch rates dropping sharply as a result of a dramatic reduction in lobster somatic growth rates, which resulted in decreased recruitment to the lobster population above the minimum size limit. To maintain fishery stability and address concerns regarding increased discard mortality due to increased handling of undersized lobsters, the minimum size limit was reduced from 89 mm to 75 mm carapace length (CL) between the 1991/1992 and 1993/1994 fishing seasons and has remained unchanged since then. An OMP was implemented in 1997 with the aim of rebuilding stocks to 20% above the 1996 level by 2006. The commercial TAC was gradually reduced to 2000-3000 tonnes until 2012/13, and dramatically thereafter to around 1 000 tonnes in recent years (837 tonnes for the 2020/21 season). Despite this, there has been little evidence of recovery. The Operational Management Procedure (OMP) of 2011 aimed for a recovery of 35% over 2006 levels by 2021, which was less than the recovery target initially set for 2006. Results from an updated assessments in 2016 and 2018 indicate that the situation remained dire, and that further substantial cuts in TAC were necessary (DEFF 2020). To date, recovery targets have not been achieved due to a combination of environmental factors leading to poor recruitment, and increased fishing pressure due to the allocation of more inshore rights and illegal

fishing. The resource is currently assessed as heavily depleted with the biomass of male rock lobster above the minimum size limit estimated at only 1.8% of pristine biomass (DEFF 2020).

West Coast Rock Lobster is a nearshore, west coast species and any mining or prospecting activities that negatively impact the kelp bed and reef habitat required by this crustacean will further impact this depleted stock. Similar to line fishing, west coast rock lobster fishing constitutes an important economic activity for residents of Hondeklipbaai, where few other livelihood options exist. A map of allocated TAC by commercial right holder residential address shows that approximately 0.83% (2.5 tonnes) of the national near shore allocation (~300 tonnes) is held by right holders who reside in Hondeklipbaai (Figure 7.5). Additional complexity exists as, in addition to the commercial right holders, there are interim fishing rights given to people who were unable to receive a commercial fishing right and were involved in the industry for long periods of time, as well as people who will become right holders as part of a fishing community under the Small-Scale Fisheries policy. The total TAC for interim fishing rights holders nationally is a significant amount, totalling 554.4 tonnes, of which 305.7 tonnes is allocated to nearshore interim relief right holders and small-scale fishing right holders. Of this allocation, 39 tonnes are allocated to small scale fishers in the Northern Cape specifically. Information as to the exact distribution of these small-scale and interim relief lobster fishing rights is presently unavailable, hence it is not possible to quantify the full extent of lobster fishing in the Hondeklipbaai area. The total TAC allocation for all right holders in the vicinity of Hondeklipbaai is potentially higher than the commercial nearshore allocation shown in Figure 7.5, further emphasizing the importance of the fishery for people living in the area.

It is frequently the same fishers who target line fish and west coast rock lobster and as recommended above mutually acceptable mitigation measure to minimise potential impacts of the proposed prospecting on local fishers must be effectively implemented. It must, however, be noted that the prospecting activity will take place relatively far offshore (5 km) in sandy inner shelf habitat, as opposed to the inshore rocky-reef habitat that the lobster prefer. It is therefore highly unlikely that the proposed prospecting will have any significant impact on this fishery, and it is screened out of the assessment at commercial, small-scale, and interim relief levels.

