



# **Supplier Development Framework Analysis in South Africa's Upstream Oil & Gas Sector**

A Research Report presented to

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of the requirements for the  
MCOM in Development Finance Degree

by

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And lastly, to my husband for all the encouragement and support you give me in everything I do. You are responsible for moulding me into the best person I can be, and I love you. I could never imagine life without you.

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## List of Acronyms

API	American Petroleum Institute
AU	African Union
B-BBEE	Broad-Based Black Economic Empowerment
bcf	billion cubic feet
BOP	Balance-of-Plant
BP	British Petroleum plc.
CSRSM	Centre for Social Responsibility in Mining
ECDC	Eastern Cape Development Corporation
E&P	Exploration & Production
EHS	Environmental, Health and Safety
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
GSCM	General Supply Chain Management
HSE	Health, Safety and Environment
ICT	Information and Communications Technology
IDC	Industrial Development Corporation
IDZ	Industrial Development Zone
IFI	International Finance Institution
IFC	International Finance Corporation
IPIECA	International Petroleum Industry Environmental Conservation Association
IPAP	Industrial Policy Action Plan
ISO	International Standards Organisation
JV	Joint Venture
KPI	Key Performance Indicator
LNG	Liquid Natural Gas
LPG	Liquid Petroleum Gas
merSETA	Manufacturing and Engineering Related Sector Education and Training Authority
MNC	Multinational Corporation
NAACAM	The National Association of Automotive Component and Allied Manufacturers
NAAMSA	National Association of Automobile Manufacturers of South Africa
NCR	National Credit Regulator
NEF	National Empowerment Fund
NEPAD	New Partnership for Africa's Development
NGO	Non-Government Organisation
NOV	National Oilwell Varco
NYDA	National Youth Development Agency
OECD	Organisation for Economic Co-operation and Development
OSB	Offshore Supply Base
PPPFA	Preferential Procurement Policy Framework Act
PwC	Price Waterhouse Coopers
SABS	South African Bureau of Standards
SACCI	South African Chamber of Commerce and Industry
SADC	Southern African Development Community
SACU	Southern African Customs Union
SAOGA	South African Oil & Gas Alliance
SEBRAE	Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (The Brazilian Service of Support for Micro and Small Enterprises)
seda	Small Enterprise Development Agency

SEFA	Small Enterprise Finance Agency
SETA	Sector Education & Training Authority
SEZ	Special Economic Zone
SHEQ	Safety, Health, Environment and Quality
SME	Small and Medium Enterprise
SMME	Small, Medium and Micro Enterprise
SOC	State Owned Company
SPDC	Shell Petroleum Development Company
the dti	The Department of Trade & Industry (South Africa)
TNC	Transnational Corporation
TNPA	Transnet National Ports Authority
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organisation
UWILD	Underwater Inspection in Lieu of Dry-docking
WEF	World Economic Forum
Wesgro	Western Cape Destination Marketing, Trade and Investment Promotion Agency

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## **Abstract**

*Although considerable attention has been given to the prospects for developing small, medium and micro-enterprises, and more specifically local content, very little relevant research has been undertaken in South Africa's upstream oil and gas industry with specific reference to an offshore supply base. In this research report, findings have been presented from 15 detailed interviews conducted with Transnational Corporations, local SMEs, government departments, industry associations, small business support organisations, and international respondents involved in supplier development programmes within the Oil & Gas sector. The aim of the research was to investigate the difficulties that confront local small businesses, and examine opportunities for outsourcing services to SMEs and encouraging development of business linkages in South Africa's upstream oil and gas industry. The South African research has been conducted within the context of existing international research on upstream oil and gas supplier development, and small enterprise development in developing countries.*

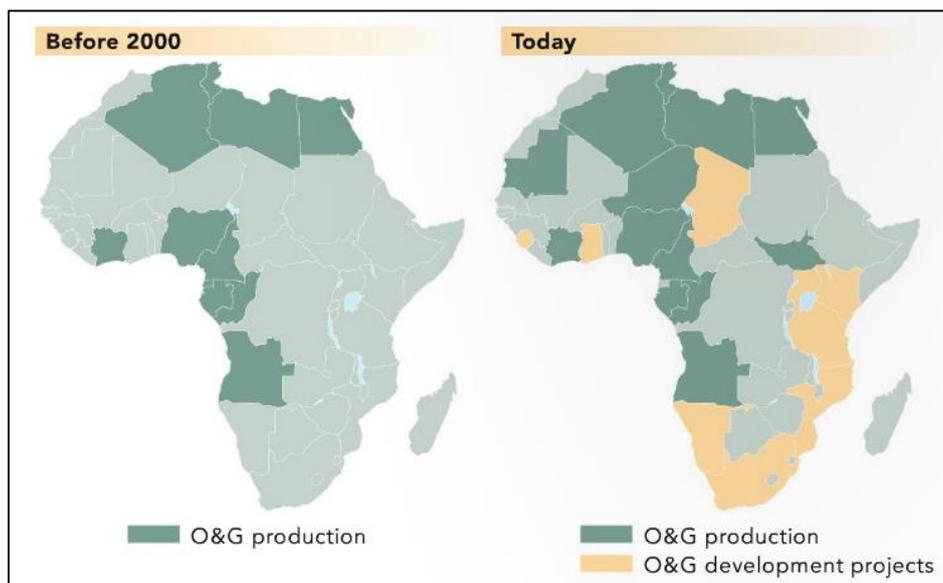
## Chapter 1: Introduction

### 1.1. Background

By the end of 2011, Africa had proven oil reserves of 132.4 billion barrels, ranking fourth after Europe and Eurasia, South and Central America and Middle East, and comprising 8.0% of the World's total reserves (BP p.l.c., 2012). The top five African oil producers in 2011 were Nigeria, Angola, Algeria, Egypt and Libya based on output of refined petroleum (ICBE TrustAfrica Fund, 2011). Recent discoveries such as Mozambique's offshore gas deposits and other findings on Africa's East Coast have consolidated this potential. Exploration companies such as Anadarko Petroleum Corporation and Eni have made discoveries in Mozambique that could potentially hold "more than 100 trillion cubic feet and could theoretically support as much as 50 metric tonnes per year of liquefied natural gas (LNG) exports" (The Africa Report, 2012). Considering Nigeria's gas reserves total approximately 190,000 billion cubic feet (bcf), this is one of the largest single discoveries on the African continent, and gives some perspective to the potential of the East African offshore development.

Growth prospects for oil and gas exploration in sub-Saharan Africa have remained largely untouched by the effects of the global recession and downturn in Foreign Direct Investment (FDI) and expansion of activities. The region remains one of the fastest growing and highest potential oil and gas areas in the world, making it a natural attraction for investment activities that include exploration and production (E&P), drilling, maintenance and repairs, and refining. In 2012, British Petroleum (BP) (2012) estimated that between 10 and 25% of the global oil and gas reserves were based in sub-Saharan Africa. Figure 1-1 highlights the pre-2000 level of development activity in Africa's Oil and Gas Sector in comparison with the 2012 developments.

**Figure 1-1: Level of Development Activity in Africa's Oil and Gas Sector (2000 and 2012)**



Source: (Focus Reports, 2012)

International companies have also been increasing their presence in the South Africa market, including Halliburton re-opening their Cape Town-based office and National Oilwell Varco acquiring a local offshore services company – Algoa Oil and Gas Pipeline Services (Pty) Ltd (South African Oil and Gas Alliance, 2012). As of the end of 2010, exploration company Baker Hughes had 182 active rotary oil rig drillers on the African continent out of a total of 3,227 global rigs (Ernst & Young, 2011).

The concept of an offshore supply services hub is recognised internationally, with major services hubs based in the United States, Singapore, Australia, Scotland and Norway. Figure 1-2 shows an example of an offshore supply hub in Bergen, Norway. Typical activities in the offshore supply hubs include fabrication, general services, logistics services and general dock-side based activities focused on maintenance and repair of the oil and gas rigs (Frost & Sullivan, 2011).

**Figure 1-2: Offshore Supply Base with Maintenance Centre at Bergen, Norway**



Source: (Nordas, Vatne, & Heum, 2003)

## **1.2. Status Quo of South Africa's Potential as an Offshore Supply Base**

South Africa does not currently have the same potential for oil and gas exploration and drilling activities as the rest of the African continent, but the country does have critical infrastructure and logistics support with a large hinterland for development of a dedicated offshore supply services hub. Geographically the country could operate as a central logistics point between coastlines, coupled with easy access to both East and West Africa by sea and air. Politically, South Africa is a founding member of the New Partnership for African Development (NEPAD), whose founding objectives are to elevate Africa's opportunities in the global economic arena and to ensure beneficial and complete integration into the global economy (South African Oil and Gas Alliance, 2012). South Africa is also an active member of the African Union (AU), the Southern Africa Development Community (SADC) and the Southern African Customs Union (SACU). Its role within the African community has provided South African-based companies with favourable access to opportunities in the region. In particular, South Africa has observed a growing trend in many of the local content initiatives in the African oil-producing countries preferentially requiring "African content" when local content is not available (Heum, Quale, Karlsen, Kragha, & Osahon, 2003).

Two catalysts have spurred the development of South Africa's position as an offshore supply services base. Firstly, the development of the South Coast offshore infrastructure in the late 1980s established significant South African capacity to fabricate and provide a variety of technical services to the industry. Many of the global service companies established South African operations to service these developments. Secondly, the explosive growth of the West African oilfields has

attracted many local firms into the market and South Africa has become a significant supplier of services and equipment to West Africa, as well as a favourable location for head offices and logistics operations. While Ghana, Nigeria and Angola have existing facilities and infrastructure, there is no single port that acts as a strong logistics base or dedicated, world-class offshore supply base (OSB). This has meant that oil rig operators have been forced to conduct scheduled maintenance at alternative bases in the United States (Houston), Las Palmas and Singapore (South African Oil and Gas Alliance, 2012).

In 2011, South Africa identified the oil and gas industry as a priority sector for economic growth through the Industrial Policy Action Plan (IPAP) (the dti, 2012). IPAP 2011/12 highlighted that both on- and offshore shallow and deep-water exploration was still in the early stages of development, as was the related infrastructure development, upstream support activities, technical skills and supporting service-sector which typically followed in the wake of such development (Focus Reports, 2012). In 2011, there were 132 oil rigs passing South Africa's coastlines however, very few were serviced locally because the necessary capacity was still being built.

