LOCAL ECONOMIC DEVELOPMENT IN THE CONTEXT OF MINE DOWNSCALING: THE CASE OF ORKNEY, NORTH WEST PROVINCE, SOUTH AFRICA

BY

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DECLARATION

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Tlhopane Nthatisi

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ABSTRACT

The discovery of minerals such as gold, diamond, copper, etc. in the 1800s has set the development trajectory of South Africa on an upswing. The dawn of mining as an economic activity resulted in mass migration to areas with rich mineral deposits, which was followed by the establishment of settlements and industrialisation of the sector. Over the years, the mining sector has firmly entrenched itself as the backbone of the South African economy. The mining industry is responsible for the creation of mass job and economic opportunities across the various towns and cities that it operates in. Tied to economic opportunities, mining played a significant part in the social upliftment of communities by providing social housing, skill and empowerment programmes, recreational facilities, etc. At the height of its existence, the mining industry was a darling to the community, the government and civil society to a point that it was a prominent figure shaping the development trajectory of the state. However, as the mineral deposits and reserves started to decrease and downscaling of mining activities across various towns and cities was evident, the relationship between the mining sector and the general populace of South Africa deteriorated. This was a result of massive job losses, the emergence of social ills such as poverty, crime, and substance abuse due to the withdrawal of mine operations and related declines in economic opportunities. This study aims to explore the local economic development interventions that the various stakeholders in the Greater Orkney area have adopted to resuscitate its local economy in light of continuing mine closures. This will look at programmes, plans, actions and roles that the various stakeholders have implemented to curb the negative social and economic impacts of mine closures. The research findings will inform policy discussions and programmes relating to local economic development to mitigate the effects of mine closures.

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CHAPTER 1: INTRODUCTION

1.1. Introduction

The mining sector has a rich and complicated history globally. Since the dawn of civilisation, the global society has evolved and integrated mining as its form of production and economic activity (Leonard, 2008). It is recorded that in 1848 during the California gold rush, 300 000 people flocked to California in search of economic opportunities (Leonard, 2008). To this effect, mining has become one of the most critical industries of the world and has contributed to the enhancement of the social and economic standards of the respective regions of the globe.

Since its inception in the 1800s, the mining sector has entrenched itself as an integral part of the South African economy (The Mineral Counci of South Africa, 2019). In 2018, the mining sector contributed 7% (R350 billion) to the South African economy (The Mineral Counci of South Africa, 2019). In the same year, the sector employed 453 543 people (The Mineral Counci of South Africa, 2019). With an estimated 60% of the sector's procurement spend being accrued to black economic empowerment suppliers (Liedtke, 2018), mining serves as a key partner and contributor to the South African transformational agenda.

Of late, the sector has been dubbed a 'sunset' industry. This is as a result of a recorded and constant decline in mineral commodities. According to Statistics South Africa (2015), South African coal reserves are projected to be exhausted in 120 years, while the platinum group metals are set for depletion in 240 years. Major mining giants are downscaling, closing down exploration sites and laying off employees. In the second quarter of 2018, the mining sector in South Africa shed 16 000 jobs (Magubane, 2018). According to Statistics South Africa (2018), the economic output of the sector has declined from 21% contribution to the GDP in 1980, to 7% in 2018 (Statistics South Africa, 2018)

The above is further exacerbated by a dynamic and complex operational setting characterised by rigid regulations, environmental considerations, social concerns, labour market pressures, rising input costs, etc. (Mineral Council of South Africa, 2019). With the prospects of the mining sector being negative, questions are raised from a policy response perspective. What is to become of the local economy in which the mining sector was the primary driver?

1.2. Problem statement

Mine downscaling and closures are characterised by major adverse impacts on the social and economic settings of the affected localities, such as job losses, emergence of ghost towns, social degeneration, and so forth. The primary literature focus has been on the impact and responses to the social and environmental aspects. The literature on local economic responses within the context of mine down-scaling is limited. Secondly, there is a gap and varying perspectives on how the various stakeholders ought to respond in resuscitating the local economy of a declining mining town/city. In line with Costa (2015), mine closure plans should have a strong foundation that seeks to stimulate and drive different engines of the economy such as agriculture, tourism, etc. Anecdotal literature provides evidence as to which economic opportunities were pursued at some of the left-over mine infrastructure and property. According to United Nations Development Programme (2018) old slimes dams and sand dumps in the Vaal area were transformed from being environmental hazards to economic assets to which joint ventures were formed to harvest the remaining gold particles.

Local economic development is therefore critical in providing appropriate economic policy responses. This will provide the opportunity for various stakeholders to partner and collaborate in shaping the future and prosperity of the relevant locality.

1.3. Research aim

This study explores the local economic development interventions that the various stakeholders in the Greater Orkney area have adopted to revitalise its local economy in light of continuing mine closures. This will look at programmes, plans, actions and roles that the various stakeholders have implemented to curb the negative social and economic impacts of mine closures. The research findings will inform the policy discussions and programmes relating to local economic development to mitigate the effects of mine closures.

1.4. Research objectives

The objectives of the study are as follows:

- To elaborate on mining areas and mine closures within an international context;
- To contextualise mine closures in policy discussions;
- To establish the various local economic development interventions undertaken in response to the declining mining activity in the area; and
- To propose recommendations to enhance local economic development in response to mine closures.

1.5. Research methodology

The study was undertaken in the Orkney, a town in the City of Matlosana Municipality, Dr Kenneth Kaunda District Municipality, North West province, Republic of South Africa. The research undertook an exemplifying case study design (Bryman, 2012) concerned with the contemporary phenomenon of mine closures within a real-life context of the Greater Orkney community.

The sections below will outline the research strategy focusing on the methods, approach, data collection tools, sampling techniques, data analysis methods and ethical considerations.

1.5.1. Methods

The research method for this study was be qualitative. Maree (2018) defines qualitative research as a composite of the following distinguishing features, i) reliance on linguistic and meaning in its approach, ii) focus on the natural settings in understanding a phenomenon and iii) focus on exploratory research questions to comprehend the social settings and interactions. Furthermore, (Bryman, 2012) states that qualitative research is ideal as it is able to provide textual descriptions of interactions between humans and the social/economic phenomenon.

The above is important as this research study investigated the phenomenon of mine closures within the context of a complex social and economic setting of Orkney locality. Research participants included individuals and institutions with wide ranging views, experiences and orientations. This ensured that the study establishes how participants make sense (meanings of experiences, circumstances and situations) of their social and economic settings within the

context of mine closures. Furthermore, qualitative research is flexible in its application of the scope, especially when interacting with participants.

The researcher was mindful of the limitations of this approach. According to Bryman (2012), the outcomes of qualitative research may be perceived as unreliable and not representative of opinions of the wider population. This is attributed to the small sample size, personal judgements and interpretations that are common in the qualitative research approach (Bryman, 2012). Bryman (2012) further states that qualitative research is difficult to replicate as it is unstructured and by large is reliant on the researcher's ingenuity. The researcher's age, personality, gender, etc. may influence bias towards certain observations (Bryman, 2012). This would therefore require that the researcher be mindful and exercise caution in passing shallow judgements and assertions.

1.5.2. Data collection method and tools

There are numerous qualitative research methods available, however, the most common are participant observation, in-depth interviews and focus groups (Maree, 2018). Each of these methods is particularly designed and suited for obtaining specific data. For the purpose of this research, two types of qualitative research methods for data collection were used, which are i) documents or textual data, and ii) in-depth interviews. When it comes to documents or textual data, this was made up of integrated development plans, reports, social and labour plans, community social responsibility programmes and related records. In collecting primary data for this study, in-depth interviews were conducted with a sample of respondents by making use of a interview schedule. In-depth interviews allowed the researcher liberty to probe and discuss the key issues with the participants. This encouraged two-way communication and was not intrusive (Maree, 2018).

This was very ideal for the study as complex and sensitive issues were unpacked and interpreted comprehensively. The main advantage of in-depth interviews is that they are personal and direct with the respondents. This allowed the respondents to express viewpoints and opinions unhindered. It is through this interaction and flow that new and emerging perspectives of the research study were generated; it also helped in addressing the non-response rates (Bryman, 2012).

As a data-collection tool, interview schedules were developed and used as a guide to the researcher. The interview schedule consisted of a number of open-ended questions to solicit

views and responses from the interviewee. The questions were drafted to cover the key aspects and themes of the study aims. The questions were asked by the researcher to the interviewee and the responses were captured electronically and notes taken. The researcher also probed the interviewee to solicit more information and elaborate on key comments/inputs made from the responses. Taking into consideration that the sample units (business community, local community, government officials, etc.) will represent various grouping and interest, the interview schedule was adjusted to respond to the respective sample unit and grouping.

The study also reviewed published documentation such as reports, policies, strategies, development plans, sectoral plans, etc. to draw data to inform the research process, interviews and findings. The research establish a criterion in selecting documents, the overarching criteria applied was relevance to the research topic. This was tested by establishing keywords and themes relating to the research question and selecting documents with such themes and key words, i.e. local economic development, growth and development strategy, mine closures, sustainable mine cities, spatial development, integrated development plan, economic revitalisation, etc. The documents were arranged and summarised to establish its purpose, main points, publication date, target audience, etc.

1.5.3. Sample selection

The study adopted a purposive sampling strategy, therefore, participants in the study were identified and selected in accordance with the theme and aspects of the study, i.e. local economic development, town planning, business associations, etc. Purposive sampling falls under the category of non-probability sampling techniques; sample units are selected on the basis of their knowledge, relationships and expertise regarding a research subject (Freedman *et al.,* 2007).

The focus was therefore on individuals and institutions that were likely to have insight, experience and interest in the research topic. This will included the following:

- Municipal local economic development officials;
- Town and regional planners;
- Independent economic development consultants;
- Business community members;
- Journalist/lobby groups;

- Mine officials responsible for social and labour plans; etc.

The researcher undertook an electronic search to compile a list with contact details of institutions that mirror the above requirements. This was followed by a direct request to the identified person to an interview. This was done through a combination of electronic mail and short messaging services. The individuals were listed and categorised in accordance to the relevant interest group. The researcher also used publications and documents as a source of interviewees. Individuals and institutions cited in various documents and publication collected were identified and contacted to request interviews.

The study also considered and undertook snowball sampling. Snowball sampling is whereby the initial participants identified for the study refer the researcher to other individuals, groupings and institutions that could be relevant and interested in contributing to the research study (Bryman, 2012). To achieve this, the researcher at the end of the interview asked the interviewer if there was particular individual/s and institution/s to consider interviewing.

1.5.4. Data analysis

Qualitative research data gathered from interviews usually takes the form of unstructured textual material, which is not easy to analyse. Given the nature of this research study, a large amount of data was collected from interview transcripts, notes and documents. As such, to analyse and interpret the data collected, the study adopted the thematic analysis approach as a data analysis approach. The researcher was cognisant of the fact that the thematic analysis approach is an underdeveloped procedure and therefore there are no clearly set guidelines (Bryman, 2012). Thematic analysis is the identification of categories from the data received by the researcher that relate to the study objectives (Bryman, 2012). According to Bryman (2012) it builds on codes identified in the transcripts and a theoretical framework for interpreting and understanding the research data.

Bryman (2012) states that one of the general strategies adopted in thematic analysis is the use of a framework. The framework is defined as “matrix based method for ordering and synthesizing data” (Ritchie *et al*., 219). This allows for central themes and sub-themes to be established and linked to the data (Bryman, 2012). While the framework for thematic analysis provides a guide on managing themes and data, it does not guide the researcher on how to

identify themes. To this effect, Ryna and Bernard recommend the following in identifying themes:

- Look out for repetitions of key topics;
- Expressions that are unique to a locality and/or setting;
- Linguistic connectors for possible causal effects;
- Theory-related material; and
- Way in which participants present their thoughts in terms of metaphors, etc.

Taking into consideration the above characteristics of thematic analysis, the researcher undertook the following steps in analysis the data:

Step 1: Familiarisations and coding

The researcher read and acquainted himself with data (transcripts, notes, documents, etc) that has been collected. From this exercise, the researcher would get a better sense of the data and coded certain portions of the data.

Step 2: Evaluation and setting of codes into themes

At stage 2, the research interrogated the coded data and established common elements that can be classified into themes. At this stage, the researcher referred the relevant literature and linked it up with crucial issues with the identified codes. Based on confirming the various elements of the codes and relevant literature, the researcher established the relevant themes and sub-themes. The researcher used NVivo software to transcript the data, cross-check and validation the identification of themes.

Step 3: Explaining the themes and sub-themes

At stage 3, the researcher expanded and described the themes in relation to the study objectives. This ensured that the themes tie up with the research objectives. This included drawing inferences about the themes, their inter-connectedness with the literature, research topic and implications.

1.5.5. Ethical consideration

Debates relating to ethics and social research have been ongoing since the 1960s. The debates are complex and vary in terms of interpretation and determination over what is or is not ethically acceptable. However, as observed in Bryman (2012), Diener and Cvandall (1978) have proposed the following ethical considerations and principles that are widely accepted:

- No harm to participants

All elements that may pose both physical and emotional harm need to be guarded against and eliminated from the research process and design. Bryman (2012) cautions that it may not be possible to identify all circumstances that may constitute harm; however, the onus is on the researcher to put in place measures to mitigate any risk of harm.

For this study, the researcher put the following measures in place in mitigation of physical and emotional harm: i) all interviews were conducted at public places, workplaces and some via the Zoom platform. Further to this, interviews were conducted during the normal business hours of 08:00 to 17:00; ii) Identities, records and data provided by the interviewee were kept confidential and used solely for the purpose of the study. This was supported by the researcher signing a confidentiality form; iii) While the study used electronic devices to record responses, the interviewee names and addresses were not stored onto the devices.

- Informed consent

Participants in a research study need to be fully aware and comprehend the nature, intent and implications of partaking in a research study. As such, the researcher developed a consent form that participant were requested to sign. This allowed the participant to assess and decide on whether to participate in the research study or not. Given the nature of the qualitative research design that is not predictive in terms of the gravity of the issues that may be covered in the interview process, the researcher developed a question sample sheet to serve as an indication of the kind of issues that will be dealt with during the interview. However, the challenge with requesting participants to sign informed consent forms is that they may refuse to get involved (Bryman, 2012). This was mitigated by requesting a verbal consent, which was recorded.

- No invasion of privacy

Privacy is one of the fundamental human rights. As such, research studies should avoid covert methods that will compromise the privacy of participants. Covert methods are violations and/or practices that deny the participants the opportunity to decline answering questions that they may feel are an invasion of their privacy (Bryman, 2012). As such, anonymity and privacy of the participants will be respected. This will be applicable to the recording, storing and publication of the research results.

All participants were asked whether they have any objection in their identity being revealed in the research results. On the basis of the responses, the researcher duly obliged. Further to this, participants were be afforded an opportunity to decline to respond to questions that they feel are an invasion of their privacy.

- No deception

Deception is when the researcher presents a research study to participants as something other than what it is. The researcher for this study will therefore not be deceptive to the participants. The researcher requested interviews in a standard format in which the aim and purpose of the study were clearly mapped out. This was also supported by the question sample sheet, which outlined the key thematic areas that will be dealt with. Furthermore, the participants were informed that, should they feel that the interviews were taking a different direction from the intended and communicated purpose, they had the right to request that the interview be stopped, including total withdrawal from the research process.

Ethical issues cannot be ignored due to their link with integrity of the study (Bryman, 2012). As such, the researcher implored all effort and consideration to maintain the integrity of the research study.