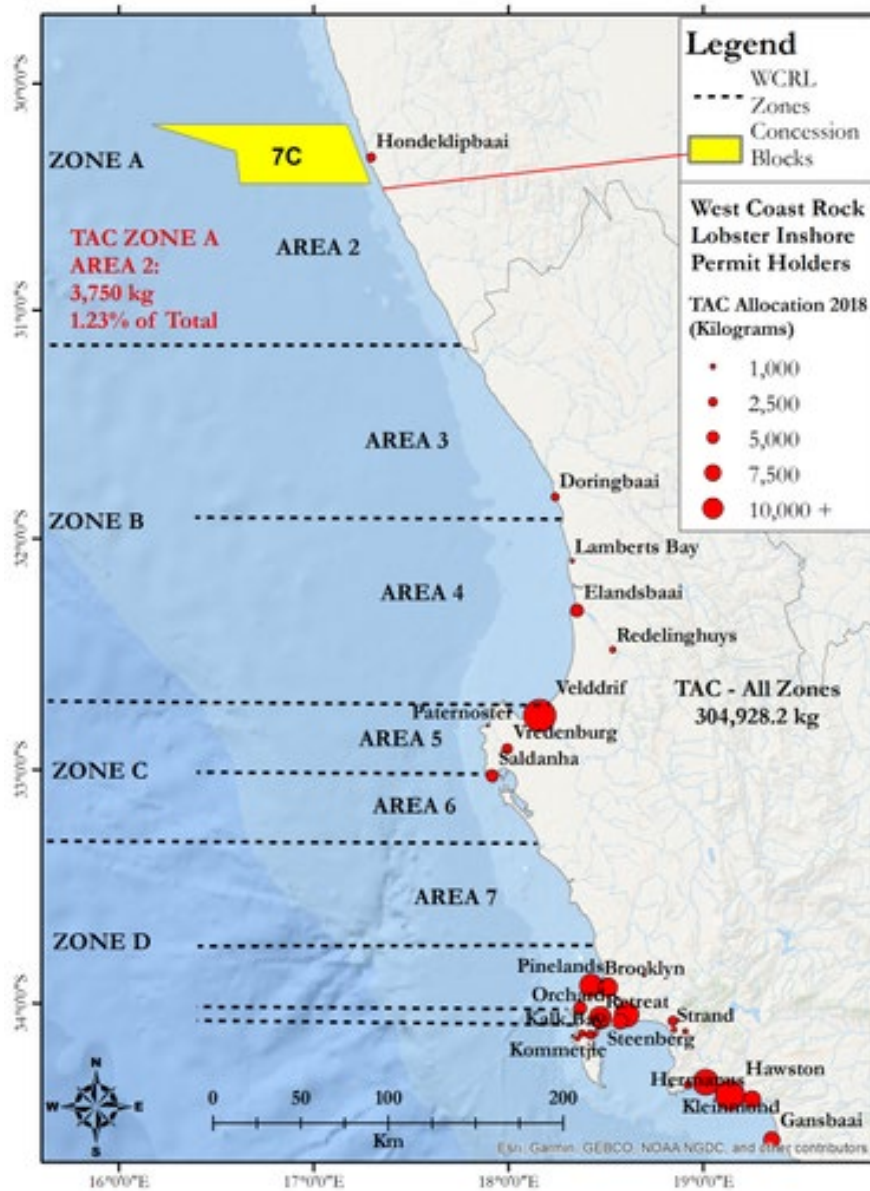


Figure 7.3 Map showing the proportion of the spatial distribution of quota in the west coast rock lobster nearshore sector by right holders given residential address (Source: DFFE, Fishing Right Register for all Commercial Fishing Sectors 2017).

7.2 TERTIARY SECTOR

The tertiary sector contributes the most to the Gross Value Added (GVA) within the Namakwa District Municipality (47.3%) followed by the primary sector (46.4), while the secondary sector (6.4%) contributed the least in 2018. Kamiesberg Municipality’s contribution to the GDP was from the following sectors, general government services (19.4%); community, social and personal services (18.1%); wholesale and retail trade, catering, and accommodation (14.3%). Other sectors such as finance, insurance real estate and business services (6.2%); construction (5.5%); manufacturing (3.3%); transport, storage, and communication (1.5%) and to a lesser extent electricity, gas and water (0.1%) contributes to the Kamiesberg Municipality’s economy (KM 2018).

7.2.1 Impact on Aquaculture

Aquaculture is an emerging industry that is vital to socioeconomic growth in south Africa contributing 0.8% of fish production which amounts to R0.7 billion (0.2%) to South Africa's GDP (DAFF 2016). Most of the aquaculture enterprises are found in Western Cape (56%) followed by Eastern Cape (17%) and all the other provinces including Northern Cape (3%) account for less than 10%. There is no known freshwater aquaculture in the Kamiesberg Municipality that are of significance. Freshwater aquaculture is tremendously restricted by the supply of suitable water. Very few areas may exploit freshwater fish in rivers and man-made impoundments for recreational purposes. This is due to limited number of aquaculture developments as the environment is extremely arid and hostile, having small villages scattered with distance ± 80 km between them. On the other hand, marine aquaculture or mariculture is far more established and include the farming of prawns, crabs, oysters and mussels (bivalves), finfish, abalone, kelp, and seaweed species. On the West Coast, sea-based mariculture is primarily occurring in Saldanha Bay, whilst land-based abalone farms are established at Jacobsbaai, Doringbaai and Kleinzee; oyster farming is also conducted at Kleinzee and abalone ranching takes place in four Northern Cape concession areas (three between Port Nolloth and Hondeklipbaai and one recently established at Doringbaai).