South Africa's opportunities lie in this area: in developing a service based industry because of the country's proximity to oil fields when compared to other hubs such as Rotterdam or Singapore (Frost & Sullivan, 2011). Rob Davies, Minister of Trade and Industry (Focus Reports, 2012, p. 15) commented:

*We have overcome the hurdle of recognising the importance of the sector, and are now going into the details of the investments that need to take place, as well as the support programs that we need to put in place.*

This focus has been supported and reaffirmed through major supply services companies involved in the upstream oil and gas sector. Steve Harley, President of DHL Logistics' Energy Sector believes that South Africa could become an important role-player in terms of head offices, and as a financial and training centre for the industry, with specific "interest in creating locations such as Saldanha Bay to become a logistics hub for both East and West Africa" (Focus Reports, 2012, p. 12). South Africa has the critical infrastructure to be able to support such an industry including a number of ports with deep drafts and dry-dock facilities. A small number of local engineering contractors are already well equipped to undertake fabrication, construction, ship/rig repair and maintenance, surveys and certification. This infrastructure, coupled with the economic and political stability of the country as a contributing factor when considering alternatives on the African continent, has already enabled the country to undertake oil and gas vessel repair/upgrade projects for companies such as Transocean, Chevron, Saipem and others (the dti, 2012).

The A-Berth facility in the Port of Cape Town (Figure 1-3) has been dedicated to repair and maintenance of rigs, drill ships and associated equipment has been the most significant upstream oil and gas servicing infrastructure to date. Further expansion of dedicated oil and gas port terminal infrastructure is expected for the Port of Saldanha Bay within three years (Transnet National Ports Authority, 2011/12).

Figure 1-3: Various Oil Rig Repair Projects at Port of Cape Town's A-Berth



Source: (Transnet National Ports Authority, 2011/12)

### 1.3. Problem Statement

Oil and gas discoveries on the African continent have given hope to individual countries and regions. Increases in production and oil prices have potential to result in increased revenues for state budgets, along with multiplying effects on export earnings. Such a boost to national income has offered these countries the opportunity to alleviate poverty, and stimulate growth and economic development (OECD, 2000). Heum et al (2003, p. 25) noted that in Nigeria, the oil and gas industry has served as the backbone of the economy since the 1950s but very little of the profit in proportional terms has been generated by local firms. This is not unique to Nigeria, and has been the experience in many African countries. Within the context of developing markets it has been suggested that the economic objectives of increased earnings, foreign exchange, investment and job opportunities, as well as minimising adverse social and cultural effects would be best promoted through the development of SMEs and local content uptake (Ariyo, 1998). There are a number of constraints that restrict SMEs from maximising these benefits as suggested by Heum et al (2008): low technological capacity; lack of funding from financial institutions; inadequate infrastructure; unfavourable business climate, and lack of partnerships between local contractors and technically

competent foreign companies. Bakare (2011) further suggests that the low uptake can be explained by the inadequate local content support and internal constraints such as lack of skills, technical expertise, and production capacity. These constraints can be both indigenous to a country, as well as common across emerging countries.

Opportunities clearly exist in South Africa, but minimal efforts have been undertaken to profile potential income-generating opportunities for SMEs, and understand the constraints that may deter them from investing in the sector.

The desired future for South Africa is to have fully functioning oil and gas services cluster where the local economy, including development of SMEs and small businesses, realises the benefits of the demand for these services through increased local content and supplier development. In order to achieve this, a thorough understanding of the relevant role-players and their responsibilities is still required; as well as a detailed investigation as to the requirements for SMEs to make the most of opportunities presented.

Areas of potential partnership and factors likely to affect SME decisions and willingness to invest in the oil and gas value chain will be addressed, with the view of identifying the constraints and proposing possible actions for addressing them so as to facilitate SMEs access and development in the sector.

## **1.4. Research Objectives**

The general objective of the research is to identify opportunities for SMEs and small businesses in the upstream oil and gas value chain, and propose solutions to some of the barriers identified in order to enhance increased local content and SME involvement in the sector within the context of the South African market.

### **1.4.1. Specific Objectives**

- To identify key actors in the upstream oil and gas value chain in South Africa
- To determine the factors (challenges and opportunities) likely to influence the level of local content, SME development and uptake in the oil and gas services industry in South Africa
- To identify the business partnerships that would be created between operators, contractors, local businesses and SMEs in the upstream sector in South Africa
- To propose actions to address the constraints hindering local content uptake and SME development in South Africa

## **1.5. Research Question**

Within the context of these objectives, the research aimed at identifying how upstream oil and gas companies based in South Africa meet the objectives of contributing to sustainable economic development and business through enterprise facilitation, localisation and integration of local SMEs into supply chains. In addition, the research also aims to provide answers as to why operators would

preference local suppliers when they have a choice of national and international suppliers that are typically larger and longer-established.

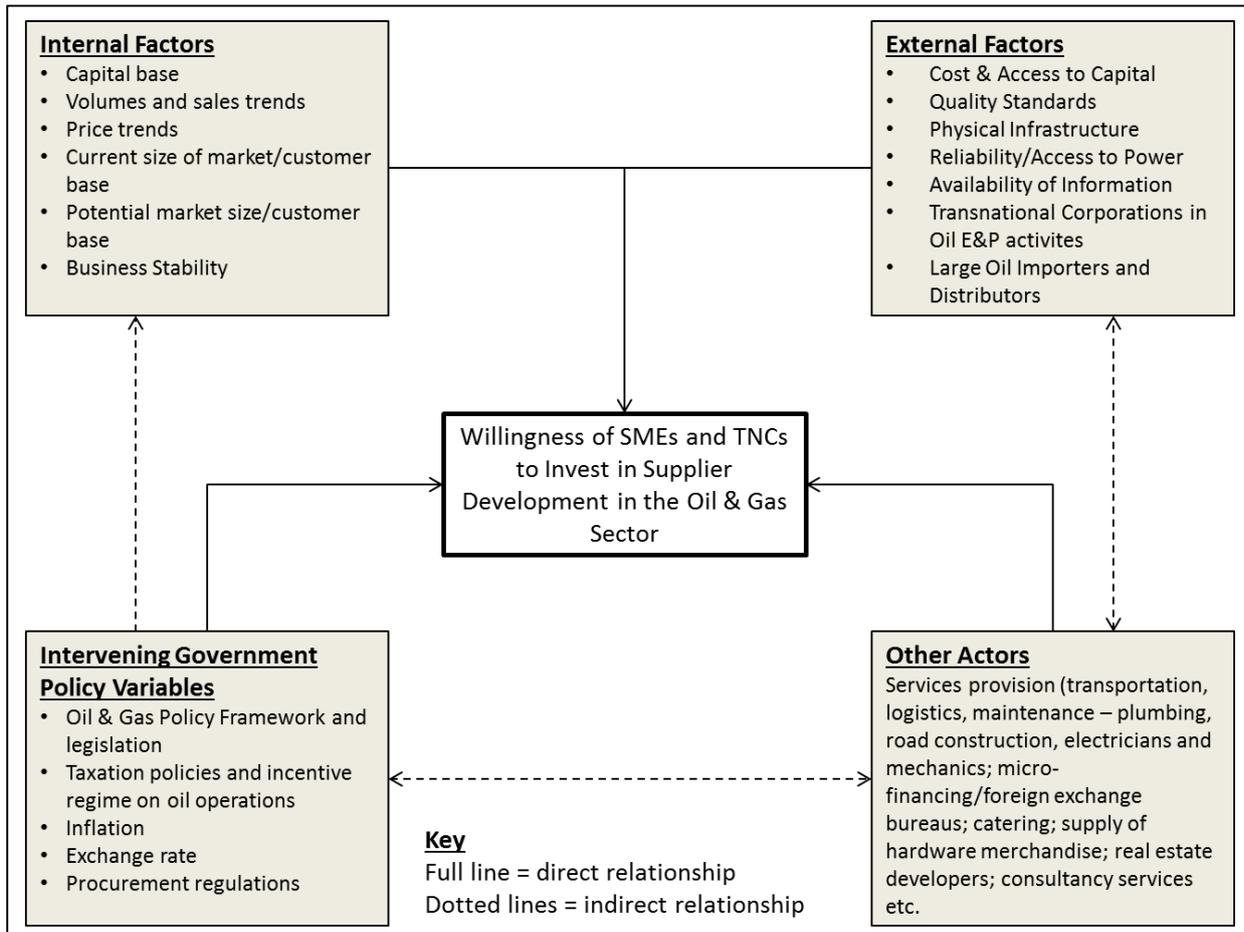
The research questions that guided this study within the context of the South African market were to determine:

- Who are the potential actors in the upstream stages of the oil and gas value chain?
- What factors influence oil rig operators' decisions and willingness to support SMEs and local content programmes?
- What factors influence the level of SME uptake and utilisation in the oil & gas services value chain?
- What are the possible business linkages and outsourcing opportunities by oil rig operators and large contractors to local businesses and SMEs in the upstream oil and gas sector?
- What are the policy and non-policy actions to address the challenges with local content uptake and SME development?

## **1.6. Conceptual Framework of the Research Project**

The assumption adopted by the study in order to prepare a baseline for the conceptual design was that operators and contractors have a willingness to invest in local content and SME development in the oil and gas services supply chain. Similarly, this willingness was expected to be reciprocated by the local businesses and SMEs through meeting requirements and delivery of projects. The research was aimed at establishing the relationship between internal and external factors that influence uptake of local content and SME development in the upstream oil and gas sector. The research also evaluated solutions based on the identification of challenges in local content uptake and SME participation in the upstream oil and gas sector. Research undertaken by the ICBE TrustAfrica Fund (2011) provided a conceptual framework (Figure 1-4) on which to analyse the internal and external factors that influence SMEs participation in the oil and gas sector. The study examined the extent to which Transnational Corporations (TNCs) involved in oil E&P activities, and intervening variables such as policy, regulations, tax policies, incentive regime and procurement legislation influence SME participation in the sector (ICBE TrustAfrica Fund, 2011).

**Figure 1-4: Conceptual Framework for Willingness to Include SME Participation and Local Content in the Upstream Oil and Gas Sector**



Source: (ICBE TrustAfrica Fund, 2011); Adapted by Researcher

Existing research on SMEs that were not directly involved in the upstream oil and gas value chain but were undertaking business activities such as logistics, clearing and forwarding, transport, catering, equipment supply and servicing, micro-financing, consultancy, agricultural product supply, metal fabrication and trading were studied in order to examine additional opportunities for local content and SMEs.

This study is intended to provide insight into the level of development, challenges and opportunities of SMEs in South Africa's upstream oil and gas sector based on the conceptual framework in Figure 1-4.