1.6. Conclusion

This study therefore aims to explore the Local Economic Development interventions that the various stakeholders in the Greater Orkney area have adopted to revitalize its local economy considering the continuing mine closures. The introduction outlined the objectives, methodology, collection methods, and analysis of the study. Ethical considerations were also highlighted. Chapter two that follows will then use literature to elaborate on how local economic development support mining downscaling on an international perspective as well as in South Africa. And lastly introducing the case of Greater Orkney.

CHAPTER 2: LITERATURE REVIEW

2.1. Local economic development

2.1.1. Global context

Local economic development has been globally adopted as an approach to alleviate poverty, create job opportunities, promote local investment, etc. at a local level (Vosloo, 1998) LED focuses on the local strengths and challenges while supporting national policy imperatives. While national governments set out the macro-economic policies for their respective countries, it is through local authorities that economic activities take place. This is a result of towns and cities increasingly becoming engines of growth and development (Vosloo, 1998).

The concept of local economic development was borne out of the need of local authorities to step up and take responsibility for developing their own economic development programmes. LED as a concept and approach is described "*as a process where responsible parties formulate, with broad objective, to create employment opportunities and stimulate economic activity. The responsible parties involved in LED are usually represented in partnership between local governments, community based groups and the private sector*" (Vosloo, 1998, p. 7)

LED is defined "*as an integrated set of local initiatives through local government and/or community based groups in partnership agreements with the private sector*" (Vosloo, 1998, p. 7) The aim of LED is to "*restructure local economies in reaction to the changing National and International economies by mobilizing human, physical, institution and economic resources and public, private or community-based comparative advantages; to enhance development opportunity, employment options and quality of life*" (Vosloo, 1998, p. 8). The World Bank 2002 further defines LED as "*local people working together to achieve sustainable economic growth that brings economic benefits and quality of life improvements for all in the community*".

Local economic development ought to be positioned in a way that it stimulates local employment based on viable sectors and based on existing human, natural and institutional resources. Zaijev and Sara (1993, p.129) in Nel (2001) define LED as "*a process in which local government and/or community-based groups manage their existing resources and enter into partnership arrangements with the private sector, or with each other to create new jobs and stimulate economic activity in an economic area*."

This study will adopt the definition of Vosloo as it is broad in classifying the stakeholders involved in LED compared to the World Bank's definition, which implies that only local people are responsible for LED. Furthermore, the definition by Vosloo highlights the need of a partnership to achieve the objectives of LED, thereby implying that a dialogue agreement among various role players is required.

Binns and Nel (2002) further state that local economic development is conceptualised on two levels, namely i) the formal level, which is made up of local and higher authority structures and institutions involved with the formal business; and ii) the informal, which is made up of community-based organisations, non-governmental organisations, etc. Costa (2015) adds that the key aspects of local economic development principles re stakeholder consultation and engagement aimed at understanding the concerns and expectations of the workforce and local community. The consultation and engagement process should seek to understand the interests and expectations of the local workforce, community and generate inputs for the development of economic alternatives.

The above, emphasises the importance of partnerships in local economic development (Rogerson, 2012) and ensures that cohesion and ownership in the identification and implementation of projects that include both the formal and informal economy. Heymans (2003) further lists the following as drivers to effective local economic development:

- Local leadership,
- Will of the local stakeholders,
- Commitment to a vision of success, and
- Effective mobilisation and participation of key stakeholders in the LED planning and implementation process

2.1.1.1. Role players in local economic development

Different stakeholders in the varied localities have become proactive in the development of their immediate area. This brings about the question of who leads and drives the local economic development process. Vosloo (1998) advocates that the local development process will benefit immensely from the influence of the local authority, power and access to resources, while the private sector will bring dynamism, capacity and competency. Therefore, each and every stakeholder has a contribution to make to local economic development in order to have meaningful success. However, Vosloo (1998) cautions that the local economic development

process should not be concentrated in either the private or public sector, but should rather strive for a balanced determination of roles and responsibilities of all role players.

The role and collaboration between the local authorities with their respective communities and business sector continue to dominate policy and governance discourse (Larnell, 2018). To this effect, various frameworks and models have been proposed, such as the iron triangles, private public partnerships, policy networks, etc (Larnell, 2018).

2.1.1.2. Why local economic development?

Local economic development builds the capacity of a local area to enhance the economic future and the quality of life for its population Organisation for Economic Development Cooperation and Development (2016). It makes an essential contribution to the overall national economic growth and of late has become more critical in light of increased global competition, population mobility, technological advances, and consequential spatial differences and imbalances Organisation for Economic Development Cooperation and Development (2016). Local economic development reduces regional disparities through the creation of locally generated jobs and firms Organisation for Economic Development Cooperation and Development (2016). Local economic development drives overall private sector investment, and promotes the flow of information between investors and developers Organisation for Economic Development Cooperation and Development (2016).

A strong local economy enables the local authority to raise their revenue through the collection of taxes from business activities and residents (Twyla, 2018). The taxes add to the revenue collection of the local authority, which can be used to provide higher quality of municipal services that result in an increase in property values, investment attractiveness, high capita income, etc. Larnell (2018) proposes that local authorities should focus their efforts on improving their labour force, development and maintaining the economic infrastructure and provision of public services.

Economic infrastructure is basic facilities and services that directly benefit the process of production and distribution of goods and services, i.e. water, transport systems, information and communication technology, etc. (Fourie, 2006). An emphasis ought to be on building the relationship between communities, government and the business sector in the development process that affects their livelihoods.

2.1.2. Local context

The historical context of South Africa has contributed to an unbalanced social and economic discourse. The majority of the South African population across the country are not benefiting from the gains of democracy (Lombard, 2011). According to Statistics South Africa, the conservative unemployment rate stood at 32% in the first quarter of 2021, while the broad unemployment rate stood at 43% (Statistics South Africa, 2021). Widespread poverty and lack of access to basic services are a common factor for the majority of the communities dotted across South Africa.

Following the democratic transition of South Africa in 1994, the new government led by the African National Congress (ANC) set out to address the injustices of the past. This primarily included the eradication of poverty, unemployment and inequality (Lombard, 2011). To address the development challenges identified, the South African economy needs to grow at a rate of 6 to 11% per annum (National Planning Commission, 2012). This would therefore imply that a robust macro-economic policy and action plan be put in place and implemented to drive the related economic growth targets.

Macro-economic policy is an economic growth framework and plan of a country. It is focused on increasing the gross domestic product (GDP) output of the country by maximising the production of goods and/or services, increasing its trade of commodities and exports, etc. (Smith, 2014). Smith (2014) states that as the GDP output of the country increases, the greater the economic opportunities and prosperity (jobs, small business, skills development, etc) for the locals will be. This therefore results in greater access to quality basic services such water, education, sanitation, health, etc.

In the past 26 years, South Africa has introduced a flurry of macro-economic policies in efforts to build the South African economic base, attract foreign direct investment and strategically position itself as a global and regional trade partner (Ferreira & Rossouw, 2016). These economic policies include the Reconstruction and Development Programme (RDP), the Growth, Employment and Redistribution (GEAR), the Accelerated Shared Growth Initiative of South Africa (ASGISA) and recently the National Development Plan (NDP).

In the 26 years of implementing the said policies, South Africa has relatively managed to increase its production capacity, establish competitiveness in certain industry/sectors, i.e. mining, agriculture and tourism, and lift a significant number of people out of poverty through the provision of basic services and the social grant programme (Ferreira & Rossouw, 2016).

The journey has, however, been characterised by a number of challenges relating to a dislocated society, unskilled labour force, sporadic increase of informal settlements and related poor living conditions (Ferreira & Rossouw, 2016).

2.1.2.1. South African governance and institutional framework

South Africa operates under a three-sphere governance and institutional framework whereby each level of governance has a distinct but interdependent and interrelated role and responsibility (South African Government, 2021). Under this framework, the national government primarily provides policy leadership and guidance on a specific subject/s and/or mandate/s, while the provincial and local governments execute the mandate as set out by the national government (South African Government, 2021). The framework allows the provincial and local government to design their own administrative and legislative frameworks to drive the national mandate (South African Government, 2021). An allowance is made for exclusive and concurrent functions for the respective spheres of government.

Concurrent functions include policy-making, legislation, implementation, monitoring and performance assessment (National Treasury, 2008). Functions such as school education, health services, social welfare services, housing and agriculture are shared between national and provincial governments (National Treasury, 2008). In such cases, the national government is responsible for providing leadership, formulating policy, determining the regulatory framework, setting minimum norms and standards, and monitoring overall implementation by provincial governments (National Treasury, 2008). Provinces and local governments, in turn, focus mainly on implementation programmes in line with the national mandate (National Treasury, 2008). This results in provincial and local government spheres being allocated significantly larger budgets compared to national departments (National Treasury, 2008).

The exclusive functions of the national government include national defence, the criminal justice system, higher education, provision of water and energy resources and administrative functions such as home affairs and collection of national taxes (National Treasury, 2008). The exclusive functions for provinces and local government include provincial and local roads, ambulance services, provincial and local development planning (National Treasury, 2008).

The national, provincial and local spheres of government are required to function in unionism and in an integrated manner to seek and address issues of poverty, inequality and unemployment (Garidzirai, Meyer, & Muzindutsi, 2019). At the centre of this intergovernmental system is the local government. By virtue of its proximity to communities and provision of a

wide range of basic services, the local government sphere is posed as an important enabler for development in South Africa (Education and Training Unit for Democracy and Development, 2011).

The local government in South Africa is divided into three categories, namely metropolitan (category A), local municipality (category B) and district municipality (category C) (University of Pretoria, nd.). Category A municipalities have exclusive executive and legislative mandates of their respective areas, while categories B and C share the authority (University of Pretoria, nd.). In accordance with section 153 of the South African Constitution, municipalities should design and roll out economic development programmes and projects in their respective areas (University of Pretoria, nd.).

2.1.2.2. Local economic development in South Africa

The dawn of democracy and the establishment of a representative government came with a renewed hope of prosperity and better life for all. To this end, the concept of local economic development was introduced as a key theme of the South Africa developmental agenda (South African Department of Local Government, 2006). Under the local economic development concept, local municipalities are positioned as the key institutions to steer the development trajectory of South Africa (South African Department of Local Government, 2006).

Following the local government elections in 2000, the concept of local economic development started to entrench itself as a development approach in South Africa (South African Department of Local Government, 2006). This was as a result of the majority of the land in South Africa falling under the jurisdiction of municipalities (South African Local Government Association, 2017). Under the Local Government Municipal Systems Act of 2000, local municipalities are required to develop local economic strategies as part of their five-year integrated planning process (South African Department of Local Government, 2006). The Local Government Municipal System Act of 2000 is further supported by the local economic development guidelines for institutional arrangements published in 2000 and the 2002 draft local economic development policy, which focused on pro-poor development (South African Department of Local Government, 2006). The then Minister of Department of Provincial and Local Government defined local economic development ‘as *an outcome based local initiative which is driven by local stakeholders. It involves identifying and using primarily local resources,*

ideas, and skills to stimulate economic growth and development.' (South African Department of Local Government, 2006, p. 14).

In South Africa, LED is underpinned by the following principles (Nel, 2001):

- Eradication of poverty and unemployment;
- Through consultation promote local ownership, leadership and involvement of the local community;
- Design and implement economic development programmes and initiatives that are relevant to the local context;
- Embrace local, national and international partnership;
- Exploit local resources for development opportunities; and
- Seek integration of diverse economic initiatives in an all-encompassing development approach.

As cited in Garidzirai, Meyer and Muzindutsi (2019), Binns and Nel (2002), Kirsten, van Zyl and Vink (2010), Nel (2005) and SALGA (2010) found that the following sectors are important for LED: tourism, manufacturing, mining, agriculture, trade business and finance. The Human Research Council, however, argues that while tourism, community services and agriculture are major contributors to LED, they need to foster inclusion of the previously disadvantaged in the development process.

The table 1 below outlines the various strategies applied in LED in South Africa, their aims and instruments:

Table 1: Local Economic Development Strategies undertaken in South Africa

Strategy	**Aim**	**Interventions**
Development and maintenance of infrastructure and services	Create an enabling environment Save time, cost and technology	- Reliable, cost effective municipal service delivery mechanisms - Efficient Infrastructure maintenance - Municipal provision of social amenities - Effective housing and settlements policy

Retention and expansion of existing services	Assist local businesses to improve their productivity and increase market share	- Development of local business skills training - Provide advice, capital and technological support - Develop under exploited sectors that have comparative advantage
Increase spending on products of the local economy	Stern the outflow of money from areas	- Encourage communities to by local - Fund special events and festivals - Provide infrastructure using local labour and local manufactured materials
Human capital development and productivity	Ensure that economic development brings social benefits	- Provision of general and customised training - Targeted procurement policies
Community economic development	Support poverty reduction in low income communities and organisations	- Promote safe savings collectives and financial services - Community based environmental management and maintenance schemes - Support Small Medium Micro Enterprises through business infrastructure, service subsidies and technical support
Linkage of profitable growth to redistributive development/financing	To ensure that businesses investment benefits in disadvantaged communities	- Access to financial products and services by low – income neighbourhoods.

Source: (Nel, 2001)

It has been approximately 20 years since local economic development has been adopted as a development approach in South Africa. However, its roll-out and implementation have yielded different levels of success across the various regions of South Africa (Nel & Rogerson, 2015). The definition and meaning of local economic development in various sections of the South African society and institutions are varied (Nel & Rogerson, 2015). Debates around a

competitive economic development approach and a social welfare approach are ongoing and no clear guide and/or indication exists as to how these approaches are to be implemented wholly and/or jointly (Nel & Rogerson, 2015).

The governance structure and historical background of South Africa also give rise to the question of the role of the local authorities in local economic development. Contemporary arguments contest that local authorities' role in local economic development should focus on creating an enabling environment for the business and civil sector to function. Contemporary arguments contend that local authority should focus on creating an enabling environment through the development and implementation of responsive policies and legislation that promote economic growth, investment in social and economic infrastructure, i.e. roads, power supply, water and sanitation, housing, etc. (Nel & Rogerson, 2015).

On the other hand, there is an argument from the perspective of a Democratic State. Under this argument, a strong intervention of the state in the economy is proposed (Twyla, 2018). The argument further adds that in order to eradicate poverty and create jobs, the state, with its power and resources, needs to provide economic leadership and channel resources in line with its long-term socio-economic policies (Twyla, 2018).

In addition to the above, the space of local economic development is made up of numerous state and non-state agencies, i.e. national, provincial and local governments, state-owned development agencies across all levels, aid and technical support agencies, non-governmental agencies, etc. (Reese & Li, 2019). A successful and effective local economic development strategy and programme are reliant on strong institutional arrangement and stakeholder involvement; however, in most of the municipal jurisdiction, the are no effective institutional frameworks and arrangement in place (Reese & Li, 2019). This results in a leadership vacuum and the implementation of incoherent and non-responsive local economic development programmes and initiatives.

The practice of local economic development is not yet well embedded in municipal planning, in particular the allocation of human and financial resources (Nel, 2001). An analysis of the Integrated Development Plans of a range of municipalities indicates limited funding and budgets being allocated to LED programmes and projects (Nel, 2001). There is a general lack of detail in relation to the roll-out and impact of interventions identified for local economic development. This is attributed to differences and politicisation of development at the local level (Nel & Rogerson, 2015). Provision of social services, i.e. water, houses, social grants, etc. tends to dominate policy planning discussions and is prioritised for funding.