Kelp collection concessions are restricted to kelp beds or drift cast collected from the intertidal zone; these will not be impacted by prospecting activities 5km offshore and are thus screened out. Abalone *Haliotis midae* ranching occurs parallel to Concession 7C, along the coastline near Hondeklipbaai. Diamond Coast Abalone Pty Ltd is the abalone Ranching Right holder and activities take place in kelp beds in water predominantly shallower than 20 m, and mostly in water shallower than 5 m. The Abalone ranching activities should not, therefore, be impacted by the offshore prospecting activities and are screened out of this assessment.

7.2.2 Impact on Local Tourism and Businesses

The Namaqualand is recognised internationally as a global centre for plant, reptile and insect diversity and endemism. It is situated in the northwest corner of Southern Africa forming part of the larger Succulent Karoo biome. The Namaqualand is major tourist attraction region. However, it is more popular during the flower season. The Kamiesberg lies within the Namaqualand and is known for its natural and cultural heritage. Unfortunately, the municipality is faced with various challenges such as the lack of financial and human resources, the seasonality of tourism activity and a limited tourism infrastructure (KM 2021). The establishment of Small, Medium and Micro Enterprises (SMMEs) is one sector the municipality hopes to pursue and ensure its productivity to support the tourism economy in this area. The Kamiesberg Municipality has targeted three key areas to improve their tourism sector namely, The Uplands (mountainous land), The Plateau (midlands along the N7) and the Coast. These key areas will be promulgated through culture and heritage, arts and crafts, natural wonders and landscapes and tourism infrastructure.

Tourism in the Kamiesberg Municipality is an industry that has been identified as resilient sector for the future and, at present, is primarily based off people visiting the region to view the seasonal flowers between August and October. This flower season therefore leads to spending within at local accommodation and local shops and restaurants. There is also a small coastal tourism industry in the

town of Hondeklipbaai, which is the only coastal town in the municipal area. The small former diamond-diving village of Noup has also been converted into several guesthouses for tourists. The utilisation of Kamiesberg's coastal area for tourism has been identified as an under-developed industry by the local municipality, which represents a good sector for investment to aid in economic transformation away from industries such as land-based mining.

The potential impacts resulting from the prospecting activities on tourism in the area include the creation of sediment plumes which could discolour the water during the operational phase, resulting in an aesthetically unpleasing view for tourists. Presence of prospecting vessels offshore could also be visually displeasing for tourists. Since the concession only starts approximately 5 km offshore of Hondeklipbaai, these effects are likely to be negligible due to the distance from the beaches.

However, the impact on the tourism industry can be mitigated by not prospecting during important tourism events, such as during the flower season. Furthermore, due to the short duration of the prospecting activities, coupled with the localised disturbance to the sea floor, the potential impact of the proposed prospecting activity on Hondeklipbaai's operational success and the tourism industry is 'very low' and was reduced to 'insignificant' after mitigation measures are applied (Table 7-8).

Table 7-3 Impact of proposed prospecting on small business and tourism.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Medium 2	Short-term 1	Very Low 4	Probable	VERY LOW	-ve	Medium
Essential mitigation measures:								
<ul style="list-style-type: none"> • Monitor water-quality surrounding the sediment plumes. • Should any negative visual impacts be detectable, restrict prospecting activities during important tourism events and seasons. • Should any negative visual impacts be detectable, restrict operational activities to the section of the concession area out of sight from the shore. 								
With mitigation	Local 1	Low 1	Short term 1	Very Low 3	Improbable	INSIGNIFICANT	-ve	Medium
Cumulative impact	Regional 2	Low 1	Long-term 3	Medium 6	Possible	LOW	-ve	Low