## Chapter 2: Literature Review

### 2.1. Small and Medium Enterprises (SMEs) and Economic Development

In pursuing an appropriate strategy to inform and optimise local procurement, it is worth starting with an understanding of the role Small and Medium Enterprises (SMEs) and local business play in the local economy, as well as the nature and level of the impacts. The classification of SMEs in South Africa is defined by the National Small Business Amendment Act (26 of 2003) which classifies medium enterprises as having a maximum number of 200 employees and turnover of less than R51 million; and small enterprises as having less than 50 employees and turnover of R13 million in the manufacturing sector (National Credit Regulator, 2011). In South Africa, Small, Medium and Micro Enterprises (SMMEs) make up 91% of the formal business sector in the country; they contribute between 52 and 57% of the country's Gross Domestic Product (GDP) and provide 61% of employment. The economic capitals of Gauteng, Kwa-Zulu Natal and the Western Cape contribute 83% to the total number of SMMEs in South Africa (Biepke, 2011).

The White Paper on National Strategy for the Development and Promotion of Small Business in South Africa (1995) highlighted the fact that "Small, medium and micro enterprises represent an important vehicle to address the challenges of job creation, economic growth and equity in our country" (Abor & Quartey, 2010, p. 8). Ariyo (1998) and Ihua (2010, p. 18) state that SMEs are "key drivers, engine-rooms and catalysts of economic development in many countries", because they generate economic revenues, and contribute to employment and better standards of living.

*Supplier development is a broad concept aimed at strengthening the performance of subcontracting firms not only by enabling them to acquire the skills and capabilities required of them by the main contracting (or client) enterprise but also by raising their awareness and assisting them in reducing their costs (UNIDO, 2003, p. 6).*

Sourcing from local SMEs also leads to further economic activity and attracts investment as suppliers engage other suppliers for inputs, and employees spend in their communities (UNIDO, 2003). Initiatives to improve suppliers' capabilities to meet client needs can help transfer technology and higher standards, allowing suppliers to provide better service (the dti, 1995). The oil and gas sector has cross-cutting linkages with all sectors in the economy as it acts both as an input in production and a facilitator of production and distribution (Aigbodua & Oisamoje, 2013).

For the purposes of this study, it is anticipated that the extent of local content or SMEs in the upstream oil and gas industry within South Africa is limited to a small number of suppliers. Companies that are South African-based as opposed to provincial- or city-based formed the basis of understanding of local content of the study. This view corresponded with that of Government which is national-based, but it is often rejected by communities that define themselves and their geographic boundaries (Diale, 2009).

### **2.1.1. The Level of Development and Entrepreneurship of SMEs in South Africa**

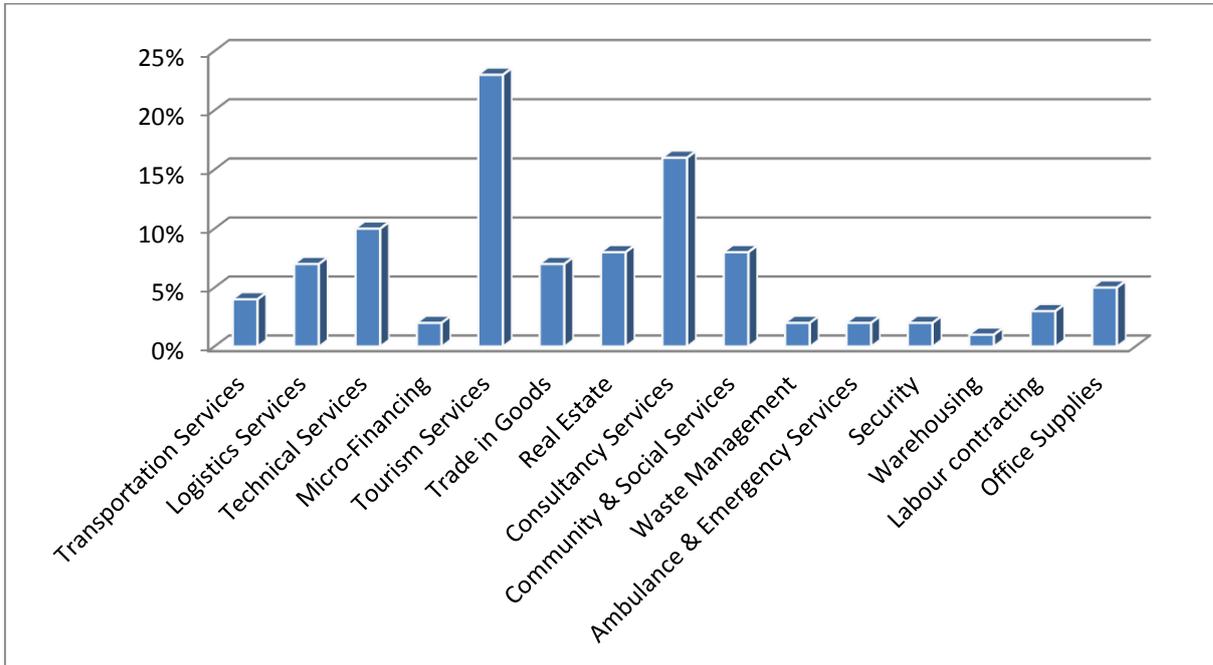
Despite the amount of small business activity, South Africa does not rank highly as an entrepreneurial nation when compared to other countries around the globe. This is mostly attributed to the failure rates of small businesses, which is largely attributed to low levels of “entrepreneurial education” (Simrie, Herrington, Kew, & Turton, 2011, p. 5). This is reflected in the Global Entrepreneurship Monitor (GEM), which shows that South Africa’s Total Early-Stage Entrepreneurial Activity (TEA) is below the average of comparable economies in the world. The 2011 GEM Report shows that South Africa’s rate of 9.1% has remained fairly constant (8.9% in 2010) and the country’s overall ranking in the last decade of participating in GEM has shown negligible improvement. This is significant, because of the country’s ranking on the continent, as well as compared with the progress it has made over the last decade with regard to economic policy and programmes aimed at stimulating growth (Simrie, Herrington, Kew, & Turton, 2011, p. 18).

A large majority of SMEs in South Africa are based within the tourism services with a specific focus on food and catering, and travel and accommodation at 23%. The higher focus is not surprising given that these services are non-specialised and the size of the market for tourism in South Africa (FEM Research, 2013).

Despite the focus on tourism services, the biggest focus of SMEs in South Africa falls under the business support and services classification (although not grouped as a single cluster), which included transportation services, logistics services, some aspects of technical services and consultancy services (Figure 2-1). This is often a more specialised sector of SME services since “many business processes are outsourced to smaller companies”, thus creating opportunities for small business development (FEM Research, 2013, p. 13).

This research is based on the formal sector, and needs to take into account that in many district municipalities away from the economic hubs of the country the focus from SMMEs is often on laundry and house-cleaning services, rubbish and waste removal, security services and average accommodation institutions. Some of the smaller sectors for SMMEs include manufacturing, and engineering (under technical services), security, emergency services, micro-finance and warehousing. These are all key sectors for direct services to the Oil & Gas industry however, also required the highest level of specialised skills, and are the most difficult to enter (FEM Research, 2013).

Figure 2-1: SME Sectors in South Africa



Source: (FEM Research, 2013)

### 2.1.2. SME Regulatory Support: A Brief Review

For South Africa's small enterprises to have a meaningful role in global, regional and local economic environments is no doubt a daunting task for those involved i.e. entrepreneurs, government and other organisations. SMEs are less likely to be able to deal with, and are particularly vulnerable to, continued and long-lasting shocks in the economy (Rogerson, 2004). Despite the challenges of the global recession, SMEs do have an advantage over large corporates because they are generally more adaptable, able to innovate and cut costs quickly. In general, SMEs that survive recessions and slow economic periods are more likely to succeed (FinScope, 2010). The South African government has implemented initiatives that continuously adapt to the SME environment and requirements. Nonetheless, this is a process that will take time and will also have to be cognisant of increasing the number of people who have the skills, knowledge and experience in starting and managing new enterprises to achieve business growth and economic sustainability (Diale, 2009).

The White Paper on National Strategy for the Development and Promotion of Small Business in South Africa (the dti, 1995) encourages the establishment of a support framework for SMEs in the form of enabling legislation, institutional reform, leveraging financial and other forms of assistance for small business development. There are various levels of regulatory standards and acts governing the support of SMEs. These include the National Small Business Act 102 of 1996 and subsequent amendments, the Revised Broad-Base Black Economic Empowerment (B-BBEE) Codes of Good Practice, the Preferential Procurement Policy Framework Act (PPPFA) promulgated in 2000, and the Special Economic Zones (SEZ) Bill. The PPPFA enacts the South African Bureau of Standards (SABS) as the local content verification agency.

Government has established several institutions mandated to deliver a wide range of key services, including both financial and non-financial support services, to small enterprises. Government institutions that offer support to SMMEs include the following (the dti, 2013):

- Small Enterprise Development Agency (seda)
- Small Enterprise Finance Agency (SEFA)
- National Empowerment Fund (NEF)
- National Youth Development Agency (NYDA)
- Industrial Development Corporation (IDC)
- Land Bank
- Mafisa
- Provincial Agencies e.g. Eastern Cape Development Corporation, Wesgro etc.

Khula is an independent, limited liability company and is focused on improving access to finance for SMEs in South Africa; however only focuses on agriculture, mining, property and joint ventures. Similarly the provincial support agencies are mandated to act as investment support organisations, and not as financing agencies. The IDC is a key role-player in economic development and job creation projects in line with the industrial policy sectors. Mafisa and the Land Bank provide financial support for small rural agricultural farming establishments. None of these agencies have a specific focus on the oil and gas industry, and Diale (2009) suggests that this could hamper the development of SMEs with a dedicated focus on this sector.

The National Credit Regulator (2011) suggests that SME support can be broadly categorised into three areas: access to finance, business support and market accessibility. There are a wide range of SME support programmes that fall under these categories including research and development; business and marketing support; export development programmes; support for manufacturing, tourism and co-operatives. In South Africa, the majority of the support tends to follow some form of incentive program or matching grants where the business owner needs to contribute at least half of the project costs.

There are a number of publications which provide information on these agencies and incentives including the *Guide to the dti Incentive Schemes* (the dti, 2013), annual reports, agency websites and private sector information boards. The overall importance of SME support programmes is also highlighted in key policy documents such as the National Development Plan, New Growth Path, and the Industrial Policy Action Plan (2013/14 – 2016/17).