Given the focus on social services, the question as to whether local authorities should directly be involved in economic development and job creation, or whether they should rather play a facilitation role emerges (Nel, 2001). One option is for local economic development programmes to adopt an approach of seeking external funding to implement their projects, which includes linking up local enterprises with organisations that provide financial and non-financial support.

The concept of local economic development is unevenly rolled out across South Africa. There are disparities and divides between urban and rural areas. This is driven by the capacity and resources of the local authority. Out of 257 municipalities in South Africa, only 59 have demonstrated an above average capacity to develop local economic development policies and supportive systems and procedures (BusinessTech, 2022). This is supported by Nel (2001) in observing the disparity in providing high standards of facilities in some urban areas compared to rural and poor areas. Nel (2001) further adds that this divide is influenced, in part, by the lack and/or limited private sector involvement in rural areas.

Lastly, maladministration in local government institutions is driving inefficiencies in local economic development. There are 257 municipalities in South Africa, and according to the Auditor-General, the majority of the municipalities are incapable to carry out their mandate due to operational and financial deficiencies (Kekana, 2019). In the financial year of 2017/18, only 18 municipalities managed to obtain clean audits (Kekana, 2019).

The state of oversight and governance in municipalities raises concerns on the capability of local government to deliver the services and programmes (incl. local economic development). Administrative lapses, corruption, political interference, technical and human capacity, etc. are cited as the leading factors for the near collapse of the local government (Kekana, 2019). In 2018, 237 service delivery protests were recorded in South Africa and with each protest comes the aftermath of violence, destruction of public social and economic infrastructure (Gous, 2019).

Maladministration together with violent service delivery protests are significant drawbacks for local economic development. Firstly, the destruction of infrastructure claws away the gains that the local authority and/or stakeholder/s would have made in creating an enabling environment for localised economic growth (Nel, 2001); secondly, financial resources earmarked for local economic development projects tend to be reprioritised to address the demands and destruction of facilities and infrastructure (Nel, 2001). Thirdly, the unstable local environment disrupts economic activity to a point whereby companies and factories close shop and/or

relocate (Nel, 2001). Lastly, domestic and foreign investors tend to disregard areas/localities that are not business/investment friendly, i.e. safety, functioning institutions, etc. (Nel, 2001). This results in the missed opportunity of foreign direct investment in the area.

2.1.2.3. Policies initiatives in support of local economic development in South Africa within the context of mine downscaling

- Integrated Urban Development Framework

The Integrated Urban Development Framework is a policy initiative of the South African government aimed at fostering a common vision and approach for all spheres of government and society in addressing urbanisation, economic development, job creation and enhancing the living conditions of the people of South Africa. This is done by focusing on the following development aspects of spatial planning, transport and mobility, sustainable human settlements, urban infrastructure, land governance and management, inclusive economic development, empowered active community, urban governance, and sustainable finances

- Revitalisation of distressed mining towns

In 2012, following the Marikana massacre at Lonmin in the North West Province, the South African Government established an inter-ministerial committee (IMC) for the revitalisation of distressed mining communities to look at the development issues affecting mining areas and related labour-sending areas (Solomon, 2016). The IMC was tasked to focus on the following key issues:

- Provision of integrated and sustainable human settlements to communities living in distressed mining areas;
- Improve the livelihoods of communities of the distressed mining areas by providing social and economic services;
- Calibrate the development trajectory of distressed mining towns and their respective labour sending areas; and
- Improve the working and living conditions of the workers at the mines (Solomon, 2016).

Under this initiative, 15 mining municipalities were identified and prioritised. The prioritised municipalities were Fetakgomo, Greater Tubatse, Elias Motsoaledi and Lephalale in Limpopo; Westonaria, Randfontein, Mogale and Merafong in Gauteng; Rustenburg, Moses Kotane, Madibeng, Matlosana in North West; Emalahleni, Steve Tshwete in Mpumalanga, and Matjabeng in the Free State (Solomon, 2016).

Under this initiative, the following achievements were realised:

- 66 public sector housing projects rolled out resulting in approximately 5 000 housing units;
- R1 billion budget has been ring fenced by the Department of Human Settlements to deliver 19 000 housing units in mining towns;
- Department of Water and Sanitation undertook high-level water supply needs assessments for the prioritised areas;
- The Department of Water and Sanitation is rolling out 29 water and sanitation projects with a value of R6 billion to mining-affected areas across the country;
- The economic cluster departments are facilitating large- and small-scale industrial projects across the prioritised municipalities, which includes special economic zones, establishment of agricultural hubs, industrial parks, one-stop service centres, etc. (Solomon, 2016).

The IMC, through this initiative, states that minerals are a non-renewable resource, and as such multi-stakeholder engagement and collaboration are necessary to look at economic diversification of mining towns, upskilling and reskilling of the mine labour force to empower them for life beyond mining (Solomon, 2016).

- Small Town Regeneration Programme and Strategy

The Small Town Regeneration Programme and Strategy (STRPS) was introduced in 2013 by the National Department of Cooperative Governance and Traditional Affairs under the Integrated Urban Development framework. The STRPS was drafted from a premise that rapid urbanisation has driven small towns into distress to the point where small towns have lost their economic footing and therefore strategic interventions are necessary to recalibrate them. The demise of these small towns has been largely due to i) lack of incentives to attract and retain active and skilled labour force, ii) over-dependence on a

single industry as an economic driver, and iii) economic stagnation due to lack of economic diversification.

Figure 1: Priority status of Small Towns according to the Small Town Revitalisation Strategy 2021

Source: (National Department of Cooperative Governance, 2021)

The introduction of STRPS sought to achieve the following i) regeneration, restoration and fulfilment of economic potential of small towns, and ii) embracing the significance of small towns and their role in larger hierarchy settlements.

- District development model

The district development model is a flagship programme of the National Department of Cooperative Governance and Traditional Affairs. The model aims to bridge the planning and service delivery gap between the three spheres of government. The model further seeks to drive the synchronisation of plans and budgets towards geo-referenced localities. The objectives of the DDM are broadly outlined below:

- To provide a coordinated public sector response to issues of poverty, unemployment and inequality focusing women, the youth and people living with disabilities;
- Ensure inclusivity through gender budgeting based on the needs and aspirations of our people and communities at a local level. Narrow the distance between people and government by strengthening the coordination role and capacities at the district and city levels.
- Effect practical intergovernmental mechanisms to jointly plan, budget and implement projects and deliver basic services to the people of South Africa.
- Provide capacity and support to municipalities while strengthening, monitoring and evaluating programmes and projects at a local government level.
- Promote a balanced approach towards the development of urban and rural areas.
- Promote accountability and transparency in the roll out of projects and related budgets.

Under the district development model, the three spheres of government will produce 'one plans' to respond to the social and economic needs of a particular area.

2.2. THE MINING INDUSTRY: INTERNATIONAL AND LOCAL PERSPECTIVES

2.2.1. International perspective

The extraction and processing of minerals and metals to provide goods and services is as old as the existence of humans on earth. Mining is the process of obtaining valuable minerals and metal resources from beneath the earth's surface (Aryee, 2012). It began with humans using stones and metals for tools and minerals for jewellery and trade (Rees, 1985) to the modern-day mining with sophisticated capital equipment. Mining is central to the development of various global economies and related societies. Mining has provided vital commodities that serve as a foundation to the wealth, prosperity and standard of modern society (Ibid., 2012; Worrall *et al.,* 2009).

The International Council on Mining and Metals classifies mining as an alternative export sector, especially for agrarian, low- and middle-income countries. The council further adds that there are approximately 60 developing and transitioning countries where mining has become an important economic activity; 22 are from Africa and 27 from East Asia.

Mining operations and activity are undertaken in two forms, namely i) large-scale and ii) small-scale levels. In both of these forms, mining creates varying contexts for international and localised opportunities and risks that may evolve from the use of natural resources (Stamp, 2015). According to the council, large-scale mining generates approximately 85% of the global non-fuel minerals and a further 95% of the total global mineral production annually. Furthermore, large-scale mining employs between two and three million workers annually world-wide. The multiplier effect of large-scale mining is that for every job created, 25 jobs are created across the value chain, i.e. vendors, suppliers, contractors, etc.

On the other hand, small-scale mining generates approximately 15% of the global non-fuel minerals and is a major source of income for about 30 countries across the world. Small-scale mining employs approximately 13 million workers. The countries wherein small-scale mining is significant include Bolivia, Brazil, Burkina Faso, China, Colombia, the Democratic Republic of the Congo, Ghana, Ecuador, India, Indonesia, Madagascar, Tanzania and Thailand. It is estimated that between 80 million and 100 million people globally depend on small-scale mining for their livelihood (Stamp, 2015).

The African Union estimates that on the African continent, small-scale mining employs between 3.7 and 8 million individuals annually. This translates to 30% of the continent's population being reliant on the sector. Small-scale gold mining in Africa accounts for 18% of the total continent's gold production (Ibid, 2015). Africa is well-endowed with precious minerals and is one of the largest world producers of selected mineral commodities such as xxx. It is estimated that Africa has about 30% of global mineral reserves. The United Nations Development Programme estimates that the continent has 5% of the world's oil reserves and 7% of global production (UNDP, 2014).

Mining operations comprise various stages categorised into phases. Each of the phases is characterised by its own set of activities. The aspects are outlined below:

- Phase 1: Exploration

  The beginning of any mining project begins with the search of mineral deposits across various areas. Geologists are employed by mining companies to perform studies and assessments to locate of mineral deposits. This phase is very scientific and technical, and is characterised by geological surface mapping, sampling, measurements and geochemical analysis.

- Phase 2: Mine site and planning

Based on the above assessments, a particular area is identified and engagement with the relevant authorities is sought (Mining Global, 2015). Once the indications from mapping and mineral resource data collected are positive, feasibility studies are undertaken to establish the viability of the proposed mining operations from an economic, social, legal, political and environmental perspective (Mining Global, 2015). It is at this stage that negotiations with the relevant authorities are entered into whereby prospecting rights and specific licenses are sought (Mining Global, 2015).

- Phase 3: Construction

Once all the necessary approvals are met, the development of the mining plant and related supportive infrastructure is built (Mining Global, 2015). This involves the building of roads, securing of bulk service infrastructure, processing plants, housing for employees and other facilities (Mining Global, 2015).

- Phase 4: Production

This is the heart of the mining operations and set-up. At this phase, rocks containing minerals are extracted from the earth's surface and conveyed to processing plants (Mining Global, 2015). At the processing plants, valuable material is extracted from the overlying rock. The resultant minerals are therefore collected, packaged and shipped off for sale (Mining Global, 2015). There are two main methods of mining which is i) surface and ii) underground mining. This is largely determined by the type of mineral and deposits mined (Mining Global, 2015).

- Phase 5: Reclamation / post-closure

According to Windie and Stoch (2010), closing of mines is a gradual process that takes place over time, especially in cases of planned closures. In planned mine closures, the mine ceased operation in stages as compared to closure induced by contravention prevailing law and/or liquidation (Windie & Stoch, 2010). Plans for post-mining development must take into account the implications of interconnected mines and approach closures proactively in a regional integrated manner.

The International Council on Mining and Metals defines mine closures as *“a process that extends over the life cycle of the mine and results in the handing over of the mining site (to the government or to legally appointed third party) when operations cease and*

infrastructure is removed and the site is limited to monitoring" (Ackerman, Botha, & Waldt, 2018, p. 7). Mine closures are legislated through statutory and regulatory frameworks (Costa, 2015).

According to Maennling and Toledano (2019), the mining industry has experienced a difficult period during the past couple of decades. The industry is faced with volatility and a decrease in commodity prices (Maennling & Toledano, 2019). This has resulted in the industry cutting costs, and enhancing efficiency in operations by automating production processes. In forecasting Hart and Nel (2019) list the top five risks facing the sector as follows i) macro-financial risks ii) permitting risk, iii) community relations and social license to operate, iv) economic downturn/uncertainty, and v) access to capital, including liquidity.

In a recent global mining survey, the global mining houses highlight the need to focus on environmental, social and governance measures (KPMG, 2019). It attempts to redefine and broaden the boundaries of success to include shareholder and stakeholder values (KPMG, 2019). Mining companies are under pressure to respond to the global carbon emissions reduction agenda. This implies that investment in technology that permits extraction and processing of minerals that are not harmful and disruptive to the environment is essential (KPMG, 2019). Disruptive technology is seen as an opportunity and a strategy for business growth in the near future (KPMG, 2019).

2.2.2. South Africa Mining Perspectives

South Africa is a resource-rich geographical area and provides numerous opportunities for mining houses to take up mining operations (Ackerman, Botha, & Waldt, 2018). The discovery of minerals and exploration in the 1800s in South Africa have resulted in rapid urbanisation of largely rural and underdeveloped areas into densely populated regions (Windie & Stoch, 2010). This was accompanied by improved infrastructure, schools and hospitals.

In 2021, the mining sector contributed R480 billion to the gross domestic product of South Africa and employed 458 954 people (Mineral Council of South Africa, 2019). The sector serves as an anchor economy for various towns and cities and therefore promotes secondary economic spinoffs that result in economic and social opportunities across the value chain. To this end, it is estimated that the mining sector indirectly supports 4.5 million people in South Africa (Mineral Council of South Africa, 2019). The contribution of the mining industry to the South African economy is summarised below in figure 2.

Figure 2: South Africa Mining Sector Performance Snapshot 2021

Source: (Mineral Council of South Africa, 2021)

In 2021, the South African Mining industry's production and sales decreased by 1.1%. The decline is consistent with prior years' declines of 10.6% in 2020 and 1% in 2019. In 2021, the commodities contributing to the decline are gold at -15.3%, coal at 8.1%, manganese ore at -10.8% and iron ore at -7.4%.

In the period of 38 years, gold has only managed to record positive production growth rate on eight occasions. Despite its declining production and sales year on year, gold remains the 4th largest selling commodity in South Africa. The leading commodities in terms of production and sales are coal (76%), platinum group metals (25%) and iron ore (14%).

According to the Mineral Council of South Africa (2019) the performance of the South African mining industry indicates an industry in distress and decline. The commodities largely affected are i) Iron ore, ii) platinum, iii) coal and iv) gold. The Mineral council of South Africa (2019) states the challenges impacting South African mining production and efficiency are i) poor infrastructure, ii) plummeting commodity prices, iii) social and labour strikes, and iv) policy uncertainty.

The combination of the above factors is regarded as the primary drivers in the decline of the South African mining industry and its diminishing contribution towards national progress and development. Adendorf and Plessis (2015) outline the following scenarios for the South Africa mining industry:

- Scenario 1: Divided we fall

Scenario 1 is premised on a strong global economic growth performance, in which there is high demand for mining commodities supported by strong commodity prices (Adendorff & Plessis, 2015). This will result in increased production output and commercial prosperity for the mining industry. However, the positive gains are over time eroded by the inability of mining houses to respond to emerging and pressing social and environmental demands (Adendorff & Plessis, 2015). The labour market continues to be restrictive and social demands to share in the benefits of mining will intensify (Adendorff & Plessis, 2015). Failure to enhance transformative stakeholder relations further leads to strained community and government relations (Adendorff & Plessis, 2015).

Secondly, the mining industry will continue to under-invest in technological innovation and rely on imports for production technology and equipment (Adendorff & Plessis, 2015). This results in ineffective implementation and beneficiation. Thirdly, infrastructure constraints will continue to hamper the mining industry's progress and development. Continued inconsistent power supply, deteriorating road networks, and aging water supply systems remain key problem areas for mining operations (Adendorff & Plessis, 2015).