7.2.3 Sense of place and Health and Wellbeing

Sense of place is defined as the emotional relationship that you feel or experience in a particular location or environment which can have either positive connotation (e.g., safety and well-being) or negative connotations (e.g., fear) (Foote & Azaryahu 2009). It can also refer to a distinct character of an environment (Foote & Azaryahu 2009). The residents and community in Hondeklipbaai have a spiritual connection to the ocean and have used this region for fishing for generations. The impact of the prospecting vessels may negatively impact all visible receptors (community and tourists) in Hondeklipbaai, which may affect the perceived tranquillity of the small coastal town. Due to the

location and temporary nature of the proposed prospecting, however, the potential impact of the proposed prospecting activity is insignificant with no mitigation measures required (Table 7-9).

Table 7-4 Impact of proposed prospecting on sense of place.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Low 1	Short-term 1	Very Low 3	Improbable	INSIGNIFICANT	-	High
Essential mitigation: Ensure that the local community in Hondeklipbaai are kept informed about the prospecting activities and the measure being taken to protect their local stretch of ocean.								
Cumulative impact	Regional 2	Low 1	Long-term 3	Medium 6	Improbable	LOW	-ve	Low

7.2.4 Local Households

The Hondeklipbaai community regard marine resource in the nearshore and offshore environment as extremely valuable for both their household income and livelihoods. For this reason, fisher group users of Concession Area 7C could be negatively impacted during the operational phase of the TAD prospecting project (approximately 70 days). However, due to the offshore location of the concession area and minimal overlap with local fisheries the impact on local households is considered 'Very Low' with impacts 'Improbable' (< 40% chance of occurring) (Table 7-11).

Table 7-5 Impact of proposed prospecting on local households.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Low 1	Short-term 1	Very Low 3	Improbable	INSIGNIFICANT	-ve	High
No mitigation measures required								
Cumulative impact	Regional 2	Low 1	Long-term 3	Medium 6	Improbable	LOW	-ve	Low

7.2.5 Local Crime

The most prevalent forms of crime within the KLM include contact and property related crimes, such as burglary, assault, theft, domestic violence, and malicious damage to property. The proposed prospecting will occur offshore at sea, crew members will not be able to come ashore and therefore the risk of an increase in the level of crime is, negligible and this impact was therefore SCOPED OUT of the assessment.

7.3 POTENTIAL POSITIVE IMPACTS

7.3.1 Economic Performance (Local and Regional)

Mining is economically important as it can create broad scale employment opportunities and boost the national and local economy. Little is known about the local development plans of existing mines in terms of provision of employment opportunities to the locals in the surrounding towns. Should prospecting reveal an economically viable resource and the project proceed to production phase, TAD guarantees and will make provision of 30 employment opportunities. Many of these positions will likely be filled directly from within the surrounding communities. If required skills are not available locally, training could be provided (Table 7-15). Training opportunities will be available for people with several types and levels of skills. The potential impact on the socio-economic performance is, however, likely to be insignificant on a local scale (Table 7-16).

Conversely, investment from TAD in South Africa will have a greater positive impact on the regional economy. TAD should aim to incorporate codes of good practice on Broad Based Black Economic Empowerment issued under Section 9 of the Broad Based Black Economic Empowerment Act, Act 53 of 2003, as amended by Act 46 of 2013. Therefore, the following resource support aims are recommended:

- At least 25% from cost of sales, excluding labour cost and depreciation, must be procured from local producers or local suppliers in South Africa.
- 50% of jobs created are for people of colour, and B-BBEE measurements must be maintained. Employment opportunities that could be fulfilled:
 - Employment of local security companies.
 - Employment allocated to port duties
 - If feasible, employment of local small-scale fishers' vessels as support vessels during survey operations.
 - Employment of local or national geologists, a vessel manager, captain, crew members, scientists etc.
- At least 25% transformation of raw material or beneficiation which includes local manufacturing, production and/or assembly, and/or packaging, or at least 85% of labour costs paid to South African employees by service industry organizations
 - Prospecting equipment can be sourced within South Africa or neighbouring communities.
- Skills transfer – Training opportunities:
 - Environmental officers
 - Health and Safety Officers
 - Marine Mammal Observers (MMO's) and Passive Acoustic Monitoring (PAM) operators
 - General crew/ deck member
 - Commercial divers to help with surveys

Table 7-6 Personnel requirement for the operational phase (mining) of the TAD project.