The Industrial Policy Action Plan (IPAP) guides all policy, government support and interventions to ensure competitiveness in priority sectors within the context of a rapidly changing economic environment. The upstream oil and gas sector was included in 2011 as a new area of intervention. The 2013/14 IPAP acknowledges that in order to unlock the potential impact of the oil and gas services sector to the South African economy, administration and red tape constraints to domestic companies and small businesses needs to be alleviated (the dti, 2013). One key research theme that is not receiving adequate attention in South Africa's upstream oil and gas sector is a specific examination of the prospects for developing business linkages and localisation. This is not surprising given the sector's recent inclusion in the IPAP, but it is a crucial policy tool in understanding supporting requirements and responsibilities for the development of the sector

(Jenkins, Akhalkatsi, Roberts, & Gardiner, 2007). While private sector controls the majority of the operations within the sector, government plays an important role in terms of influencing investments in order to achieve certain policy objectives (World Bank, 2012).

Despite the numerous documents, awareness of the schemes, how to access them and usage remains low (National Credit Regulator, 2011). The most comprehensive and cohesive document detailing SME support initiatives in the public and private sector in South Africa was the National Directory of Small Business Support Programmes which was published in 2010 by **the dti** (the dti, 2010). The National Credit Regulator (NCR) suggests a number of reasons for the failure of Government support to small businesses. Some of the reasons identified include: (1) a higher concentration of support in metropolitan areas; (2) the high cost of searching for support services coupled with ineffective information on how and where to access support; and (3) cumbersome administrative requirements of Government programmes (National Credit Regulator, 2011).

Research indicates that SME policy should ensure a minimum of the following objectives (Esteves, Brereton, Samson, & Barclay, 2010, p. 65):

- Consolidation of regulations that support SMEs into a single instrument with supporting institutions to ensure that resources are properly utilised;
- Facilitation of enhanced interactions between various sectors such as academia, large business, medium business and agriculture; and to promote clustering activities;
- Formal recognition of the importance of the sector in national policy and planning;
- Inclusion and coordination of all participants, including lower income groups, in the processes of economic development and policy planning.

International Finance Institutions (IFIs) or multilateral organisations have a major role to play especially in assisting government in implementation of programmes or advisory roles. Non-Government Organisations (NGOs) could play a role in providing assistance such as business advice, registering businesses, information on incentives and assistance programmes. In most developing countries, research by the European Investment Bank shows that NGOs are often uncoordinated and have too many broad objectives and poor management (Dalberg Global Investment Advisors, 2011).

### **2.1.3. Relevance and Impact of Local Content and Local Procurement**

There are significant variations across industry as to the interpretations of 'local content' ranging from national level to the immediate location of a project or operation. Shell distinguishes local content as national products and services in comparison to community content where suppliers are taken from local communities closest to a project. There is also variation in what type of spending is included in local content strategies e.g. percentage of local labour, materials, equipment and/or services. The Global Reporting Initiative (GRI) defines local suppliers as "providers of materials, products and services that are based in the same geographic market as the reporting organisation" (Esteves A. , Barclay, Samson, & Brereton, 2010, p. 25). Transocean, a global rig operator that undertakes rig repair contracts in the Port of Saldanha Bay, sources as locally as possible because a 2-3 hour delay waiting for a spare part from Cape Town costs the company approximately \$60,000 (DCD Marine / Transocean, 2013). Maximising local

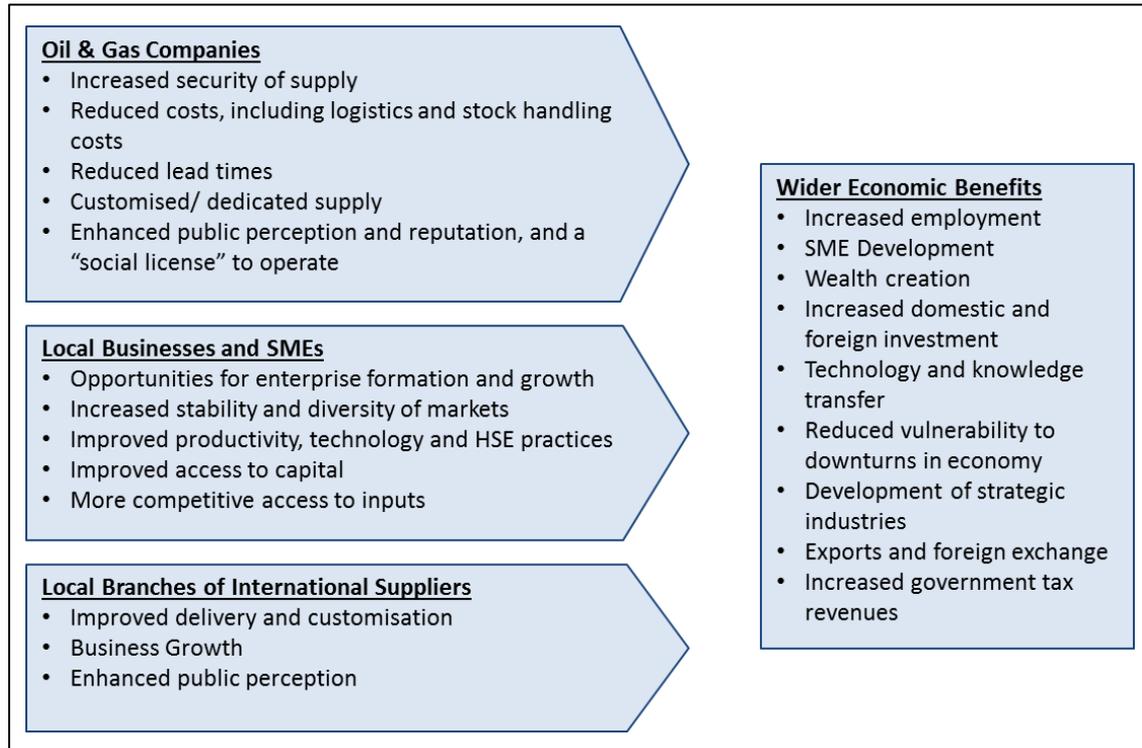
procurement ensures a security of supply for TNCs with the added benefit of reduced lead times and logistics costs (World Bank, 2012).

Esteves et al (2011, p. 22) report that there are a number of leading companies, particularly in resource-based sectors that have become more proactive towards adopting policies and standards aimed at increasing local procurement in their supply chains. These companies implement policies for supplier selection, partnering and development, and continue to place a high priority on production volumes or efficiency in time and productivity as the most important Key Performance Indicators (KPIs). Research into sustainable development indicates that it is not generally philanthropy, or some form of charitable impulse towards the local community that promotes corporate engagement with SMEs but usually self-interest (ICBE TrustAfrica Fund, 2011). These companies tend to adopt longer-term perspectives that look beyond a single financial year's profits, and often focus on managing supply chain risks. Jenkins et al (2007) found that in more developed oil and gas services markets operators were initially driven to procure locally through formalised commitments or regulation with government or external bodies. More recently, however, research suggests that "leading companies are increasingly being motivated" to develop supportive long-term partnerships with local small business to promote security of supply (Jenkins, Akhalkatsi, Roberts, & Gardiner, 2007, p. 24). These partnerships provide additional business benefits such as supply chain efficiency and increased supplier competitiveness, and have mutual benefits for both local businesses and operators. The 10<sup>th</sup> Annual CEO Survey conducted by PricewaterhouseCoopers (PwC) for the World Economic Forum, showed that 35% of the respondents indicated that more than 10% of their value chains were sourced from, or located in low-cost countries (Jenkins, Akhalkatsi, Roberts, & Gardiner, 2007).

Abor and Quartey (2010) suggest that maximising local SME participation in the supply chain requires a three dimensional perspective of sustainable development – ecological, social, and economic, while recognising the reliance of these three systems on each other. Within South Africa, there are policies such as the B-BBEE Act for incorporating social considerations into procurement decision-making; however these policies do not have as much influence on the upstream oil and gas sector (South African Oil and Gas Alliance, 2012).

Numerous studies on the impact of South Africa's SME programmes and preferential procurement policies have been done, but there is little published research which has been conducted within the upstream oil and gas industry. The majority of the studies have been conducted within African countries such as Nigeria, Uganda and Ghana. South Africa has only formed part of secondary research documents through organisations such as the World Bank and provincial governments (Beare, 2005) (Esteves A. , Barclay, Samson, & Brereton, 2010). The ability of the upstream oil and gas sector to contribute significantly to employment creation and entrepreneurship development is crucially dependent on a number of variables, notably the nature and location of the project(s), the size and source of the investment, the policy intentions accompanying the investment and level of support available to local business and SMEs. While there are benefits to ensuring maximum local content and SME participation, there are wider benefits to be enjoyed by both the oil rig operators, large contractors, and local branches of international suppliers as shown in Figure 2-2 (World Bank, 2012).

**Figure 2-2: Potential Benefits of Increased Local Procurement in the Oil & Gas Sector**



Source: (World Bank, 2012), Adapted by Researcher

In considering the SME regulatory environment in South Africa, it is worth understanding whether the PPPFA, the B-BBEE Act and the B-BBEE Codes of Good Practice are the best policy options for supporting local content and small business development. The B-BBEE Act does not place a legal responsibility on the private sector to comply with the provisions of the Act, but does for any public sector procurement (the dti, 2013). In addition, **the dti** is granted approval to designate specific industries of critical and/or strategic importance, for tenders in which it is indicated that only locally-manufactured products with a prescribed minimum threshold for local content will be considered. While these regulations have had an impact on supplier development, there is no clarity on how government intends on furthering these requirements to the private sector. In the case of the oil and gas sector, Transnational Corporations (TNCs) are not involved in government tenders or procurement, and therefore are not forced to procure locally. In comparison, local content strategies such as those in Nigeria, legally forces TNCs to procure from local suppliers and contribute to local economic development and/or skills training (Aigboduwa & Oisamoje, 2013). Anadarko, a rig operator with contracts to PetroSA, a state-owned company, has argued that South Africa’s offshore market is still too underdeveloped in terms of Exploration and Production (E&P) potential to impose local content regulations in oil and gas. Government should instead focus on supporting small business to achieve the safety, health, environment and quality standards (SHEQ) required by the industry if they are to reduce the risk of supply bottlenecks created by potentially unachievable local content requirements (Anadarko Petroleum Corporation, 2013).