Lastly, misaligned policy goals and programmes between the mining industry, government and the social sector continue to strain relations and curb growth in the industry (Adendorff & Plessis, 2015). It is the view of the South African Government that the mining industry has failed to subscribe and contribute to the principles of sustainable development in areas they operate in. According to South African authorities, there are increasing hostility and opposition from the local and global interest groups, labour unions, political parties, etc. (Adendorff & Plessis, 2015). Top on the list of policy debates is the redistributive function of the mining industry, building local beneficiation capabilities, human capital development (incl. basic wage), nationalisation, etc. (Adendorff & Plessis, 2015). Discussions on these key policy aspects have reached a deadlock amid a flurry of indabas, conferences, dialogues, etc.

- Scenario 2: Rock bottom

Scenario 2 is premised on a weak global economy performance and low innovation by the mining industry outlook (Adendorff & Plessis, 2015). The lack of technological enhancement and adoption in operations, as well as social innovation will contribute to production costs being high and production being low (Adendorff & Plessis, 2015). Mining

commodity prices will deteriorate and continued unrealistic wage agreements will have a negative impact on profitability levels of the industry (Adendorff & Plessis, 2015). With rising production costs and dwindling profitability levels, mining companies will start to shut down. The value of the South African mining industry will diminish as investor interest also declines. This will result in local capital injection and foreign direct investment in the industry declining.

As profits decline, project budgets for non-core activities such as environment and social responsibilities will be compromised. Provision and maintenance of shared social and economic infrastructure by the mines will stop, human capital development initiatives such as training and development, improved wages will be negatively impacted and mines will embark on a process of shedding jobs (Adendorff & Plessis, 2015). This will occur at a time when the expectation and demands of the NGOs, government and local communities are increasing, thereby resulting in an unconducive operating environment (Adendorff & Plessis, 2015). The inevitable will soon happen when the mining houses will start to shut down.

- Scenario 3: Rising from the ashes

Scenario 3 is premised on the capabilities of the mining industry and the government. Under this scenario, the economy is operating under challenging conditions characterised by lacklustre growth (Adendorff & Plessis, 2015). The prevailing economic conditions stimulate and drives the industry towards innovation and transformation, underpinned by responsive social values (Adendorff & Plessis, 2015). Furthermore, government and mining industry leaders recognise the pressing need for collaborative industry transformation and innovation (Adendorff & Plessis, 2015). The process of transformation and innovation is consultative and inclusive. Open and transparent dialogue between and among respective parties and stakeholders ensues. A solid policy and operational environment is built on the principles of trust, collaboration and sustainability (Adendorff & Plessis, 2015).

The Government across all levels steps up, commits and strengthens its support for the mining industry. The support includes a sound policy framework, dedicated industry development incentives, training and research development programmes, and the provision of enabling social and economic infrastructure (Adendorff & Plessis, 2015). The mining industry, in turn, adopts responsible production practices, innovative procedures,

and new technology to achieve operational efficiency, and create broader opportunities to new and marginalised players.

- Scenario 4: Renaissance

The renaissance scenario is premised on the outlook of strong global economic conditions and the mining industry adopting a sector-wide inclusive and innovation strategy (Adendorff & Plessis, 2015). The aim of the strategy in this scenario is to increase productivity by the reducing the of costs and enhancing global competitiveness (Adendorff & Plessis, 2015). The aforementioned context and outlook pave the way for mining prosperity, increased contribution to the South Africa gross domestic product and a surge in FDI in the exploration and development (Adendorff & Plessis, 2015).

The efforts of the industry in transformation activities and practices open up dialogue and trust across both the public and social sectors (Adendorff & Plessis, 2015). Revitalisation of the local economies and creation of jobs are achieved. Local community benefits such as skills development, entrepreneurship, shared economic and social infrastructure development, etc. are realised.

The mining industry in South Africa is managed and regulated by the South African National Department of Minerals. The primary legislation regulating the mining industry is the Minerals and Petroleum Resources Development Act of 2002. The Act seeks to promote economic growth, employment, transformation and sustainable development in the minerals and mining sector by (National Department of Minerals and Energy, 2004):

- Exercising state sovereignty and custodianship over all the mineral and petroleum resources within the Republic of South Africa;
- Promoting and ensuring equal access to the mineral and petroleum resources by all the people in South Africa;
- Providing and expanding economic opportunities for historically disadvantaged persons, including women and communities, to enter into and actively participate in the mineral and petroleum industries;
- Fostering the development of downstream industries through the provision of feedstock, and development of mining and petroleum inputs industries;
- Ensuring that the mineral and petroleum resources of the republic are developed in a systematic and ecologically sustainable manner;

- Ensuring that the mineral and petroleum industry contributes towards the development of the socio-economic standards of the communities of the areas they operating in; and
- Providing a framework for the application and awarding of prospecting and mining rights.

2.3. MINING AND DEVELOPMENT

In 2020, the global mining industry was valued at $1641.67 and estimated that in 2021 the industry will grow to the value $1845.55, thereby recording a compound annual growth rate of 12.4% (Pricewaterhousecoopers, 2021). In 2020, the mining sector was one of the few industries that demonstrated resilience to the disastrous economic impact of COVID-19 by recording comparatively above average financial and operational performance (Pricewaterhousecoopers, 2021). In comparison to 2019, the mining industry recorded a 15% in increase in net profits, while cash in hand increased by 40% and market capitalisation increased by two-thirds (Pricewaterhousecoopers, 2021).

The United Nations (United Nations Development Programme, nd) has identified mining companies as the leading partners in achieving the sustainable development goals through their direct operations. Over and above the creation of employment and contribution to the economy in low income countries, the mining industry has a meaningful role to play and make a positive impact to the natural environment, social capital and curbing climate change (United Nations Development Programme, nd). Mining companies need to commit themselves to responsible practices in extracting processes, management of waste, curbing emissions and improving the wellbeing of local communities (United Nations Development Programme, nd). The contribution of the mining sector to sustainable development goals is demonstrated in figure 3 below:

Figure 3: Mining and the 17 SDGs

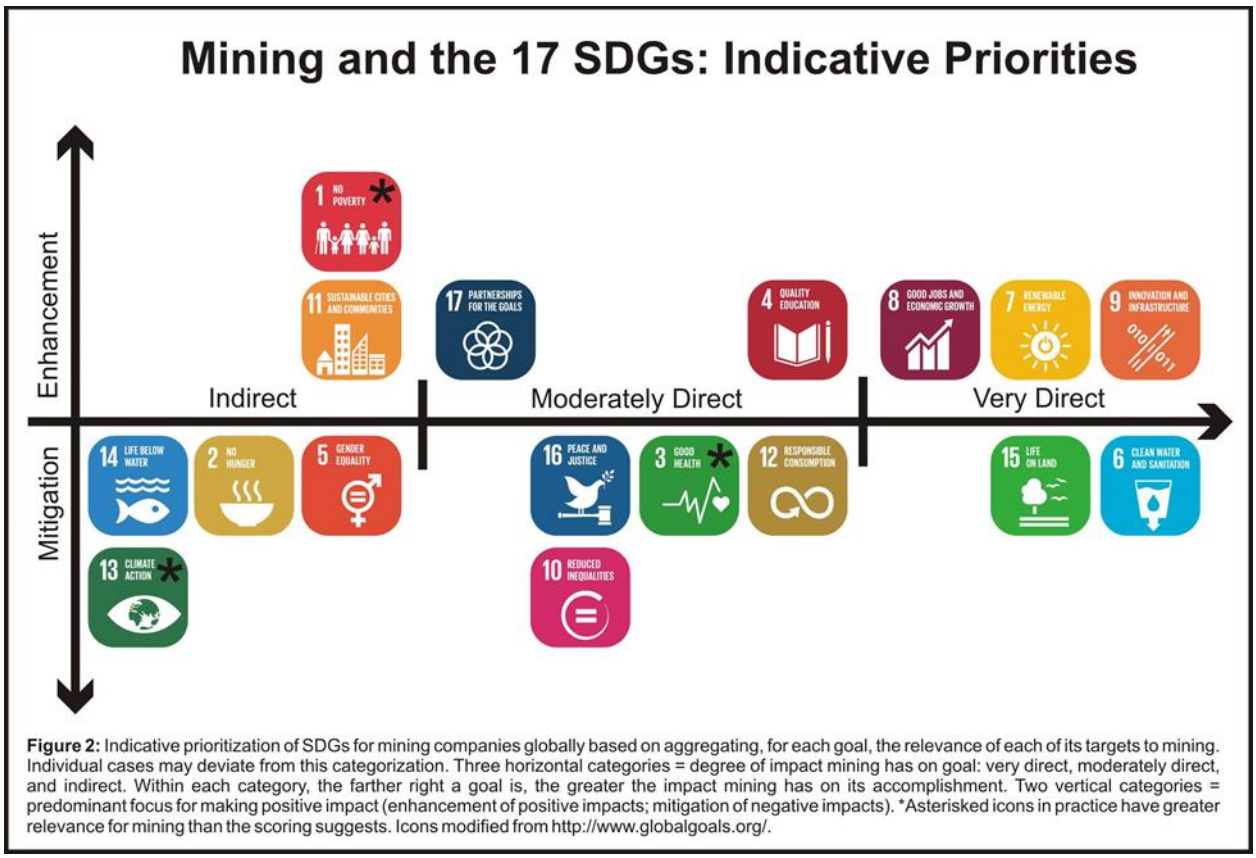


Figure 2: Indicative prioritization of SDGs for mining companies globally based on aggregating, for each goal, the relevance of each of its targets to mining. Individual cases may deviate from this categorization. Three horizontal categories = degree of impact mining has on goal: very direct, moderately direct, and indirect. Within each category, the farther right a goal is, the greater the impact mining has on its accomplishment. Two vertical categories = predominant focus for making positive impact (enhancement of positive impacts; mitigation of negative impacts). *Asterisked icons in practice have greater relevance for mining than the scoring suggests. Icons modified from http://www.globalgoals.org/.

Source: (Responsible Mining Foundation, 2020)

Environmental, social and governance issues are singled out as one of the mining industry's most significant opportunities and threats for long-term value creation and sustainable growth (Pricewaterhousecoopers, 2021). The mining industry poses a complex set of positive and negative impacts to the economy, environment and social tenets of the country and/or region it operates in (weber-Fahar, J-Strongman, Kunanayagam, McMahon, & Sheldon, 2001). Further to this, the economic, social and environmental consequences as a result of a declining mining sector can be catastrophic to the poor and profile of the region.

On the other hand, the mining industry can complement the poverty reduction strategies and sustainable developments efforts of the country (weber-Fahar, J-Strongman, Kunanayagam, McMahon, & Sheldon, 2001). It therefore warrants that a cautious and well-thought-out approach to mining is adopted and given the necessary attention and support. This could be in form of macro-economic planning, legislative frameworks, industry support, collaborations, etc (weber-Fahar, J-Strongman, Kunanayagam, McMahon, & Sheldon, 2001). Weber-Fahar, J-Strongman, Kunanayagam, McMahon and Sheldon (2001) propose that the development of

a mining sector needs to factor in the socio-economic profile, in particular poverty levels of the local mining area. In collaboration with the relevant local and regional authority, the focus should be on the following:

- Gather data to understand and interpret socio-economic indicators, risks and opportunities;
- A set of clear objectives and a programme of interventions to address identified socio-economic indicators;
- Identify mechanisms to achieve the objectives; and
- Establish the enabling institutional arrangements to drive the implementation of the mechanism.

The above process needs to be supported by a consultation process that is representative of the region that the mining operations is taking place. The social and labour plans together with local economic development are therefore essential in addressing the above.

Understanding that mining operations can either be an enabler or obstacle to development, it therefore presents a paradox for policymakers, mining executives and communities at large. The paradox can best be described by the population economic and development (PED) nexus. The PED nexus calls for a deep understanding of the interrelationship between the population, economic and development elements of the society. The PED nexus states that as the population grows, there is a general rise in the exploitation of natural resources such as land, water, minerals, trees, etc. to address emerging development needs such as poverty, hunger, disease, etc.

In pursuit of higher standards of living and prosperity, organisations embark on development programmes and projects such as industrialisation, etc., which put additional pressure on the environment and gave rise to competition for resources such as land, water and energy with the population. In some instances, the development projects and/or industrialisation in the long run do not benefit the population. The projects are largely for financial gain and narrow based, and thus result in the environment and society being negatively impacted.

The mining sector is synonymous with the concept of the ‘resource curse’. The resource curse is defined as *‘the failure of many resource-rich countries to* benefit fully from their natural resource wealth’ (Institute, National Resource Governance, 2015, p. 1). Also known as the ‘paradox of plenty’, it purports that countries with abundances of resources tend to have high

rates of conflict, authoritarianism and lower rates of economic growth. This phenomenon is ascribed to the following political and economic theories:

- Governments endowed with natural resources and wealth are more likely to become authoritarian states. In this governance structure, the government collects larger amounts of revenue from natural resources than the citizen tax base (Institute, National Resource Governance, 2015). This creates a scenario whereby the citizens are less concerned about government spending as they are paying minimum taxes (Institute, National Resource Governance, 2015). Furthermore, with less accountability, resource revenues are kept a secret and remain unaccounted for. Minimal social and economic development of the state and/or nation from the proceeds of resource revenues occurs.
- Natural resources tend to induce local, regional and international conflict between and among local and international parties. According to the Institute (2015) oil-producing countries are more likely to have a civil war compared to non-oil-producing countries. This is illustrated by conflicts in the Democratic Republic of Congo, Niger Delta, Iraq, Libya, Angola, etc. As a result of the conflict, illegitimate states start to emerge, coup ‘tat are carried out, destruction of social, economic and juristic systems, etc.
- Resource-rich countries tend to ineffectively allocate resource revenues (Institute, National Resource Governance, 2015). The is a tendency to invest in consumption activities as opposed to productive capabilities, i.e. high government salaries, monuments, social and economic subsidies, high exposure to debt as a result of attractive credit worthiness, etc. (Institute, National Resource Governance, 2015). This scenario creates a bubble wherein, when the resources start to decline, the respective country is unable to sustain its expenditure. Furthermore, the country and/or state is unable to draw secondary revenue from productive activities (Institute, National Resource Governance, 2015). Over time, the social and economic conditions of the country deteriorate and result in civil unrest, capital flight, famine, massive job losses, etc.
- The financial strength and influence of the big multi-national mining companies contribute to the weakening of state institutions. In economies where only a handful of mining houses operate, big mining projects that have anchored themselves as the major economic driver breed an environment for rent seeking (Institute, National Resource Governance, 2015). Under rent seeking, the multinational mining companies are less likely to invest in local productive enterprises such as manufacturing and

beneficiation. Secondly, the powerful mining executives capture the political and high ranking government officials in order to flaunt regulation and administrative processes, and corruption becomes the order of the day (Institute, National Resource Governance, 2015). This results in social and environmental problems such as excessive pollution (water, waste, noise), deforestation, health hazards, violation of human and labour rights due to the compromised operating environment (Institute, National Resource Governance, 2015).

- The discovery of natural resources and mining thereof shut down other sectors of the economy. This is also known as the Dutch disease, where there is a shift of labour and capital from non-resource sectors to resource sectors (Institute, National Resource Governance, 2015). While this might be beneficial in the short run, it is unsustainable in the long run, especially when the natural resources start to diminish. Discovery of minerals should be supported by the economy diversification and driven by strong government institutions (Mittelman, 2017). Mittelman (2017) adds that the discovery of resources often leads to conflict, corruption and poverty. She further states that as a result of the discovery of minerals, investment in other parts of the economy might be culled (Mittelman, 2017).