Personnel requirements	Department	Position	Community Sourced	Training
Ship's Crew	Nautical	Deckhands	3	3
	Engineer	Electrician	1	0
		Greaser	2	1
	Catering	Chief Cook	1	0
		Assistant Cook	2	2
		Steward(ess)	4	4
Operation Crew	Plant	Plant operators	4	2
		Chief sorter	1	0
		Sorters	3	3
		Storeman	1	1
	General	Boiler Maker	1	0
		Welder	2	0
		Mine Helper	2	0
Total			27	16

Table 7-7 Impact rating of the prospecting activity on the local and regional socio-economic performance.

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	Local 1	Medium 2	Short-term 1	Very Low 4	Possible	INSIGNIFICANT	+ve	Medium
No mitigation measures required								
Cumulative impact	Regional 2	Medium 2	Long-term 3	High 7	Possible	MEDIUM	+ve	Low

8 CONCLUSIONS AND RECOMMENDATIONS

The potential negative socio-economic impacts of prospecting in concession 7C are anticipated to be very low for both the primary and tertiary sector services (fishing, tourism etc.). Positive impacts associated with the proposed prospecting activities are limited but will likely result from employment opportunities and skills development programs should the project proceed to the production phase.

AEC were requested to undertake a socio-economic assessment for TAD who are applying for a diamond prospecting right to prospect for diamonds and other gemstones and metals in Sea Concession Area 7C. This area covers 200 246 ha and extends from 12 km south to 19 km north approximately 5km offshore of Hondeklipbaai. The proposed prospecting activity is anticipated to directly impact coastal communities in the Kamiesberg Municipality, particularly Hondeklipbaai and Koinaas. A brief overview of the economic performance was discussed and placed in relation to the potential impacts associated to the proposed survey area. The likelihood of the proposed survey to impact the socio-economic standing of areas adjacent to concession area 7C was rated, and the significance of impacts were reported on. Important user groups were identified and potential impacts from the proposed exploration and prospecting activities were identified. Impacts were assessed and, where possible, compensation and mitigation measures have been identified to avoid/minimise/reduce any impacts.

Negative potential impacts associated with the proposed activities are mostly assessed as Very Low significance. After mitigation measures were applied, negative potential impacts associated with the proposed activities were reduced to Insignificant. Potential impacts associated to the seismic survey and sampling/prospecting activities were identified as: Temporary disturbance of marine resources and exclusion of fishing vessels from the immediate vicinity of the survey vessel during operations, potentially impacting fisher group users (i.e., 1) Tuna pole and line; 2) Traditional linefish sector; 3) Impact on small businesses (aquaculture) and local tourism; 4) Impact on Sense of place and Health and Wellbeing; and 5) Impact on local households. The five impacts may negatively affect the livelihoods and household income of marine fisheries group. Although, these potential impacts associated to the proposed prospecting activity are of very low significance, it should be emphasized that the influence regarding the decision on the application of the proposed prospecting activity should take into account the poor economic performance of the nearby coastal communities' particularly those with high dependence on marine resources to support household income and livelihoods.

To mitigate against the potential prospecting impacts, it is recommended that mitigation measures and communication protocols must be further developed in consultation with local stakeholders so that effective and mutually acceptable mitigation measures can be implemented during seismic survey, prospecting and future mining phase activities. Communication protocols should inform on all prospecting activities including timelines and impacts. A "living framework" such as a Monitoring and Evaluation Plan (M&EP) for identifying, monitoring, assessing, and evaluating TAD Corporate Social Responsibility (e.g., employment and training opportunities) and socio-economic impacts should be developed. This framework should be developed with IAPs and surrounding community representatives that are potentially impacted by the TAD prospecting project. Adherence to the M&EP is necessary to ensure that socio-economic deliverable is met. In addition, TAD should aim to incorporate codes of good practice on Broad Based Black Economic Empowerment issued under the section 9 of the Broad Based Black Economic Empowerment Act, Act 53 of 2003, as amended by Act

46 of 2013. This will include skills transfer programmes, job creation, and supporting local service industry organizations such manufacturing, production and/or packaging services.

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