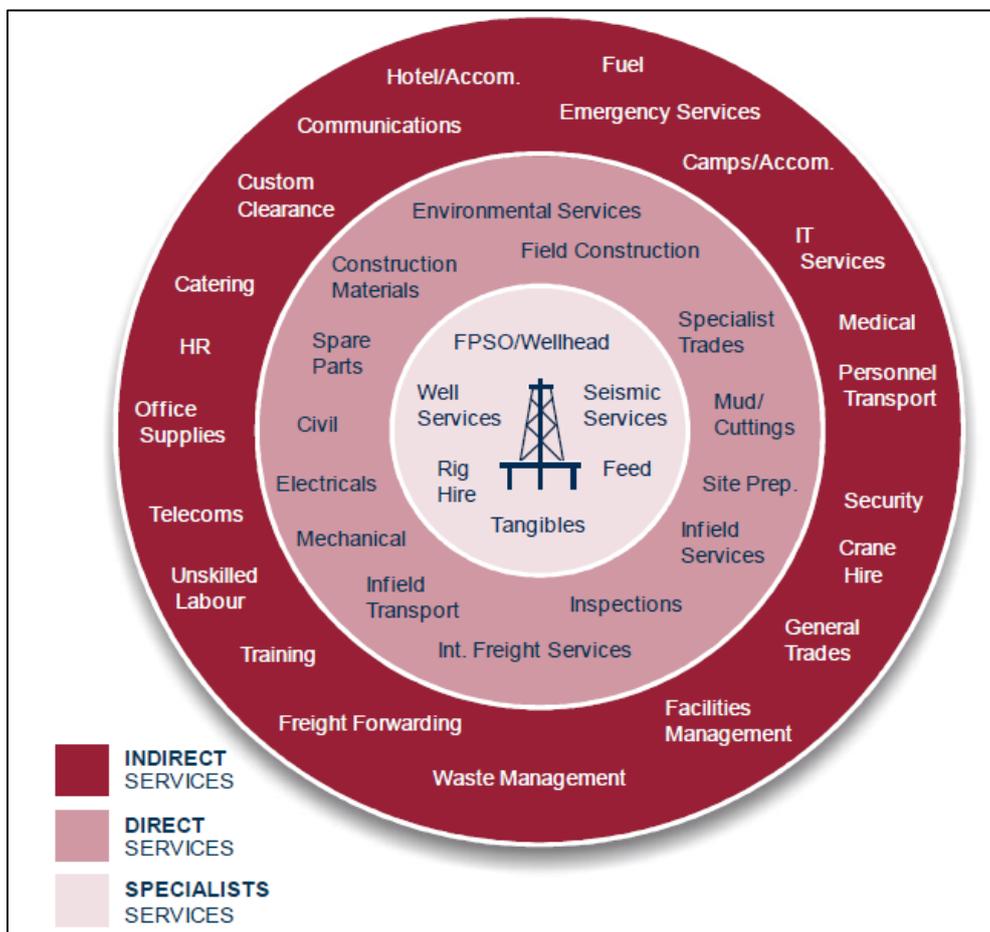
Implementing local content and local procurement protocols can have positive effects, but since the overwhelming bulk of the exploration activities lie outside of South Africa’s borders, this can

limit the impact of policy levers that can be leveraged to support the upstream industrial development opportunities of the type that has been used in other countries (UNIDO, 2003). This raises the opportunity for a key role-player (possibly public sector or private sector) to enforce protocols to ensure local content and SME participation – along with skills development and training – in the upstream oil and gas sector (World Bank, 2012).

## 2.2. Supply Chain of the Upstream Oil & Gas Industry

The upstream oil and gas industry is characterised by three distinct tiers of services; namely specialist, direct and indirect services.

Figure 2-3: Service Tiers of the Upstream Oil & Gas Industry



Source: Tullow Oil plc (Heum, et al., 2011)

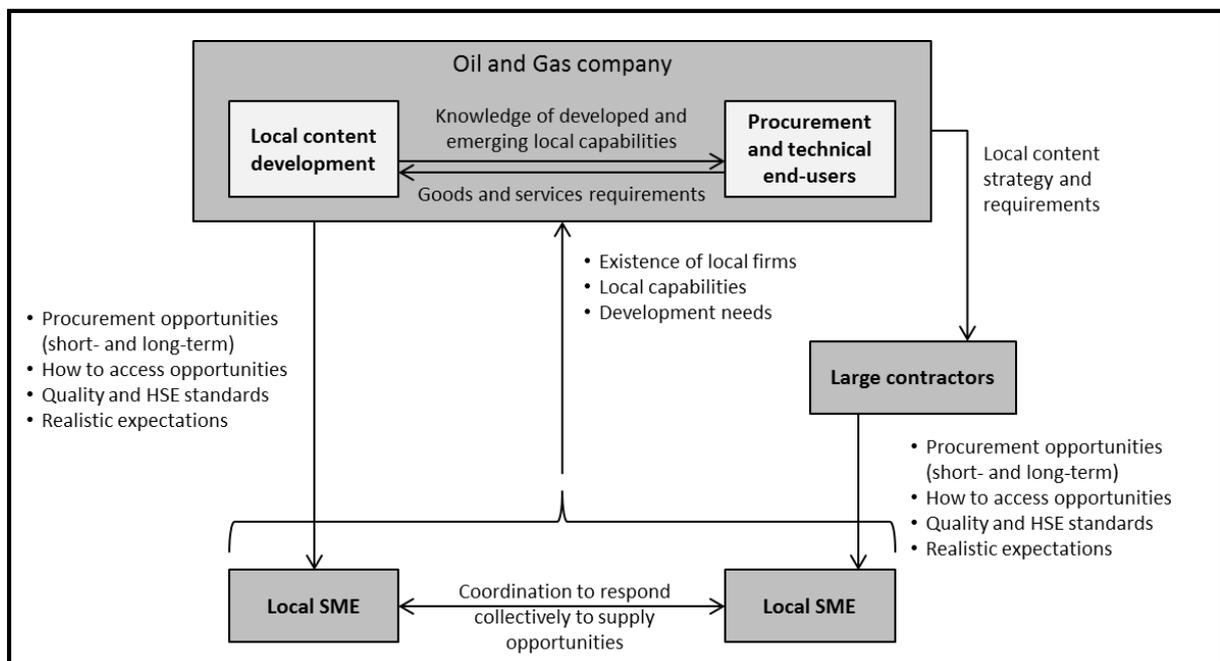
Specialist services are provided by the international E&P majors, and are dominated by transnational corporations (TNCs) with “large capital reserves, patented technologies, and high standards of quality, health, safety and environmental policies” (Heum, et al., 2011, p. 19). This makes it difficult for small businesses and local players to get involved e.g. over 95% of Nigeria’s oil and gas production is dominated by only five companies: Agip, Chevron, ExxonMobil, Total and Shell (Vaaland, Soneye, & Owasu, 2012). Based on the characteristics of this area of the supply chain, it is

difficult to expect SMEs to compete with TNCs. While the core technology area and specialist services are essential for the petroleum activities to take place, a large spectrum of additional services is required for the petroleum operations to be successful (Adams, Osho, & Coleman, 2008).

Direct services typically provide support to the specialist companies, and are to a large extent technologically and organizationally advanced but can still be developed within a substantially shorter time-frame and less capital requirements than specialist functions (Tullow Oil, 2013). Further, a large set of indirect services are required which include lodging, accommodation, laundry, security services, catering, waste management, telecommunications, and plumbing to name a few (Heum, et al., 2011). These are generally technologically simpler functions and are also less demanding from an organizational perspective, but still an important requirement when considering a viable business location (Anadarko Petroleum Corporation, 2013). As in the case of Uganda, these services typically form the short-term focus for national content development where adequate capabilities are already available in the host country or can easily be developed (Heum, et al., 2011). These areas of service provision are also generally less capital intensive and companies can focus on areas where they have the technical and business understanding, expertise and experience.

Direct and Indirect services are generally where specialist services procure locally, particularly because it enables these companies to manage security of supply, reduce their lead times and costs for logistics, as well as enhancing their public perception (World Bank, 2012).

**Figure 2-4: Identification of Indirect and Direct Approaches to Local Content and SMEs**



Source: (UNIDO, 2003)

Porter (1985) refers to the “interlinked clusters of firms as value systems that usually involve suppliers, distributors, sellers and customers” (Jenkins, Akhalkatsi, Roberts, & Gardiner, 2007). The upstream oil and gas sector is expected to create value in other sectors. Taking advantage of these downstream opportunities is also expected to require the identification, and address of internal and external constraints that local business are likely to face from the development of the upstream oil

and gas sector. The issues and challenges faced by SMEs within the context of uptake and utilisation in the oil and gas supply chain are classified as either external i.e. factors that influence the performance of the businesses over which there is no control e.g. economic growth; and internal factors that originate from within the company such as lack of skills or financial management and cash flows (FEM Research, 2013).

South Africa's advanced industrial base and high engineering standards provides a broad base of suppliers and service providers who could supply to the upstream industry. Some of these companies have existing track records as suppliers for South Africa's own limited offshore exploration and production endeavours as well as in the West African offshore fields. These companies generally have access to a skilled workforce trained through the national education and training institutions, as well as in-house practical training. This local capacity complements the capability and expertise available through the local operations of many of major global upstream service companies. The South African Oil & Gas Alliance (SAOGA) (2012) believes that particular expertise and critical mass has been reached in several subsectors of the overall upstream value chain, mainly through partnerships with international oil and gas players.

Cape Town is currently a logistics and distribution point for materials and equipment into the West African oilfields. Most of the major global logistics providers have substantial capability and infrastructure in the city and the port is well-connected to West Africa by sea, air and road links. As upstream activity in East Africa grows it is probable that one or more of South Africa's east coast ports will assume a growing role in servicing that region (Focus Reports, 2012).

Notwithstanding the basket of opportunities presented within a dedicated upstream services hub and the level of expertise already in existence, the value chain in South Africa is still in the infancy stages (South African Oil and Gas Alliance, 2012). At this stage, the majority of the business taking place is between the large oil companies such as Tullow Oil, Transocean, Weatherford and Schlumberger; foreign service providers/suppliers and logistics corporations; Government through its functional arms such as Transnet National Ports Authority (TNPA), and small volume, niche local suppliers (South African Oil and Gas Alliance, 2012). There are two notable contractors in the South African upstream oil and gas sector, namely DCD Marine and Dormac (Pty) Ltd. Both companies are considered large contractors in the industry, and deal with all of the current rig repair and maintenance activities taking place in the ports. It is through these companies that SMEs and local business are sub-contracted for engineering services or indirect services such as catering (South African Oil and Gas Alliance, 2012).

The Centre for Social Responsibility in Mining (CSRSM) in Western Australia suggests that when looking at local content and local procurement strategies, evaluation should come down to whether a business contributes to building local capacity on an economic level; not whether the business is locally-owned (Esteves, Brereton, Samson, & Barclay, 2010). CSRSM research shows that a company with a local branch office acting as a logistics hub for bringing in goods and services from outside the region is not having this impact. Alternatively, a foreign-owned company entering a joint venture or taking merging or acquiring local firms can be making an important contribution to local economic capabilities. What is required in each case to maximise local capacity depends on the nature of the

business opportunities that are generated, local capacity and the willingness of communities and host governments (Esteves, Brereton, Samson, & Barclay, 2010).