The mining sector is one of the global sectors that plays in all the three elements of the PED nexus. The analysis of the PED nexus from the mining perspective is outlined in the following section.

2.3.1. Development

The development impacts of mining projects are controversial and dynamic (Environmental Law Alliance Worldwide, 2020). The mining industry through the SLP projects and programmes can enhance the livelihood of local communities (Environmental Law Alliance Worldwide, 2020). It is a foregone conclusion that mining projects create jobs, and improve the social and economic infrastructure such as roads, energy supply and schools (Environmental Law Alliance Worldwide, 2020). Further, the mining sector value chain increases the demands for goods and services in remote and impoverished areas to which the benefits can be accrued to the local business community (Environmental Law Alliance Worldwide, 2020).

With the rise of economic and social opportunities link with mining, migration of people into the mining area occurs. This is most common in remote areas of developing countries where the mine represents the single most important economic activity (Environmental Law Alliance Worldwide, 2020). In the case of Grasberg in Indonesia, the local population increased from less than 1000 in 1973 to approximately 110 000 in 1999. Similar to Porgera in PNG, which saw an establishment a 4 000 squatter camp population in 1990 and grew to 18 000 (Environmental Law Alliance Worldwide, 2020). These influxes and migrations give rise to localised conflict between inhabitants of the local area and migrants (Environmental Law Alliance Worldwide, 2020). Central to the conflict is the competition for opportunities such as jobs and resources such as land, water, etc. (Environmental Law Alliance Worldwide, 2020).

Given the establishment of the respective mining towns and cities centred on the mining economy, the prospect of mine closures is as a great concern for the respective communities (Ackerman, Botha, & Waldt, 2018). Mining closures bring economic collapse and unemployment to the local community. Since the early 2000s, South Africa has witnessed a series of mine closures, especially in the gold mining industry. According to Harrington, Maglashan and Chelkowsha (2004) between 1990 and 2001, approximately 300 000 jobs were lost in the South African gold mining industry. In most cases, it is the low and unskilled labour that is largely affected by job losses (Harvey, 2004).

In a study undertaken in Romania, Russia and Ukraine, it was found that laid-off workers were still struggling to find stable jobs five years post mine closure (Marais, 2012). This is supported by Harvey (2004) who states that the impact of job losses is more devastating as a result of the difficulty and inability for immediate replacement/alternative jobs. The World Bank (2002) estimates that the wave of mine closures will continue well into the 21st century.

In light of the boom and bust cycle associated with the mining industry, efforts should be made to plan and mitigate the consequences of downscaling and closure (Marais & Nel, 2010). Rogerson (2011) argues that establishing a viable and diversified economy is of essence within the context of mine closures. He further says that partnerships and effective planning are necessary to achieve this (Rogerson, 2011). This assertion is supported by Ndaba (2010) when he suggests that diverse economies are more resilient to negative consequences and risks presented by mine closures.

Decline in business activity is another impact of mine closures. The Centre for Development and Enterprise (Marais & Nel, 2016) observed a decline in new business openings in the Free State Goldfields following a stressed mining activity. It is was recorded that of the limited new businesses starting up, the majority of the owners were locally based rather than individuals outside of town (Marais & Nel, 2016). This could be a result of the former mine employees opening up businesses as a means to survive. While this might be a boost to the local economy, it was concerning that Free State Goldfields were not attracting new investment/capital beyond its limits and boundaries (Marais & Nel, 2010).

Marais (2012) adds that closing of mines will become a common occurrence as evidenced in developed economies such as Germany, the USA, etc. Based on this, a strategic and sustainable approach to mine closures needs to be adopted. A sustainable development approach calls upon balanced interventions that respond to the social, economic and environmental needs and challenges. According to (Windie & Stoch, 2010) the amended South African Mining Charter of 2010 emphasises the need to integrate and address socio-economic aspects of mining and maintain sustainable development principles. Mining houses and the government as the regulator need to exercise ethical consciousness and enhance corporate social responsibility in efforts curb the consequences of mine closures (Windie & Stoch, 2010).

Local economic development is one of the approaches to be undertaken to mitigate the negative consequence of mine closures, financial crisis, and so on (Rogerson, 2011). Maximising post-mining infrastructure and facilities may contribute to local economic development (Ndaba, 2010). Post-mining landscapes can contribute to sustainable development by exploring various land-use options. Therefore, authorities in partnership with multiple stakeholders need to approach mine closure and rehabilitation in a way that it prevents the socio-economic collapse of the area. The future use of the land that constituted the mining lease influences the economic diversification, population levels, skills base and future of a town (Rogerson, 2011).

2.3.2. Population

Mineral resources can be used to improve the livelihoods of local communities, provided the communities have guaranteed and enforceable user, owner and participative rights. This includes the right to participate in the formulation of mining law and related policy. A

clear redistributive framework needs to be in place to ensure that the benefits of the mineral wealth are distributed. However, this ideal is eroded by the various levels and forms of regional and local institutions' inability to establish a solid policy framework, failure to hold mining houses accountable and political abuse and influence.

In the case of South Africa, a conservative application of environmental legislation has resulted in local communities failing to get redress against mining companies that have for generations polluted their environments and exposed them to health hazards. Large mining companies have exploited the natural resources such as a land and water on which local communities depend. This inadvertently impacts negatively on the income generation ability and livelihood of the local population that is not involved in mining.

Mining projects are often located in remote areas where indigenous communities are members of a distinct cultural groups. In these cases, conflicts in relation to land tenure arise, as certain cultural practices need to be performed in designated areas that are affected by the mining activities, i.e. noise, pollution, waste, etc. As mining operations intensify, migrant workers start to increase and flock to the remote area. As immigration increases, new tensions emerge between indigenous inhabitants and newcomers. Competition and demand for local basic goods and services drive scarcity and increases in prices, thereby resulting in the poor indigenous inhabitants being left out, unable to afford and/or being displaced. Mining operations might also crowd the use regional/local infrastructure services to a point whereby it is inaccessible to the local community in terms of cost and/or usage limits, etc.

Extended mining activity and immigration disrupt the health and wellbeing of the local area and/or region. The situation results in a rise in communicable diseases such as human immunodeficiency virus (HIV), tuberculosis (TB) and other social ills such as crime, substance abuse, prostitution, etc. The socio-cultural impact is concerning and dire to the livelihood of indigenous people. The situation is further exacerbated when the mine operations shut down.

Displacement of local communities is one of the related threats of mining industry. Due to resentment and conflict associated with large-scale mineral development, local communities are uprooted and placed in purpose-built settlements (Environmental Law Alliance Worldwide, 2020). The majority of these displacements result in households losing their land (ties to the lands of their ancestors), livelihoods and access to community

institutions (Environmental Law Alliance Worldwide, 2020). Disruptions in community power relations emerge (Environmental Law Alliance Worldwide, 2020).

2.3.3. Environment

The mining industry is synonymous with the loss of agricultural land, water pollution, noise pollution, dust, and land disturbance. The stated environmental damage can be caused by both small- and large-scale mining if no appropriate precautions are taken or deemed affordable. Deforestation is one of the key environmental concerns as a result of mining investment and activity (Bradley, 2020).

According to Bradley (2020) it is estimated that 73% of global deforestation is driven by the agricultural sector (both commercial and subsistence operations), while 10% is driven by urbanisation and only 7% by the mining sector. While the mining industry's direct impacts on forests is low in comparison to other sectors, it is the indirect and cumulative impacts that are significant (Bradley, 2020). This impact includes change of land-use, change at mining sites, downstream pollution and environmental damage (Bradley, 2020). It is found that 10% of the world's forests have already been affected by mining activity and that the impact of deforestation stretches within a 50 to 100 km radius of the mining site (Bradley, 2020).

The establishment of mining sites tends to result in habitat loss. Indigenous species live within an ecosystem comprising other species, soil conditions, local climate and other features of the local environment. Mining activities such as excavations, noise and piling of mine waste compromise the prevailing ecosystem. This results in the destruction and displacement of the local habitat. Contamination of the soil also leads to human health and environmental risks emanating from mining operations. Chemical spills and residue from the mines contaminate the soil.

In the case of Aronia region state, in Ethiopia, it was found that due to mining operations in the area and technology applied, a significant increase in the birth of children with congenital abnormalities and miscarriages were recorded as a result of cyanide contamination. Cyanide is a deadly chemical used in various production and manufacturing processes, including mining. Exposure to cyanide is through air, water, food and soil. Furthermore, approximately 600 livestock died and a further 500 aborted as a result of grazing on land in proximity of mining operations.

Noise pollution is also one of the common risks of mining. Noise pollution of mining includes noise from blasting activities, machine and vehicles in particular trucks (Environmental Law Alliance Worldwide, 2020). Vibrations are also a common occurrence in mining areas (Environmental Law Alliance Worldwide, 2020). The vibrations are caused by the range of equipment used for blasting, drilling, etc. In the long run, these vibrations have a knock-on effect on the stability of nearby social and economic infrastructures, buildings, and homes of people living nearby (Environmental Law Alliance Worldwide, 2020).

Airborne emissions occur during each stage of the mine cycle, but especially during the exploration, development, construction and operational stages (Environmental Law Alliance Worldwide, 2020). Mining operations mobilise large amounts of material and waste piles containing small-sized particles that are easily dispersed by the wind (Environmental Law Alliance Worldwide, 2020). These materials include hazardous air pollutants such as particulate matter, heavy metals, carbon monoxide, sulphur dioxide, and nitrogen oxides (Environmental Law Alliance Worldwide, 2020).

Acid mine drainage is considered one of mining's most serious threats to water resources. Acid mine drainage has the potential for long-term devastating impacts on rivers, streams and aquatic life (Environmental Law Alliance Worldwide, 2020). Acid mine drainage is a result of mining metal such as gold, copper, silver and molybdenum (Environmental Law Alliance Worldwide, 2020). These metals are predominantly found in rocks with sulphide minerals and as such when the sulphides in the rock are excavated and exposed to water and air, they form sulfuric acid (Environmental Law Alliance Worldwide, 2020).

This acidic water can dissolve other harmful metals in the surrounding rock and not managed, the acid mine drainage may run off into streams or rivers or leach into groundwater (Environmental Law Alliance Worldwide, 2020). Acid mine drainage may be released from any part of the mine where sulphides are exposed to air and water, including waste rock piles, tailings, open pits, underground tunnels, and leach pads (Environmental Law Alliance Worldwide, 2020). Many streams impacted by acid mine drainage have a pH value of 4 or lower, equivalent to battery acid. Plants, animals, and fish are unlikely to survive in streams of this environment (Environmental Law Alliance Worldwide, 2020).

2.4. TOWARDS A SUSTAINABLE MINING INDUSTRY

For human rights to be realised people need to be living in an environment that is healthy, clean and not harmful to their existence. At the same time, mining companies will be called on to extract with responsibility, produce with less waste, use safer processes, incorporate new sustainable technologies, promote the improved wellbeing of local communities, curb emissions, and improve environmental stewardship. Experiences from the Rustenburg Local Municipality indicates that there is engagement in relation to collaboration on projects between the municipality and the mining companies in the area. However, the implementation of the identified projects is not consistent with some projects being implemented fully, other project commitments not being honoured, and other projects being implemented but outside the agreed development frame for the area (Ndaba, 2010).

Windie and Stoch (2010) state that sound practice of mine closure planning should emphasise that planning for closure be done during the exploring phase when the feasibility of the mine and design and permits are established. Mine closure should uphold the principles of conserving and enhancing the mining communities. Modern-day mine closures have adopted a low-risk posture by applying established and tested procedures for mine closures. This includes the rehabilitation of mining infrastructure and landscapes for alternative economic use.

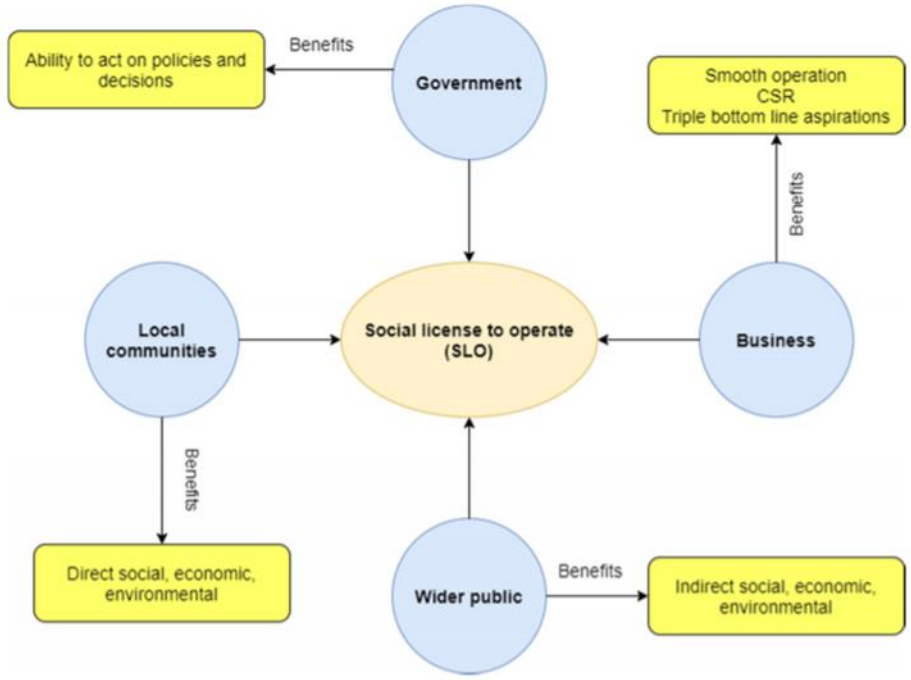
Windie and Stoch (2010) emphasise the need for collaboration that involves the entire value chain of the mining economy through planning committees. It is through this that shared ownership and roles can be established. The relevant committee would then be in a position to plan and roll out targeted interventions to mitigate the potential social and economic impacts of the closure. According to Rogerson (2011), the responses should focus on employment transition, local economic development and the social capital (training, skills development) to diversify economic activities.

In instances that local communities cannot secure a fair share of the tangible benefits of mining, they must get relief from the social and environmental costs arising from mining. It has been argued that the key to achieving this is through securing participation at all levels by communities.

2.4.1. Social license to operate

'*The social license to operate (SLO) is an informal social contract that aims to bridge the gap among the views of the most important stakeholders involved in mining activities. The concept of SLO was first developed as a result of the criticism to mining projects and as a mechanism to ensure sustainable mining, environmental protection, cooperation with the local communities, preservation of the quality of life in the affected regions and finally the viability of the mining sector'* (Komnitsas, 2020, p. 1). The social license to operate serves as an integral part of corporate social responsibility and is granted when trust between the mining company and all local major stakeholders is established.

Figure 4: Social Licence to operate network



Source: (Social Licence, 2020)

Maintaining and enhancing a social licence to operate could take the form of a coordinated, large-scale effort (covering multiple business activities), but it is more likely to be shaped by the company's response to individual issues faced by communities on a daily basis, for example: improving relationships with various stakeholders (e.g. investors, regulators, communities and employees); demonstrating return on investment (RoI) and/or social return

on investment (SRoI); addressing risks and concerns in the company's value chain; and approaching engagement with specific stakeholder groups.

2.4.2. Social and labour plans

In South Africa, regulation 46 of the Mineral and Petroleum Resources Development Act (act 28 of 2002) requires mining houses to submit social and labour plans as part of their mining or production rights application (Department of Mineral Resources, 2010). The social and labour plans are aimed at promoting the social and economic welfare of all South Africans through employment and development projects and/or programmes (Department of Mineral Resources, 2010). The social and labour plans are also aimed at managing commodity cyclical volatility, minimising economic turbulence and physical depletion of the mineral or production resources on individuals, regions and local economies in the event of mine downscaling and/or closure (Department of Mineral Resources, 2010).

To effect regulation 46 of the Mineral and Petroleum Resources Act, the South African Department of Mineral Resources developed a set of guidelines for mining companies to adopt and use (Department of Mineral Resources, 2010). It is therefore mandatory that all social and labour plans are submitted in a prescribed format and address pre-determined objectives (Department of Mineral Resources, 2010). The social and labour plans therefore have prioritised the following development areas:

- Human resource development

Under the human resource development aspect, mining houses are required to implement skills development initiatives such as learnerships, bursaries (to address both core and critical skills), artisan development courses, ABET training and any other training initiatives specific and relevant to the local settings (Department of Mineral Resources, 2010).

- Employment equity plan

The employment equity plan must ensure diversity and participation of historically disadvantaged individuals in the various levels of decision-making structures of the company (Department of Mineral Resources, 2010). A minimum target of 40% representation of HDSA in management structures is set for all mining houses operating in South Africa (Department of Mineral Resources, 2010).

- Mine community development

> The mine community development serves to implore the mining company to make meaningful contributions towards the development of the community they operate in (Department of Mineral Resources, 2010). The mining company is required to conceptualise their development plans and programmes in line with the respective local and regional integrated development plan, provincial growth and development strategies, spatial development plans and national priorities (Department of Mineral Resources, 2010). This process ought to be a consultative process in which communities, local authorities and related stakeholders are involved.

In addition to the above elements, the social and labour plans need to demonstrate i) measures to establish an enhance housing and living conditions of the workforce, and ii) turnaround strategies in the event of mine downscaling to save job and curb unemployment (Department of Mineral Resources, 2010). This includes skills development programmes, assisting the affected employees with alternative forms of employment or sustainable livelihood opportunities (Department of Mineral Resources, 2010).

Ndaba (2010) is critical of the social and labour plans, he asserts that there is a half-hearted effort by the mining companies to implement their social labour plans. He further adds that the real interest of the mine companies is in obtaining good credit ratings from the national government through the implementation of the social labour plans. Marais and Watt (2021) add that the prevailing regulatory framework does not promote beneficial relationships and procedures for joint planning, mutual accountability and transparency. Marais and Watt (2021) acknowledge the existence of formal structures for collaboration between the mining industry, government and local community; the said structure is complex and characterised by high levels of distrust and lack of accountability.

To this end, Ndaba (2010) recommends that greater cooperation and commitment between the local authority and the mine company be strengthened to develop and roll out relevant and impactful social and labour plans. Ndaba (2010) further adds that some of the challenges that need to be addressed are curbing regional political turmoil, enhancing buy in of the traditional authorities, minimising high staff turnover of both the local authority and mining companies. The inability to enhance relationships across all respective stakeholders and continued disruptions will disempower the local community and thereby undercut the relevance and impact of the social labour plans (Marais & Watt, 2021).

2.4.3. Artisanal mining

Artisanal mining is a labour intensive form of mining that uses basic tools and technology to extract minerals from the ground (Chuma, 2022). Artisanal mining occurs in approximately 80 countries worldwide and dominates in developing regions such as Africa, Asia, Oceania, Central and South America (World Bank, 2022). It is estimated that approximately 100 million individuals benefit from artisanal mining compared to the 7 million from industrial mining (World Bank, 2022). Artisanal mining is a significant contributor to sustainable livelihoods and a source of income for vulnerable communities (World Bank, 2022).

Given the socio economic realities that developing countries face in terms of unemployment, poverty and inequality, it is expected that a significant number of people will join and participate in this activity both directly and indirectly (Ledwaba, 2017). Mining in South Africa has largely focused on large-scale mining and ignored artisanal mining as a form of small-scale mining (Ledwaba, 2017). This, despite the benefits that artisanal mining had in rural development, skills development, empowerment, contribution to sustainable livelihoods, etc. (Ledwaba, 2017). Artisanal mining has not necessarily been ignored by South African policymakers. In 1998, the minerals and energy policy centre undertook a study to scope the state of small-scale mining in South Africa (Ledwaba, 2017). The purpose of the study was to understand the composition of the sector and to provide policy recommendations. This was supported by the White Paper on Mineral and Mining Policy of 1998, which aimed to promote small-scale mining in order to exploit small mineral deposits and make positive contribution to the local economy (Ledwaba, 2017).

The growth and development of artisanal and small-scale mining are hampered by numerous challenges despite efforts and measures by the South African government to develop it (Government Gazette, 2022). Notwithstanding the 27 mining permits issued under the ambit of artisanal and small-scale mining, the sector remains informal and as such there is no proper recording and reporting of the sector's traction (i.e. number of operators, employment data, impact, taxes, etc.) (Government Gazette, 2022). The National Department of Mineral resources and energy published the artisanal and small-scale mining policy in 2022 to enhance its oversight and regulatory responsibility on the sector (Government Gazette, 2022). This is a significant step to regularise the sector and address some of gaps and challenges experienced.

2.5. MINING AND DEVELOPMENT IN THE GREATER ORKNEY AREA

The greater Orkney area is located in the North West Province of South Africa within the municipal jurisdiction of the City of Matlosana. The City of Matlosana was formerly known as the Klerksdorp municipality until it was changed in 2005 (City of Matlosana, 2017). The municipality is classified as a category B in line with section 4 of the Local Government Municipal Structures Act of 1998 (South African Local Government Association, 2017). As such, the municipality shares executive and legislative authority with a category c municipality, namely the Dr Kenneth Kaunda District Municipality (South African Local Government Association, 2017).

The city of Matlosana comprises the following towns: Klerksdorp, Jouberton, Alabama, Orkney, Kanana, Stilfontein, Khuma, Tigane and Hartbeesfontein. The city of Matlosana is strategically located along the socio-economic links to the Gauteng Province and other North West provincial economic hubs such as Potchefstroom, Rustenburg, Lichtenburg, Bloemhof, etc. The city has a population growth rate of 1.04% and in 2012 a population of 434 486 was recorded (City of Matlosana, 2017). Of the 434 486 people living in the City of Matlosana, 92% (403 402) reside in urban areas and 8%(35 079) in rural areas. The largest population is located in Jouberton, Kanana, Khuma and Tigane, respectively (City of Matlosana, 2017).

The population of the City of Matlosana is predominately African, at 89.8% followed by whites, coloureds and Indians (South African Cities Network , 2014). The population of Orkney is recorded at 17 030 (City of Matlosana, 2017) and records a split between the African and white populations (South African Cities Network , 2014). The number of people living in poverty in the City of Matlosana has increased to 212 892 in 2011, from 118 865 in 1996; this is a result of the declining economy that was over-reliant on the mining industry (South African Cities Network , 2014).

Mine downscaling in the City of Matlosana area started in 1990, but more significantly, in 2001, the effect thereof resulted in the closure of 22 out of 28 mining shafts, with up to 80% of the workforce being retrenched between 1996 and 2016 (South African Cities Network , 2014). The mining sector’s economic contribution to the City of Matlosana has dropped dramatically from 58.48% in 1996 to only 7.75% in 2011 (South African Cities Network , 2014).

The decline of mining activity in the City of Matlosana has given rise to a more diversified economy, with transport, finance and services sectors proportionally growing their share of the economy (South African Cities Network , 2014). The City of Matlosana has identified the N12

corridor development as a strategic economic driver for the region (City of Matlosana, 2017). The N12 development corridor will seek to promote residential and commercial projects along this route (Global Africa Network, 2020). The corridor would therefore aim to integrate the regional economies of the towns dotted along the route stretching from Witbank to George (Global Africa Network, 2020). Private developers and capital such as Twin City and Vuno Developments currently have various established commercial and residential projects to the tune of R290 million (Global Africa Network, 2020).

It is envisaged that the corridor will unlock economic opportunities for mixed land use such as industrial zones, retail parks, residential complexes and tourism. To date, the city has already recorded decentralisation of business activity from the central business district and surrounding areas towards the northern suburbs (City of Matlosana, 2017). Situated within the 16 kilometres radius, the town of Orkney is poised to benefit from the economic and social spinoffs of the N12 corridor development.

Orkney is a small town proclaimed in 1940. It was established following the discovery of gold and mining prospects by Simon Fraser in the 1880s (South African History Online , 2019). Mining activity in Orkney started in the early 1960s, with only three shafts (Motsumi, 2012). The first company to establish its operations in the area was the Vaal Reefs Exploration and Mining Company (Motsumi, 2012). As the interest in mining increased and production soared, Vaal Reefs Exploration and Mining Company opened an additional five shafts (Motsumi, 2012). The success of Vaal Reefs Exploration and Mining Company opened doors for other mining companies to set up operations in the area. It was in the 21st century that mining companies such as Anglo Gold Ashanti, African Rainbow Minerals, Harmony, Phamudza and Aurora started to operate in the area (Motsumi, 2012).

Mining companies operating in the Greater Orkney area are as follows:

- **Village Main Reef (VMR)**

  Village Main Reef is an emerging South African gold mining company. The company owns and operates the Tau Lekoa and has a processing plant in Orkney (Reef, 2020). The annual gold production output of VMR comprises xxx and it employs just over 6 000 employees who largely reside in rural areas and have an extended list of dependents (Reef, 2020).

VMR is controlled by the China Group, Heaven Sent, which bought majority shares in VMR (Reef, 2020). Despite capital investment of approximately R5 billion and record gold prices in 2020, operations at the Tau Lekoa mine have been making losses (Dong, 2020). This is attributed to i) low gold production, ii) unprecedented load shedding impacting revenue and operating profits, and iii) loss of production and reduction in investment flows by the parent company, Heaven Sent, due to fatal accidents that occurred at the plant (Dong, 2020). In September 2020, VMR issued a section 183, which is a notice of staff retrenchments at the company in efforts to secure the sustainability of the operations and job security of the remaining employees (Reef, 2020)

- **China African Precious Metals (Pty) Ltd**

China African Precious Metals Pty. Ltd (CAPM) operates as a mining company. The company owns and manages a range of mining assets, including gold mines and production facilities (Shangoni Management Services, 2012). CAPM is 74%-owned by Superb Gold, an SSC Mandarin affiliate (Shangoni Management Services, 2012). A broad-based black economic-empowerment consortium, led by Elias Khumalo, owns the other 26% (Shangoni Management Services, 2012).

CAPM intended spending over R525 million on developing and erecting a new gold plant at the mine (Shangoni Management Services, 2012). It wanted to restore operations and prepare the mine to resume full production within 12 months from the agreement's completion date. This includes seven shafts that constitute CAPM Orkney Gold Mine, and initially formed part of the Anglo Gold Ashanti and the American Vaal Reef Operation purchase sale agreement.

- **Harmony Gold**

Harmony is a gold and copper exploration company with operations in South Africa and New Papua Guinea (Harmony Gold, 2021). Harmony Gold Mining Company specialises in revitalising old shafts into new profitable operations (Harmony Gold, 2021). The business model of Harmony Gold is to buy under-performing gold mine operations and to transform them into low-cost, high-productivity mines (Harmony Gold, 2021). Harmony is South Africa's third-largest gold miner, and it is among the world's biggest gold producers (Harmony Gold, 2021).

The Greater Orkney area is characterised by high unemployment at 19.6% (City of Matlosana, 2017). According to South African Cities Network (2014), Orkney's population represents only

10% of migrants, thereby implying that the adverse effects of unemployment are felt by local residents. Of the people employed, the majority are employed in elementary jobs such as plant and machine operators, craft, security services, etc. (South African Cities Network , 2014). The percentage of people employed as professionals is 16% (South African Cities Network , 2014).

The economic life of Orkney has not grown over the years to compensate for the economic losses of mine activity downscaling. Alternative sectors such as trade or finance and business services have not been able to carry the local economy to a point of compensating the job losses as a result of mine closures (South African Cities Network , 2014). Similar to other mining cities and towns in South Africa, dilapidating infrastructure is a rising challenge. Drastic upgrades and maintenance are required to accommodate rising domestic pressure.

The central business district of Orkney has experienced a decline and degradation of business and retail activities largely due to decentralisation of shopping centres, crime, environmental degradation, littering and a lack of the proper maintenance of buildings and basic services infrastructure (South African Cities Network , 2014). In addition, the declining skills base, low private investor confidence, and insufficient finance for entrepreneurs to establish business operations have contributed to the demise of Orkney (South African Cities Network , 2014). In recent years, the central business district has begun offering lower-order/value products to cater for the mass markets and this has, in turn, transformed the business environment in the city (South African Cities Network , 2014).

Table 2: Social and Economic consequences of depressed mining economy in Orkney, 2018 - 2022

Social and economic consequences of depressed mining economy in Orkney, 2018-2022	
Year	**Incident**
2022	- Approximately 100 illegal miners fired shots at security guards, and one suspect was wounded and four suspects apprehended (Mitchley, 2022)
	- The Oppenheimer stadium is vandalised and stripped bare over a period of 3 months by Zama Zama's. Trenches were dug up in around the stadium to strip electrical cables, the stadium was stripped of copper-related materials, steel, furniture, fittings, etc (Koekemoer, 2021)

	- The facilities were once a bustling stadium that hosted national and local sport tournaments and events. The stadium boasted a rugby and soccer field, athletic field, gymnasium, entertainment area, clothing store, clubhouse and changing facilities (Koekemoer, 2021)
2021	- Local enforcement agencies discover 20 bodies of unidentified men near an unused shaft. It is alleged that the men are illegal miners. - Of the 20 bodies discovered, 5 were decomposed (Francke, 2021) - The bodies were discovered with severe burn wounds and it was alleged that they succumbed to their death following a gas exposition in one of the shafts (Francke, 2021)
	- Four decomposed bodies were retrieved and local enforcement agencies arrested 70 illegal miners following a sting operation in one of the mine shafts. - The foreign nationals arrested were from Lesotho, Mozambique and Zimbabwe.
	- Mass shooting between Zama Zamas and police was reported, during which 87 illegal miners were arrested, eight were wounded, six were killed and one police official was wounded at shaft 6 (Pijoos, 2021)
	- Threats of Orkney lockdowns by illegal miners following the shootout between security officials and police in which 6 illegal miners were killed (Nkuyane l. , 2021)
	- Village Main Reef issues a notice of section 189(a) informing employees and relevant statutory bodies of its plans to retrench 6 309 mine workers from Tau Lekoa mine, Kopanong mine and West Old Plant. The mine cites loss of income as the contributing factor due to Covid-19 pandemic and its related restrictions (Faku, 2020)
	- Suspected illegal miners gain entry to the Westvaal Hospital and loot wards that were not in use. Targeted items were gas and copper material (Afrika, 2021)
2020	- Four miners die while one survives following a rockfall at the Tau Lekoa mine (Ntshidi, 2019)

2019	-	A security guard is injured following a shootout between security personnel and illegal miners (African News Agency, 2019)
	-	Three Lesotho nationals are shot dead in what is believed to be deal gone wrong linked to illegal mining (African News Agency, 2019)
	-	Staff at the Ruben Buzile Nzima clinic complain to the North West Member of Executive Council for Health of being terrorised (i.e. rape, muggings, sexual harassment, etc) by gangs operating in Orkney (Nkuyane, 2019)
2018	-	A woman is raped by 15 illegal miners (Online, 2018)

The table 2 above gives a glimpse of the volatile environment into which Orkney has deteriorated. By record of the above incidents over the past five years, the Orkney area has been marred by death, gangster shootouts, destruction of public and economic infrastructure, etc. This unfortunately has contributed to the community of Orkney living in fear and fuelling a feeling of hopelessness.