When establishing a local procurement strategy for SME development, researchers at the University of Queensland, Australia have developed a six-phase good practice model as a guideline (Esteves, Brereton, Samson, & Barclay, 2010). A sound and effective model is centred on four key principles, namely (p. 2):

- Appropriate analysis and systems are a prerequisite;
- Procurement activities within companies must aim to contribute to a good local economic environment;
- Procurement practices should support rather than be burdensome;
- Overall objective to establish local businesses on a competitive level with foreign businesses.

The six phases described by Esteves, Brereton, Samson & Barclay (2010, p. 4) are outlined in Figure 2-5.

**Figure 2-5: Steps to Development of a Local Content Strategy**



Source: (Esteves, Brereton, Samson, & Barclay, 2010)

### 2.3. Barriers to Localisation

Various barriers to localisation and development of the SMEs differ between countries, regions and sectors.

One of the more frequently mentioned barriers to local, small business uptake in the oil and gas industry is the large gap of information that exists between “local SMEs, major oil rig operators and large contracting firms” (Esteves A. , Barclay, Samson, & Brereton, 2010). Local SMEs often don’t know who to approach or how to get involved with large contractors for opportunities, and communication regarding project requirements is almost non-existent. The lack of information also creates misunderstandings about the knowledge and level of capabilities in the local market (South African Oil and Gas Alliance, 2012). Many international operators have expressed the difficulty at accessing information on what services and skills local business can provide (World Bank, 2012).

In this instance, public enterprises have a significant role to play in the procurement – and subsequent promotion - of services and goods from local SMEs (the dti, 2012). One of the most frequently cited examples of public sector procurement is through Transnet National Ports Authority (TNPA), the State-Owned Company (SOC) responsible for the maintenance, upgrade, operation and control of South Africa’s ports (Transnet Group Limited, 2010). When considering appropriate support mechanisms to address this challenge, Esteves et al (2010) suggest that a 3-5 year timeframe is “deemed necessary to allow for clustering, joint ventures and investing in the necessary equipment and upgrading of SMEs and the provision of information can assist in addressing this. Early notice and timelines for preparation is considered important in the face of planned major developments, particularly in undeveloped or young markets where demand is expected to exceed local supply. This early notice also effects the time for local SMEs to coordinate responses for possible Joint Ventures (JVs) on supply opportunities (World Bank, 2012).

Inadequate infrastructure can be a barrier to the provision of local services and results in an increase in the cost of doing business or red tape/administration issues; ultimately making local firms uncompetitive (Heum, Quale, Karlsen, Kragha, & Osahon, 2003). An example of such a constraint is that of a poor or sub-standard shipyard or marine repair facilities which can significantly limit contributions to offshore operations. This means that rig operators do not want to utilise infrastructure for scheduled maintenance activities. Similarly, inadequate transport infrastructure impacts the costs of logistics and importing equipment and spare parts (IPIECA, 2011). Furthermore, inadequate or unsuitable infrastructure deters investors (Keppel Marine, 2013).

Infrastructure may be divided into both hard infrastructure i.e. transportation, communication and urban business amenities; as well as soft infrastructure i.e. appropriate business organisations, freely available information and statistics, and easily accessible and supportive financial instruments. In effect, the existence of suitable infrastructure reduces transaction costs, improves trade reliability and creates opportunities for business networking, which generates economies of scale in information and transaction management. All these are critical aspects of business operations,

particularly for start-up and small businesses (Falkena, et al., 2011). Adams et al (2008) note that one of the core reasons behind Nigeria's failure to capitalise on the richness of its natural resources is because of poor infrastructure, and the research emphasises that the main challenge is not that there is no infrastructure, but rather that the infrastructure is "dysfunctional" or poorly maintained (Vaaland, Soneye, & Owasu, 2012, p. 6). The input and logistical costs incurred by individual companies as a result of inadequate infrastructure is further compounded when government enforces SME uptake and utilisation through local content policies where the local market is not developed sufficiently to support this regulation (Tullow Oil, 2013). Vaaland et al. (2012) highlights that the inevitable question is how much of a cost burden a foreign investor is willing to take with regards to supplier development and investment into a country versus the potential for profit generation.

Infrastructure in general, therefore should be closely linked with considerations on local content policies if government intends on securing maximum local benefit and uptake of local SMEs. This argument also closely aligns with who is ultimately responsible for providing support systems for SMEs within the oil and gas industry. Public funds need to be managed carefully to ensure that money is not misspent or wasted on non-essential requirements. In 2003, the Western Australian Department of Commerce spent AUD170 million on infrastructure at the Australian Marine Complex (AMC) in Henderson, Western Australia, with no interest in investment from the private sector because it was not what they needed in required (AMC, 2013).

A third barrier to localisation is the lack of capacity of small and local businesses, and research suggests that it is difficult to qualify whether this is a perceived barrier or real challenge (Focus Reports, 2012). Respondents to a survey of local SME participation in the upstream oil and gas industry in Australia highlighted their priority attributes in terms of supply in order of "efficiency, reliability, ready product availability and local technical support" (Esteves A. , Barclay, Samson, & Brereton, 2010, p. 21). Esteves et al (2011) also suggest that SMEs in rural areas focus more on the day-to-day work, rather than working on improving the business. Often, the gap between TNC requirements and local capacity is too wide, and the perception is that local companies don't have the requisite technical and business skills, stated capabilities and regulated safety procedures in order to meet these requirements (American Petroleum Institute, 2013). The Global Entrepreneurship Monitor (GEM) Reports (2001-2011) noted that South African SMEs also suffer from poor management skills which are a result of lack of adequate training and education. This results in high rates of business failure, evidenced by the country's very low SME survival rates (Simrie, Herrington, Kew, & Turton, 2011). For those local businesses that have managed to receive sub-contracts from large contractors or TNCs, there has been frustration expressed at the small size of the contracts which don't contribute to an expanded level of knowledge within the SME (UNIDO, 2012). Conversely, long-term contracts favour a single company which could reduce the potential for a diverse group of suppliers to be involved in the supply chain (Abor & Quartey, 2010). There is a shared sense by researchers, SMEs and small business organisations that local business is caught in a repetitive cycle where they lack the capacity to win contractors, and are thereby denied the opportunity to develop the necessary skills (National Credit Regulator, 2011).

Beare (2005, p. 27) raises the possibility that some SMEs are too risk-averse i.e. they do not take advantage of the opportunities to become suppliers, and even goes as far to suggest that they are simply “too lazy” to go through the various pre-qualification methods. This is possibly due to the fact that there has been a significant shift of responsibility in terms of risk profiles for contractors and SMEs. Beare (2005, p. 18) further suggests that SMEs need to outgrow the challenges of small or once-off contracts to overcome some of the challenges associated with these small contracts, and evolve to become continuous production-driven players with cost savings that improves competitiveness.

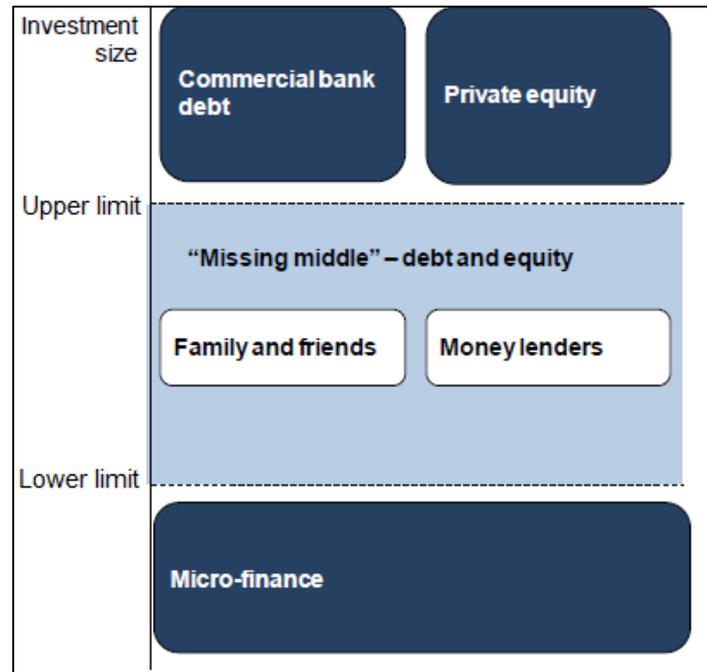
The South African Chamber of Commerce & Industry (SACCI) estimates that South African SMEs spend approximately 4% of turnover on red tape which ultimately impacts firm growth (Diale, 2009). The costs associated with red tape are escalating, and according to the World Economic Forum (WEF) Global Competitiveness Report, South Africa ranks 123 out of 144 countries globally with respect to the Burden of Government Regulation (Rau, 2013). The most costly and/or frustrating issues identified by SMEs in South Africa were tax administration, mandatory regulations, labour issues, BEE and municipal issues. One of the more recent introductions into legislation that concerns SMEs in South Africa is the Business Licencing Bill, with the biggest criticism being that the Bill will be yet another step in red tape for businesses and entrepreneurs in South Africa, and more importantly, that it gives powers to “often dysfunctional” municipalities who will be required to license all businesses, regardless of whether they are a major TNC or an informal business (Duncan, 2013). The Small Enterprise Development Agency (seda) Supplier Development Gap Analysis identified that red tape is not just experienced by SMEs with regards to public sector bodies. Corporates have compliancy policies that SMEs struggle to comply with, and the payment or procurement processes can require “detailed work plans and invoicing milestones” (FEM Research, 2013, p. 18).

Access to Finance is possibly one of the most discussed aspects in the support and development of SMEs within the South African literature (Diale, 2009). There appears to be a general reluctance on the part of SMEs in South Africa to utilise commercial banks. In the National Credit Regulator’s 2011 survey of small businesses, 28% of the respondents said they have never applied for financing from a bank. The reasons cited included a lack of understanding on loan application procedures (53%), lack of understanding of what types of finance were available (23%), and the fear of high interest rates (7%) (National Credit Regulator, 2011). The Organisation for Economic Co-operation and Development (OECD) also recognises financial infrastructure as one of the considerations for adequate infrastructure provision. South Africa’s SMEs have benefited from a dedicated SME support system post 1994 in conjunction with an internationally-recognised financial system and governance (OECD, 2005).

There is extensive literature that suggests the existence of a “financing gap” in support of small business, which explains that financing for SMEs is limited, particularly when compared to commercial debt for large firms and microfinance (Dalberg Global Investment Advisors, 2011). In a global study (World Bank Group, 2010), SMEs worldwide listed financing constraints as the second

most severe obstacle to growth; large corporates only ranked it fourth. The financing gap occurs because of the perceived high costs and risks of financing SMEs through commercial means, but simultaneously not qualifying for microfinance loans because the funding does not meet capital needs. Figure 2-6 is an illustration of the financing gap with indicative upper and lower limits for the “missing middle” (Dalberg Global Investment Advisors, 2011).

**Figure 2-6: An Illustration of the Financing Gap**



Source: (Dalberg Global Investment Advisors, 2011), *Adapted by Researcher*

Business contracts and a continuously changing environment have resulted in TNCs consolidating the supply chain into fewer suppliers or managing suppliers through a single contractor (UNIDO, 2012). There has also been a focus on increasing the number of low-cost suppliers and reducing costs, provided that the quality standards remain high. Pressures on reducing costs and maintaining safety standards have resulted in procurement processes becoming more centralised and removing decision-making from a local level (Esteves A. , Barclay, Samson, & Brereton, 2010).

This often results in a pre-qualification process that the large oil rig operators require of would-be suppliers, the purpose of which is to reduce the number of potential bidders by eliminating those businesses regarded as too risky. This is beneficial to the operators as it reduces risks and ensures sufficient OHS standards are in place; however the requirements often turn out to be a significant barrier to small businesses. At the end of the day, the barriers that come about from corporate policy and systems include a lack of awareness of local business as well as a lack of policy on supporting local business (Matook, Lasch, & Tamaschke, 2009).

One of the challenges faced and listed by TNCs in African oil and gas operations is the “Standards Gap” (The Africa Report, 2012). This is the inability of, or challenges faced by, SMEs to achieve or

finance accreditation as required by the international Oil & Gas supply chains and companies (Tullow Oil, 2013). There is often a gap between local standards in a developing market, and the level of international standards. This challenge does not only take into account the International Standards Organisation (ISO) accreditation standards or American Petroleum Institute (API) industry standards but also includes company-specific standards and documents detailing Health, Safety and Environment (HSE) or Quality Assurance Policies (Tullow Oil, 2013). The Oil & Gas industry has its own ISO 29001 accreditation which deals specifically with the Oil & Gas supply chain (American Petroleum Institute, 2013).

Lack of accreditation and quality standards challenges undoubtedly disadvantages local companies when it comes to increasing local content and SME uptake in international Oil & Gas value chains (Aigboduwa & Oisamoje, 2013). While the policies are considered necessary by multilateral organisations and governments, unrealistic policies and requirements can put strain on investors as well as creating a supply bottle-neck within the country, particularly within the Oil & Gas sector. The reason for this is that Oil & Gas majors must procure companies who meet their quality standards as well as meet local content regulations, but there may not be a large pool of suppliers who meet these criteria. The policy support from national government ultimately forces investors to incorporate SMEs into their supply chains, but without providing strategic intervention as to how SMEs can reach the required industry standards. The International Finance Corporation (IFC) warns against encouraging compliance with mandatory regulations, rather than encouraging strategic investment in SMEs (Jenkins, Akhalkhatsi, Roberts, & Gardiner, 2007). Local suppliers can benefit from local content policies if the industrial development is competitive by international levels. Protection, therefore, of any form should always be considered temporary, and if this is not the case, then the policy will only have served to benefit a small minority at the expense of larger society (Heum, et al., 2011).

#### **2.5.2.4. Best Practices in Supplier Development Programmes in the Oil & Gas Sector**

Transnational Corporations (TNCs) recognise that enabling local SMEs to supply goods and services creates more efficient supply chains, and ultimately allow them to manage their supply chain risks and costs effectively. Moreover, companies realise that it is good business practice to share benefits with the communities in developing countries, and at the same time it maximises benefits by helping local companies to create and grow jobs (Jenkins, Akhalkhatsi, Roberts, & Gardiner, 2007).

To overcome some of the challenges associated with supplier accreditation and meeting international standards, many corporates have established in-house procurement or supplier centres in developing market economies. These centres assist companies with pre-qualification steps so that they are registered on an internal supplier database, and allow for assistance in procedural requirements. For example, Tullow Oil plc has a local content policy, Code of Business Conduct, Safety Rules, Human Rights Statement Policy, and Environmental, Health and Safety (EHS) Policy. The company established their first Enterprise Centre in Hoima, Uganda in 2013 to help support the

development of local SMEs and entrepreneurs through business training and mentorship in finance, marketing, legal issues, IT and other business related subjects (Tullow Oil plc, 2012).

Government has also been instrumental in establishing support centres. The Enterprise Development Centre in Ghana opened in 2012 and is funded by the Ministry of Energy & Petroleum and the Ministry for Trade and Industry. The government funds all training costs and materials to develop SMEs capacity in the oil and gas sector, while experienced service providers do the training. The training also covers an introduction to the industry, oil and gas accounting, contract, terms and conditions, fundamentals of offshore environment, health and safety, policy and requirements (Aklorbortu, 2013). South Africa's State-Owned National Oil & Gas company, PetroSA has a procurement programme run by the Group Supply Chain Management Department (GSCM) that provides interested suppliers with Supplier Guidelines, general information, tender processes and outcomes of awarded contracts (PetroSA, 2013).

While numerous case studies on local content, SME development and enhancing supplier development activities have been conducted as part of upstream oil and gas research in African countries, there is no specific research on South Africa (the dti, 2012). The data may not be completely relevant due to the context, timing and objectives of these studies, but there are valuable lessons to be learnt from case studies (UNIDO, 2003).

#### **2.4.1. Norway**

Norway's oil and gas supply chain contributes between 50-60% of capital inputs and 80% of the operational and maintenance inputs for the country's oil and gas sector requirements. The upstream sector employs 5% of its private sector labour directly, and contributes to export earnings with 46% of sales to other countries (Jenkins, Akhalkatsi, Roberts, & Gardiner, 2007). Over the last 15 years, the development of the international industry has meant that many of the local firms were required to be competitive by international standards. Nevertheless, a significant number of the local firms are still competitive mainly due to geographic proximity, a factor that is considered similar to South Africa. The challenge for Norway's government was to create institutions which would attract the interest of the relevant industrial base, and get commitment from oil companies and major players to contribute to technology transfer. This was done by encouraging the development of domestic companies, to which the oil and large engineering TNC companies were willing to contribute as Norway was one of the few promising regions where they could operate. More importantly, the government allowed for participation and rivalry between domestic and foreign oil companies; and never stressed the ambition of local content as far as to disregard economic considerations completely (World Bank, 2012).

#### **2.4.2. Brazil**

Similar to most South American countries, Brazil is following a nationalist-based, import-substitution policy with the objective of self-sufficiency in industrial development. The Government has had a longstanding technology policy to develop national capabilities and capacities in the supply industry by means of a protective trade regime and high barrier of entry. The local content in Brazil's oil and gas services industry increased by 18% to 75% between 2003 to 2008, with a contribution of over \$9.3 billion to the economy (IPIECA, 2011). The Brazilian government has taken the path of enhancing procurement through state-owned companies, such as the agreement between Petrobras and SEBRAE – a national small business support association.

This generated \$113 million in transactions for local materials and equipment suppliers, but the United Nations Industrial Development Organisation (UNIDO) criticised the policy as extremely costly and inefficient, with an output of low quality and low productivity from the domestic supply industry (Jenkins, Akhalkhatsi, Roberts, & Gardiner, 2007). The liberation of the oil and gas sector has allowed the country to make the most of the advantage afforded under the protectionism regime (World Bank, 2012).

### **2.4.3. Nigeria**

Nigeria's local content is governed by regulation stating that supply is categorized by activities according to technological impact and ownership. Systematic tracking of local content in upstream projects is achieved by mandatory submission of quarterly reports. Although there has been a dedicated focus on developing local content and implementing it, the level of local content in the upstream oil and gas sector still requires some enforcement. Research estimates that as of 2008, only 8% of all procurement included local content (Bakare, 2011). Lack of long-term finance is one of the main obstacles for local investors. In order to assist local suppliers overcoming the financial obstacle, Shell Petroleum Development Company (SPDC) recently joined the International Finance Corporation (IFC) in a program aimed at increasing the involvement of local contractors in Nigeria (Petroleum Economist, 2002). One of the factors working in Nigeria's favour for enforcement of arguably restrictive local content policies is the level of offshore oil and gas reserves – a factor that is as of yet unknown in South Africa. The estimated value and timeline of these reserves is a strong motivating factor for TNCs to invest in supply chain capacity development and building initiatives (Jenkins, Akhalkhatsi, Roberts, & Gardiner, 2007).

There are numerous examples of what TNCs, governments, NGOs, industry and business associations, small business forums, financing institutions and multilateral organisations have done to support supplier development initiatives and implement the right frameworks, however each country is unique. South Africa is not expected to be an exception.

### **2.6.2.5. Summary**

The majority of the existing research does not provide a one-stop solution for the eradication of barriers and maximising local content, and in many developing countries, as well as South Africa, these barriers are significant for small business (IPIECA, 2011). The global trend towards low-cost country sourcing and consolidated supply chain management creates a strong disincentive for companies to engage local SMEs. Similarly the need to invest in an enabling environment in local communities, requiring lengthy time periods and resources is a deterrent, especially in the face of pressure to secure on-time delivery and world-class logistics (Esteves, Barclay, & Brereton, 2011).

At the same time, given the value of the natural resources in Africa, many TNCs see the value of developing local suppliers and SMEs to reduce supply chain risk, guarantee supply, and at the same time promoting the company's social reputation. In some companies the effort has been greater when the pressure and desire to engage with local communities is stronger, or there is greater concern with maintaining social license and protecting the corporate reputation. Esteves et al. (Esteves A. , Barclay, Samson, & Brereton, 2010) reiterate the challenge of local procurement: the

examples of successful incorporation of local content in supply chains have arisen from the efforts of a few committed champions rather than a result of clear organisational commitment and alignment in planning and systems.

Therefore to provide a possible solution to the framework analysis, research has shown there are a number of key factors required to support a viable local content policy for the host country. This includes a clear policy mandate from the government, and supporting legislation on which to achieve this policy. In South Africa, as with many OECD countries, the government is bound by trade regulations defined by the WTO or similar which restricts anti-competitive behaviour. The policy needs to be supportive of local industry without being too restrictive, creating unintended supply bottlenecks or having a negative impact on investors. In conjunction with the compliance with international trade laws, is the impact on investors in order to encourage them to support local content. Ideally, there should be a small government unit to implement the policy with the necessary resources and power with regards to the relevant investors (OECD, 2000). In the case of South Africa, oil and gas operators do not have a lot of interaction with the local economy and do not form part of state tenders within the offshore supply services hub, so effectively the B-BBEE legislation is not an all-encompassing local content policy (South African Oil and Gas Alliance, 2012).