Planned and ongoing economic development initiatives

- Orkney solar plant

A venture between Genesis Orkney Solar (PTY) Ltd and Independent Power Producer has conceptualised and proposed the establishment of a commercial solar energy facility on one of the farms in Orkney, North West (Environmental, 2016). The facility, aptly named Orkney Solar Farm, would generate up to 100 Mega Watts of electricity through static photovoltaic panels (Environmental, 2016).

Environmental (2016) Indicates that Orkney is the ideal location for the project due to its prevailing climatic conditions. Furthermore, Environmental (2016) states that the introduction of the project presents an opportunity in the Orkney Area to diversify the local economy and shift its dependency on mining towards other forms of economic functions. This will ensure sustainability and split the income of Orkney into different functions (Environmental, 2016).

- Itireleng learning and manufacturing hub

The Itireleng learning and manufacturing hub is a skills development centre with specialisation training in mining and engineering-related fields such as repairs to capital equipment, i.e. hoppers, rolling stock, conveyor belts, etc. (North West Department of Economic Development, 2021). The hub is biased towards the development of the youth and women living within the local mining communities (North West Department of Economic Development, 2021).

Currently, the hub has enrolled 100 local women and provides them with training for the textile-based industry (North West Department of Economic Development, 2021). The hub plans to broaden its focus to include a steel factory, ICT services, agro-processing plant and manufacturing of wood products (North West Department of Economic Development, 2021).

- Lepharo incubation programme

The Lepharo fund and incubation programme is a private initiative that cuts across various industry and related sectors based on collaboration between the private sector, government and the broader civil society (Lepharo, 2022). Lepharo provides training in technical fields, capacity building for businesses and mentorship for emerging enterprises (Lepharo, 2022). Lepharo targets existing and start-up businesses.

Through their incubation initiative, Lepharo, in partnership and collaboration with other stakeholders, sets up incubation centres in various locations to provide a range of development services (Lepharo, 2022). The scope of the development services includes financial compliance, business planning, market access, access to finance, etc. (Lepharo, 2022). Lepharo has an agreement with Harmony Gold, in which an incubation centre is established in Orkney to provide business development services to businesses located in the Orkney area (Lepharo, 2022).

- Orkney hotel school

In 2015, Anglo Gold Ashanti donated land and buildings in the Orkney area to the North West Department of Tourism (Klerksdorp Rekord, 2022). Part of the agreement between Anglo Gold Ashanti and the North West Department of Tourism was for the Department to convert the facilities to serve as a hotel school and to provide the necessary resources for the proper maintenance and up-keep of the buildings and facilities (Klerksdorp Rekord, 2022).

The school will provide high quality skills programmes that will prepare provincial, national and international graduates and trainees for the exciting and rewarding opportunities of the tourism sector (Klerksdorp Rekord, 2022). Hospitality programmes offered will go beyond educating, training, skilling and certificating to creating platforms and possibilities for our graduates to become entrepreneurs and job creators (Klerksdorp Rekord, 2022). The project implementation has, however, stalled due to budget constraints and the impact of Covid-19.

2.6. Conclusion

Literature was discussed on what local economic development is all about and how partnerships ensure success in the development of projects. The South African context is highlighted through policies and unique support mechanisms for downscaling of mining areas. Mining is a critical sector in terms of economic growth and areas that are downscaling this sector needs to be carefully assessed. Sustainable mining is therefore essential to determine the future of these areas. The case of how the Greater Orkney Area has developed or sustained the area after mine downscaling is introduced in the chapter. This brings the reader to the next chapter which will explore the findings from the qualitative study in the area.

CHAPTER 3: DATA ANALYSIS AND FINDINGS

3.1. Introduction

This chapter will present the findings that emerged from data collected from the in-depth interviews undertaken. Using purpose sampling, the study had three research target groups, as follows:

- Target group 1, which comprised mining houses operating in the area;
- Target group 2, which comprised local authorities, independent economic development practitioners, etc
- Target group 3, which comprised civil society representatives i.e. community, labour and business representatives, local media houses, etc.

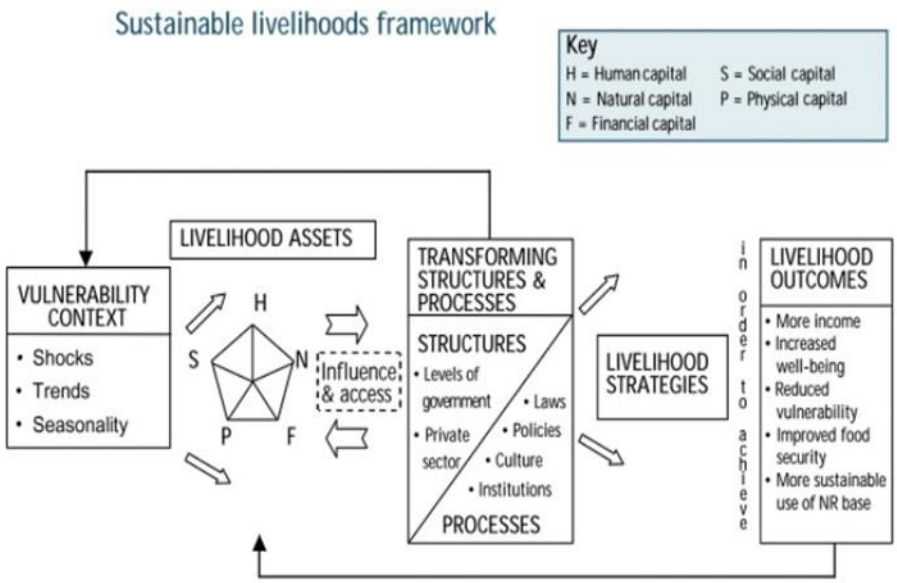
The said target group aimed to balance biasedness on the responses to the research questions. Fourteen interview respondents were targeted; however, only nine interview respondents participated in the research. The other five respondents declined the request to participate in the research. Of concern is that all the mines targeted operating in the Greater Orkney area declined and/or ignored our request for an interview. One respondent from target group 3 declined to be interviewed, but opted to provide written responses. The responses translate to a 64% response rate; annexure xx outlines the responses per institution.

The data was analysed using themes to express the emerging issues holistically. The findings of the study are therefore clustered into the corresponding themes. In the sections below, the findings will be outlined under the corresponding theme. Each section starts with a brief description of the theme, followed by a discussion on the responses and findings.

3.2. Theme 1: Livelihood vulnerability

According to Chambers and Conway (1991), livelihood comprises the capabilities, assets and activities that individuals and households need to make a living. Capabilities refer to the ability of an individual and household to respond to shocks (natural disasters, economic downturns, etc.) by being adaptive and able to explore and exploit opportunities (Chambers & Conway, 1991). Assets refer to individuals and communities skills, knowledge and the wellbeing to engage in economic opportunities (Chambers & Conway, 1991). It further includes access to social networks, natural resources, enabling infrastructure and financial capital to empower them (Chambers & Conway, 1991).

Figure 5: Sustainable Livelihoods Framework



Source: (Deckers, 2005)

For individuals and communities to achieve a sustainable livelihood, they require access, capabilities and assets supported by structures and processes to respond to and recover from stresses and shocks in the immediate and future terms. Livelihoods exist and interface with the local, national and regional social, economic and political contexts. This includes institutions, processes and procedures that enable individuals and communities to have access to assets and means to extract value from the assets, as depicted in figure 5. Livelihood vulnerability is therefore the inability of households to harness their assets to embark on empowering livelihood strategies and activities to respond to shocks.

The establishment and development of Orkney have primarily been on the backdrop of the gold mining industry. It is common cause that a vast number of the households in Orkney have and are deriving social and economic benefit (infrastructure, health and wellness, sports and recreation, etc.) (PI06, 2022). However, and evidently so, with the continued downscaling of mining operations and related investment, it is inevitable that the livelihood vulnerability of households residing in Orkney will be compromised (PI06, 2022).

The study respondents outlined the following points as contributing factors:

- Most of the shafts in the area are closed; the mines had to lay off most of their workers, of which many were foreigners (PI03, 2022). For some of the working permits had lapsed thus they are illegal immigrants (PI03, 2022). They have become a burden to

the community because they are responsible for most of the theft of copper, steal, etc. (PI03, 2022). The situation is worse to a point that zama zamas steal metal zinc that people have used to build their shacks (PI03, 2022).

- The mining sector has over the years predominantly been a labour-intensive sector, and as such, the sector was able to hire a large number of employees with low skills levels (PI05, 2022). The majority of the workforce of mines therefore comprised low-skilled employees and unfortunately when the downscaling began, those low-skilled employees were the first ones to be laid off in numbers (PI05, 2022). Secondly, due to the low skills set, most of the ex-mine workers were unable to find work elsewhere (PI05, 2022). Therefore, the impact of the mine downscaling was more devastating to the vulnerable members of our communities (PI05, 2022);
- It so no doubt that the mining sector in Orkney provided numerous development opportunities, and supported local economic development and investment (PI01, 2022). On the social front, mining contributed to the wellbeing of households by providing efficient basic services and recreation activities for its immediate community, i.e. housing, general upkeep of surrounding areas, recreational activities, etc. (PI05, 2022). Now, with mines shutting down, all those benefits are gone; in fact, what you find is a ghost town with questionable characters roaming the streets, increasing rates of pregnancy among the youth, as well as drugs and gang-related violence (PI03, 2022). Some companies are really benefiting from illegal mining (PI07, 2022).
- People are getting poorer and they are turning, unfortunately, to crime to put food on the table and make life a bit more bearable for themselves (PI07, 2022). Vandalism and theft of infrastructure-related equipment and material (boreholes, substations, buildings, etc.) are high and a daily occurrence (PI01, 2022).
- The local municipality has recorded a decline in their revenue collection in the area due to people not working and therefore not being able to pay for municipal services and rates (PI01, 2022). This has a knock-on effect regarding the financial stability of the municipality, as low revenue rates will result in the municipality not being able to provide services to its community and undertake development projects (PI01, 2022).
- Indigent households have increased from 14 in 2006 to 380 in 2021 (PI02, 2022).

3.3. Theme 2: Incoherent economic responses to mine downscaling in Orkney

The primary function of government and its institutions is to undertake development planning for the regions and jurisdictions they are responsible for. The primary aim of development planning is to ensure that positive economic, social and environmental gains and benefit are realised for their respective areas. National, provincial and local institutions play pivotal roles in influencing the development trajectory of a region or locality by devising enabling policies, strategies and programmes that seek to promote prosperity, social cohesion and wellbeing, and the preservation of the environment.

The livelihood of households in a region or locality is a reflection of the effectiveness of developmental planning and implementation of programmes and projects by its respective institutions. In instances where the livelihood vulnerability of the households is weak, it suggests inefficiency of institutions in development planning and implementation; in the case of resilient livelihood vulnerability, the converse applies. Coherent and efficient development planning policies, procedures and implementation therefore enable and broaden access to assets by households, which allows them to guard their vulnerability against shocks and empowers them to pursue worthwhile livelihood strategies and achieve positive livelihood outcomes.

In the case of Orkney, a number of initiatives have been rolled out and include the following, among others:

- Efforts to establish a hotel school;
- Establishment of food gardens to enhance food security;
- Establishment of a textile hub;
- Roll-out of EPWP and CWP programmes;
- Efforts to establish an Orkney solar plant with the potential to create 5 400 permanent jobs;
- Incubation hub established to assist emerging small, medium and micro-enterprises;
- Efforts to link up Orkney with the N12 social and economic development corridor.

The respondents have raised several shortcomings in relation to economic planning and implementation to address Orkney's issues, as outlined below:

- The development of Orkney has evolved on the backdrop of a mining industry that assumed a large part of responsibility for the local municipality by providing

housing, basic services and general upkeep of the area (PI02, 2022). For the time the mines were responsible for these services, the local authorities ought to have done assessments and implemented plans on how they are going to utilise and maintain these infrastructures once the mines started withdrawing from the area (PI08, 2022). The downscaling of mines in the Orkney area started to be evident in the 1990s and therefore it is disappointing to hear the local municipality claiming that they need maintenance funds and did not anticipate the pressure that the downscaling would bring (PI08, 2022).

- PI06 (2022) further adds that it becomes difficult at this point to say who must maintain the infrastructure because prior arrangements and planning were not done. The unfortunate part is that the infrastructure cannot be abandoned and be vandalised; government across all spheres must step in (PI01, 2022).
- According to PI07 (2022), local government, especially local economic development, is silent in terms of comprehensive plans to lift the situation in Orkney.
- While there are a number of government and private sector institutions that have carried out initiatives in the area, the initiatives are carried out in an uncoordinated manner (PI02, 2022). Besides the Small Town Revitalisation strategy, there is no evidence of a provincial or local programme or plan to deal with small towns under stress due to mine closures.
- PI04 (2022) contends that public sector policymakers have struggled to understand the concept of local economic development and how it has evolved. PI06 (2022) puts a hypothetical question to say, has government been able to facilitate a robust local economic programme that is clear and benefits the community? The LED projects advanced by the local municipality struggle to feed one family and therefore cannot pass the litmus test (PI06, 2022).
- The local and provincial government has actually lost an opportunity to advance the benefits of mining to local communities beyond closure (PI05, 2022). The first missed opportunity was to synergise SLPs with IDP and LED plans, which was largely due to the instability of local municipalities, i.e. internal factional battles, frequent changes in management, etc'; secondly, lack of skills and capacity of LED units to robustly engage with mines in creating value from the SLP, i.e. beneficiation, etc.; and lastly, the ability to hold mines accountable due to the legislative framework that places the competency of mining at a national

government level and of local economic development at a local government (PI03, 2022).

- Local economic development is a multi-sectoral concept premised on comparative and competitive advantage-supported investment-related activities (PI04, 2022). According to the local municipality, manufacturing and agriculture have been identified as the sectors for development post the mining era; however, there are no comprehensive analysis and framework that outline the scope to which the targeted sectors will be developed, targeted sub-sectors, comparative and competitive advantage of Orkney, cost benefit analysis, value chain beneficiation, targeted investors and engagement plans, etc.

3.4. Theme 3: Social license to operate paradox

The dawn of the 20th century has subjected the business community to scrutiny from society. Businesses need to demonstrate a responsible response on how their operations are responding to environmental and societal issues. Businesses need to position themselves and contribute to efforts towards the triple bottom line, i.e. people, plant and profit. In other words, companies need to earn their social license to operate. To obtain a 'social license to operate', the companies need to be in touch with the prevailing realities of the communities they operate in and create meaningful value and benefits to the community (Komnitsas, 2020).

The concept of a social license to operate is widely accepted by the industry as an enabler for success and implores that companies look well beyond self-serving interests (Komnitsas, 2020). The license bridges the gap between the views and aspirations of concerned stakeholders and distils them into the design phase of a project where essential decisions that shape the mining project are taken (Komnitsas, 2020). The granting of a licence implies that the mining enterprise has sufficient social connections and approval, which is an essential step towards sustainability in the long term.

Value-adding activities and projects for the community range from curbing the operation hazards of mining to the community from an environmental, social and economic perspective. This includes

- protection of the environment;
- contributing to climate change agenda;
- prioritising the health of the community;

- provision of economic opportunities;
- the promotion of social cohesion by undertaking projects aimed alienating social problems such as drug abuse, teenage pregnancy, etc.

By responding to the aforementioned aspects, companies stand in a better position to obtain a social license to operate. It is through access to products, services and development opportunities that households can maximise their capabilities and assets to self-actualise.

In the case of Orkney, the manifestation of mining in the area has resulted in a paradox. Paradox in economics is defined as "*a situation where the variables fail to follow the generally laid principles and assumptions of the theory and behave in an opposite fashions"*. The mines operating in the Orkney area, through their social labour plans, have demonstrated their commitment and efforts to advance their social license to operate, in particular Anglo Gold Ashanti. In line with their mining rights requirements, the respective mines have tabled and carried out social labour plans projects to address the development needs of communities and to plough back.

The mines have made a significant investment in the local economic development by building community centres, childhood care centres, local procurement, etc. (PI07, 2022). Future forums were established to bring together various stakeholders to devise means and ways to deal with mine operating environments and mitigate against mine closures. However, responses from the participants raised sharp criticism labelled at the initiatives and projects undertaken by mines through their social labour plans. The criticism is outlined below:

- The projects listed and outlined in the SLPs of the mines are quick wins and do not subscribe to the ethos of sustainability (PI03, 2022). Most of the projects were not of economic significance; it is cause for concern when you come across an SLP with projects such as swimming pools listed in them (PI01, 2022).
- Mines had a great investment in the local communities; now, with the downturn, the community is feeling hard done by the mining houses (PI07, 2022). There is a general discontent in how the mines are leaving the areas (PI07, 2022). PI05 (2022) adds that mines did not do that well in protecting or conserving the environment.
- Development initiatives undertaken by the mines have not been effective because the local municipality themselves were not involved in the process of developing those SLPs (PI08, 2022). The sustainability of Orkney as an economic town is very much

questionable given the disjuncture between the mines, municipality and communities (PI02, 2022). There is no unionism of a common goal and agenda (PI04, 2022).

- Most of the mining operations are doing quick win projects (PI02, 2022)
- When employers foresee that mining is declining and they foresee possible retrenchments and closures, they should embark on skills development; however, in the case of some mining houses, they offered employees allowances to undertake skills development on their own (PI03, 2022). The problem with this approach is that the retrenched workers used the allowance for daily living expenses. This arrangement was made in bad faith (PI03, 2022). This is similar to the housing debacle whereby mines offered workers houses using their pension pay-outs, and now the workers have paid for the houses, however, they do not have the means to provide for their living (PI02, 2022).
- We used to fight the mines about beneficiation of those commodities that we mine so that they at least benefit our people when they leave, projects such as recycling the mine rocks that were mined for many years ago (PI05, 2022).
- The basic should be when we commence with mining arrangements that we believe we can contribute to the local economy; how do we make sure that they are facilitated in such a way that they are planned using local context? That they are implemented to benefit local communities (PI06, 2022)?
- We need sustainable job creation initiatives whereby we need some stimulus from government to actually help young people establish small businesses without having to depend on the municipality and for tenders (PI05, 2022). EPWP and your CWP activities are short term and do not address the long-term development needs of Orkney (PI08, 2022).

3.5. Theme 4: Ethical Leadership and Governance

Local institutions and structures that are operated from an elitist perspective and do not subscribe to the principles of democracy, transparency and accountability disable vulnerable communities' ability to empower and develop themselves. Within this context, poverty reduction and development efforts require an enabling institutional environment to effectively deliver programmes and projects aimed at human development. Leaders overseeing the operation of these institutions need to commit and subscribe to a good and ethical governance orientation.

Ethical governance comprises values and culture that subscribe to morally accepted standards of being, i.e. integrity, accountability, consultation, openness, etc. Ethical governance sets up a framework for processes and procedures that drive high standards of performance, effectiveness and efficiency. Ethical governance is an ideal that business organisations, government and social networks should strive for to address the challenges that the world faces today.

The following responses regarding leadership and governance were raised:

- We are really not necessarily dealing with issues of mining or local economy development activities, but the overarching problem is the question of the capacity of local government that stifles and paralyses the relationships between the mines, the communities and various stakeholders (PI06, 2022).
- Officials and politicians are self-serving; there is a need to build robust communities that are able to engage in issues of local economic development.
- Structures are established, however, most of the structures are used for firefighting rather than planning, implementation and monitoring (PI01, 2022).
- Different communities and townships have formed groups such as the unemployment groups, etc.; however, some of these groups are vigilante groupings and highly politicised (PI03, 2022).
- The expectation is that the ward committee is a representation of the community; however, it does not work like that (PI01, 2022). Councillors choose their own factional people to be ward committee members and probably manipulate them or control them to advance self-serving agendas (PI01, 2022).
- Local government has failed badly in terms of the realisation of planning in terms of implementing and realising successful LED projects (PI07, 2022). Individuals are doing their own deals at the expense of the community (PI03, 2022). Without the right people leading LED in municipalities, there is nothing that you can do (PI05, 2022).

3.6. Conclusion

The data from the qualitative study of interviews with mining houses, local authorities, independent local economic development practitioners, and civil society representatives were analysed. The findings were clustered into four (4) themes - Livelihood vulnerability, incoherent economic responses to mine downscaling, social license to operate paradox and ethical

leadership and governance. The findings will then be able to guide us to the recommendations of the study.

CHAPTER 4: RECOMMENDATIONS AND CONCLUSION

4.1. Investment in a localised social compact

Revitalisation of distressed mining towns cannot be addressed in isolation on the basis of local economic development. The national government has announced a number of policies and programmes to provide a framework as an approach to dealing with declining economies in former mining sector-dominant areas. However, there has been incoherence in institutionalising the respective programmes in terms of mandates, financial resources and obligations, and governance.

In line with the prevailing governance frameworks, greater responsibility is placed on local municipalities to adopt and implement the applicable policy directives. Evidence from this research has questioned the i) capability of local institutions to undertake development planning and implementation, ii) the conviction of mining houses to meaningfully curb the negative impact of mining and set them on a sustainable development trajectory post mining, and iii) contamination of social structures to advance the interest and aspirations of the communities.

The study therefore recommends that effort and investment be made in a localised social compact to address issues of mine downscaling and local economic development in the province broadly. The notion of a social compact is to find a meaningful way to bring government, business and civil society into an agreement that seeks to achieve inclusive growth and development. The South African mining and business environment has been characterised by rolling labour unrest, policy uncertainty and contradictions, unprofitable business operations, lack of adequate basic services and deteriorating infrastructure, social regression, etc.

The demise of Orkney is not unique to the town and not immune to other towns in the province of North West. Together with agriculture, mining in the North West is a primary sector and as such a holistic approach to address issues of mine downscaling and local economic development is required. The first step is for collaborative efforts and agreements to be undertaken among all concerned stakeholders. Top of the agenda is dealing with the ramifications of mine downscaling in the province, and some of the actions should address the following:

- Establishing a cordial relationship between government, business and communities. This will require that a comprehensive stakeholder management and engagement framework is set in place that will include stakeholder analysis, rating of stakeholders, engagement mechanism, participation platforms, feedback tools, etc., as outlined in Figure 6 below:

Figure 6: Effective Stakeholder Engagement

Source: PennState - College of Earth and Mineral Sciences

- Seek greater alignment between SLP, IDP and LED plans to lift the respective communities out of the realms of under-development. The SLPs need to be reviewed to ensure that they are relevant, impactful and sustainably commit to long-term catalytic projects that seek to change the landscape of the provincial economy. Government work needs to ensure that their IDPs and LED plans are sound and credible to inform development planning in their respective regions.

- All parties should commit to the principles of openness, transparency and accountability to curb perceptions of impropriety by government and the mining sector. This would require that planning documents, sessions, and reports are accessible to the broader society, most importantly the immediate communities. Regular updates are needed to community structures to keep abreast of the developments and plans to address their interest and aspirations.

4.2. Broad- based approach to Local Economic Development

The conceptualised underpinnings of local economic development are based on geographical jurisdictions that are often constrained by a limited economic base, undiversified economy, biased resource accumulation, skills endowment and infrastructure. There is a need to adopt a broad local economic development policy orientation that seeks to promote regional economic development to attract new economic ventures from national, regional and global market economic linkages and connectivity.

The published small town revitalisation strategy seeks to position small towns as part and parcel of larger hierarchies of economic centres that provide services to surrounding communities. This approach resonates with the principles of globalisation, open markets and globally integrated economies. Broad-based local economic development therefore calls for integrated management of space, economies and people. It further acknowledges that regional connectivity and economic value chains are the main conduits that enable economic development on a larger scale.

By approaching development with a regional outlook, it is possible to attain optimal economic benefits through inclusive and equitable development. This new approach will culminate in a paradigm shift in the way economic regions are conceptualised from administrative regions to economic and functional regions. Understanding the economic regions within which the municipalities are located presents a real opportunity for cross-boundary municipal collaboration, cooperative spatial governance and joint planning to achieve shared economic futures. It also assists municipalities to make the necessary adjustments and investments towards diversifying their economies and subsequently reducing the risk inherent in global downturns and economic shocks.

4.3. Institutional reform to enhance Local Economic Development

Weak governance structures, lack of resources (financial, technical and skilled workforce) and poor strategic leadership are summed up as the main contributing factors disempowering organisations broadly to deliver on their mandates. The study therefore recommends that the institutional reform should circumvent capacity constraints experienced by local government municipalities to undertake local economic development. This will include de-politicising governance and development planning at the local government.

There needs to be an introduction of an institutional framework that seeks to draw upon the knowledge, skills and resources of the various development agents of a region. Development agents include academia, non-governmental organisations, business, labour representatives and government. The said development agents can be institutionalised into a development agency financed by both the private and public sector. The mandate of the agency is to conduct development planning and implementation to address societal gaps and economic development of the region.

The establishment of the development agency represented by various development agents will dilute the influence of politics and partisanship in development planning and delivery. The agency will aspire to the principle of '*local solutions to local issues by local people'*. The objectives of the agency will broadly include the following:

- Foster coalitions, coordination and leadership for the development of local communities;
- Undertake land and property developments to promote lending and investment;
- Promote technology and innovation, skills development, employment creation and job brokerage and to foster entrepreneurship and SMEs' innovation, enterprise and skills; and
- Promote cluster and regional development.

The district development plan is an ideal platform to pilot this approach. The process is anchored on local advantage, while harnessing the skills, capacity and innovation of varied private and public sector bodies. The potential for local economic spinoffs and growth is huge and will catalyse structural change and develop new capabilities.

4.4. Conclusion

The path and process of local economic development are non-linear and non-panacea within the context of developing economies and localities. The trajectory of local economic development is influenced by contextual factors such as strategic intent and impetus, effective local institutions, collaboration and partnerships, human and financial capital, etc. Local economic areas have economic heritage, distinctiveness and identity that also play a role in shaping the make-up of local economic conditions.

A shift in thinking needs to be adopted and realise that social problems are economic problems, and therefore the mobilisation of resources and capacity for local economic development need to receive the same vigour as social services such as the provision of water, electricity, housing, etc. The two elements are complimentary and when adequately addressed, the result thereof will be evident in the improved living conditions and livelihoods of households.

Mining is undoubtedly an integral part of the South African economy and is poised to continue to be so for a couple of decades to come. Legislatively, the mining sector bears a responsibility to play an active role to develop the communities in which it operates. For the benefits of mining to be fully realised, from an economic development perspective, there needs to be a strong bond and link between the local institution and community. Social labour plans can be a very effective enablers to curb the economic impacts of mine closures when they are done right. Social labour plans need to promote sustainability in the initiatives that they implement.

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ANNEXURES

ANNEXURE A: GHREC ETHICAL CLEARANCE

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

29-Oct-2020

Dear Mr Tlhopane Nthatisi

Application Approved

Research Project Title:
Local Economic Development in context of Mine Down-scaling: The Case of Orkney, North West Province, South Africa

Ethical Clearance number:
UFS-HSD2020/0287/2810

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

Dr Adri Du Plessis
Chairperson: General/Human Research Ethics Committee

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ANNEXURE B: INTERVIEW SCHEDULE – TARGET GROUP LOCAL AUTHORITY

Target Group 1: Municipal Local Economic Development officials, Town and regional planners;

Questions

1. What is your observation of the impact of the declining mining activity in Orkney?
2. What is the view and plans of the local authority for the economic and social infrastructure build by mines in Orkney? How can this infrastructure be maintained and developed to contribute to economic growth for the area post mine closure?
3. How prepared is your organization in taking up some of the public services and goods provided by the mines (I.e water, sewer, electricity, etc)?
4. Are there dedicated resources and capabilities to drive development in the Orkney area?
5. Are there any industries or sectors identified in the Orkney area with growth potential and do not depend on mining? If yes, what are the plans to grow these industries and/or sectors?
6. Are there any measure put in place to attract private or public sector investment and development in the Orkney area?
7. Can you please take me through your Local Economic development planning process and/or cycle? Does your organization undertake scenario planning of mine closures in its development planning and what are the key take outs?
8. Are there any measure in place to ensure that benefits (local taxes, CSI initiatives, etc) generated from mining activity be used to support local development initiatives? If so, may you please outline the measures and their extent of effectiveness?
9. What type of measures and/or interventions has the local authority undertaken in response to the declining mining activity in Orkney? And what were the outcomes of those measures/interventions?

10. What measures and/or structures are in place to engage with the mining sector in the Orkney area? And how effective are these measures and/or structures?
11. What measure and/or structures has the local authority put in place to engage and consult with the local community in relation to the mining activity in Orkney area? And how effective are these measure and/or structures?
12. Are the any partnerships and/or agreements with the mining companies that is geared towards the development of the Orkney area? If so, what is the nature of those partnerships and/ or agreements? If not, why is that?

END

ANNEXURE B: INTERVIEW SCHEDULE – TARGET GROUP MINING HOUSES

Target Group 2: Mining houses

Questions

1. What is your view on the impact of mine downscaling in the Orkney area? How do you see the local economy sustaining itself after the closure of mines? What would you recommend as the alternative economic driver and/or anchor of the local economy post the closure of mines?
2. What LED and community development programme/s has been rolled out by your organization? And what were the outcomes of the programme/s? What were the success factors and challenges in rolling out such programmes?
3. What interventions and/or measures has your organization put in place to prepare the mine workers for post mining environment?
4. What is your and/or organizations view on the efforts by the local authority to develop the local economy?
5. Does your organization provide any support for partnerships and/or collaboration that can support and empower the local economy and/or community?
6. Are there any collaborations and/or partnerships between your organization with other organizations, local authority, community, etc to address issues of development in the Orkney area? What is the nature and outcomes of those collaborations and/or partnerships?
7. Are there dedicated resources set aside for community and/or local economy development projects? May you please expand on the nature of the resources, projects supported and outcomes?
8. What measures has your organization put in place to engage with the local communities in relation to the declining mining activity on the Orkney area? And how effective are the measures?

END

ANNEXURE B: INTERVIEW SCHEDULE – TARGET GROUP COMMUNITY AND BUSINESS LEADERS

Target Group: Community and business leader/s

Questions:

1. What is your view on the impact of mine downscaling in the Orkney area? How do you see the local economy sustaining itself in a declining mining activity environment? What would you recommend as the economic driver and/or anchor of the local economy?

2. Are you aware of any LED and community development programme that have been rolled out by the private and/or public sector? And what were the outcomes? What were the success factors and challenges in rolling out such programmes?

3. What measures are in place to engage with the local communities in relation to the declining mining activity in the Orkney area? And how effective are these measures?

4. What is the communities' view, feelings and plans towards the declining mining activity in the Orkney area?