Lastly, the intention of this research is to identify and confirm some of the perceived challenges – internal and external – for SMEs and local participation in the value chain. This research is intended as the first step in evaluating South Africa's frameworks and support initiatives for SMEs in the upstream oil and gas sector, while also contributing to the general research already conducted on SMEs and their impact on the South African economy (Rogerson, 2008).

## Chapter 3: Data and Methodology

The study is based on applied research that involved government, state-owned enterprises/companies, multi-lateral agencies, industry associations, small business support organisations, Transnational Corporations (TNCs) and Small and Medium Enterprises (SMEs). This chapter summarises the study design, study focus areas, sampling procedure, data collection methods and analysis, as well as anticipated limitations to the study.

### 3.1. Research Design and Data Presentation

To achieve the study objectives a qualitative research design method was proposed due to the limited time and resources available, and the ability to provide information on the research subject in a comprehensive manner. Furthermore, the intention of the research was to act as a “springboard” for further studies and deeper understanding considering there are no published research documents on supplier development in the oil and gas industry in South Africa (Ben-Eliyahu, 2013). By the nature of the research, this qualitative study made use of the inductive approach. Driscoll (2011) stated that primary research was considered useful when the researcher was trying to identify the local context of a much larger issue. The research design was based on structured interviews using an interviewer-prepared questionnaire, thus allowing for collection of detailed information and easy comparison of standardised data (Saunders, Lewis, & Thornhill, 2009). McNamara (1999) suggests that interviews are the preferred method of covering both in-depth factual and meaningful information, while understanding the story behind a participant’s experiences through their opinions and expressions. In the case of this research, the interviews were conducted through a standardised method that allowed for evaluation of responses from all interviewees on the same open-ended questions (Valenzuela & Shrivastava). Secondary data was used to supplement the primary research in the form of documented and reviewed case studies of select countries with developed upstream oil and gas industry and/or best practice guidelines on supplier development in upstream oil and gas.

There was non-probability sampling of the survey respondents (i.e. non-randomised) due to the nature of the research and the expertise required in understanding the value chain and providing insight into the study. This did not give all units an equal chance of being selected, and therefore the research was not intended to be representative of the whole population (Ben-Eliyahu, 2013). The study also allocated a number of interviewees per category of respondents (quota sampling) with purposive sampling in order to select the respondents that fit the requirements of the research. It was anticipated that not all targeted interviewees would be willing to partake in the research, so a larger sample was selected to ensure a minimum of ten completed interviews.

Access to respondents was not considered an issue, since the researcher works with the majority of respondents on a daily basis.

In considering the choices for which research method would have been the most suitable to address the research objectives, the advantages and disadvantages of various methods was considered; and not the better or inferior option (O'Leary, 2004). Alternative options of research design for this study could have been to conduct a survey using the questionnaire without the interview process. This would have been less time consuming, but it would not have provided the detailed information on the respondent's feelings, perceptions and "story" behind their experiences (McNamara, 1999). A case study analysis was another alternative, and a similar method to that used in a follow up study on SME participation in the Australian oil and gas industry (Esteves A. , Barclay, Samson, & Brereton, 2010). However the case study method can be very detailed and time consuming to achieve, making it less suitable from a resources consideration (Korutaro, 2013).

In order to obtain the information from the interviews in the structured, open-ended method described above, the research design adapted an existing questionnaire to meet the specific objectives of this study (Esteves A. , Barclay, Samson, & Brereton, 2010). This helped eliminate some of the potential bias on the researcher's behalf, while simultaneously assisting the researcher in establishing the type of questions required to address the research objectives. The questionnaire was broken down into five sections, namely: enterprise characteristics; key actors in the oil and gas sector; SME decisions and willingness to invest; value chain analysis, and awareness on policies of use, exploitation, participation and benefits from the sector. A full copy of the questionnaire used can be found in Appendix B.

Once consent had been given to take part in the research, the questionnaire was sent to the targeted respondents prior to the interview to allow them to prepare documents or information they felt would be useful to the study.

The primary data sampling and collection was carried out throughout South Africa with a specific focus on the regions dedicated to upstream oil and gas support hubs. These areas include the Ports of Saldanha Bay, Cape Town, Mossel Bay, Ngqura, Durban and Richards Bay. Specific examples and interesting observations for geographic areas within the South African region were highlighted in the research were appropriate. In-person interviews were not considered a challenge, since the researcher travels between cities and countries frequently. In one case, the in-person interview was carried out in Aberdeen, United Kingdom during a conference with a respondent with a head office in Cape Town.

The conceptual framework for the research was highlighted in Figure 1-3 which indicates both the direct and indirect relationships between key actors, SMEs and government organisations (UNIDO, 2003).

### **3.2. Study Sampling Scope**

The data sampling focused on the identification of the key actors in the upstream value chain. The petroleum industry value chain was not included in this value chain since the focus of the research was based on an upstream supply services hub that caters to the oil exploration and production (E&P) companies, but not involved in the refining, exploration and drilling.

Figure 2-2 highlighted the level of services within the upstream oil and gas sector as specialist, direct and indirect. For the purposes of the research, organisations included were Government and State-Owned Companies (SOCs), Transnational Corporations (TNCs), Multilateral Organisations and international respondents, SMEs, Business Organisations and Industry Associations. In selecting the targeted respondents, a set of criteria was applied to the evaluation. All respondents had to ensure some level of interaction with the South African upstream oil and gas industry or were based in South Africa, whether it have been through policy intervention, consulting services, direct suppliers, procurers of goods and services, or support organisations linked to the sector. Each of the individual respondents from SMEs or the TNCs had to have direct responsibility within supply chain management or procurement management. Similarly policy makers and government officials, multilateral organisations and business organisations had to have an in-depth understanding of the sector, or have worked in the sector – in other words they should not be repeating policy documents, but understand the working mechanisms of the sector intimately. Lastly, to ensure a holistic view from all involved parties, the research intended on securing a minimum of one interview per institution.

Respondents were able to submit in-house documents or reports that detailed supplier development programmes, or local content support initiatives as part of the interview process.

As discussed above, due to the purposive sampling nature of the study, it was not expected that the data would correspond with accurate representation of the entire population.

The interviews were captured with a recording device as well as writing notes on key points highlighted during the interview, and then transcribed for the purposes of the data analysis. All interviewees remained anonymous to protect confidentiality and privacy of the information shared, and to encourage honest dialogue without fear of repercussions.

The main assumption given in the data collection phase was that all local businesses and SMEs have equal opportunities to be included in the upstream oil and gas sector as preferred suppliers should opportunities emerge. The conceptual framework of the research project also made assumptions on the willingness of TNCs to procure locally and through small businesses, and similarly that SMEs were willing to meet quality and delivery criteria of the TNCs.

The research design conducted interviews with a representative spread of the key actors in oil and gas. In total, 20 organisations were approached to ensure that a minimum of 10 interviews were completed. 15 interviews were conducted and completed. Table 3-1 provides a breakdown of the respondents by type of institution.

**Table 3-1: Participant Category, Number of Interviews and Location of Interviewees**

<b>Participant Category</b>	<b>No. of Interviews</b>	<b>Head Office Location in South Africa</b>
South African SMEs	3	Cape Town and Saldanha Bay
Transnational Corporations (TNCs)	3	Cape Town
South African Government & SOCs	3	Pretoria and Cape Town
Small Business Forums (SBFs)	3	Saldanha Bay and Pretoria
Industry Association	1	Cape Town

International Organisations	2	Pretoria
<i>Total</i>	<i>15</i>	

Table 3-1 highlighted the primary data that was collected from each type of institution as insight into the supplier development framework as part of the purposive interview process.

**Table 3-2: Primary Data Collection from Oil Rig Operators, Private Sector Bodies, National Government Departments and Public Sector Institutions**

<b><u>Institution</u></b>	<b><u>Data Collected</u></b>	<b><u>Pre-Requirements</u></b>
TNCs currently prospecting and carrying out exploration in the oil and gas sector with offices/operations in South Africa	<ul style="list-style-type: none"> <li>• Opportunities for SMEs and local business emerged</li> <li>• Potential investment areas and partnerships</li> <li>• Company policies and standard requirements</li> <li>• Factors that may deter local content and SME participation</li> <li>• Propose actions to solve challenges mentioned above</li> <li>• In-house programmes for supplier development, supply chain management etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Companies involved in Exploration &amp; Production, Oilfield Services and Specialist Services</li> <li>• Respondents were involved directly in the procurement process e.g. procurement manager/supply chain manager, as well as having a good understanding of local content</li> </ul>
Government and State-Owned Companies (SOCs)	<ul style="list-style-type: none"> <li>• Procurement regulations on local contracts especially for SMEs</li> <li>• Business opportunities and potential areas for SMEs and local business to partner with government in the sector</li> <li>• Some of the known enterprises doing business in the sector</li> <li>• Propose actions (policy/non-policy) on how to promote SME investment in the sector</li> </ul>	<ul style="list-style-type: none"> <li>• Policy-makers involved with upstream oil and gas and general industrial policy development</li> <li>• The SOCs had to have their own supplier development programmes or support, and B-BBEE managers or supply chain managers were interviewed</li> </ul>
Oil and Gas Industry Association	<ul style="list-style-type: none"> <li>• Opportunities for SMEs and local business</li> <li>• Factors that may deter local content and SME participation</li> <li>• Proposed actions to solve challenges</li> <li>• Recommendations on policy requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Interview with the Chief Executive Officer (CEO) or Operations Director</li> </ul>
SMEs in South African Oil & Gas Industry	<ul style="list-style-type: none"> <li>• Procurement methods and compliancy issues</li> <li>• Quality standard challenges</li> <li>• Availability of infrastructure and its role in supporting SME uptake</li> <li>• Challenges identified when trying to meet corporate requirements</li> <li>• Solutions on better methods of supporting SMEs as well as minimising risk in the supply chain</li> </ul>	<ul style="list-style-type: none"> <li>• SMEs involved directly with the supply of goods and services to the upstream oil and gas sector</li> <li>• Respondents were either managing directors or operations managers involved with working directly with corporate clients (TNCs)</li> </ul>
Small Business Forums	<ul style="list-style-type: none"> <li>• Opportunities for SMEs and local business</li> <li>• Experience of challenges and</li> </ul>	<ul style="list-style-type: none"> <li>• Respondents had to be involved in support for SMEs, preferably within the</li> </ul>

	<p>compliance issues faced by SMEs in the international oil and gas sector</p> <ul style="list-style-type: none"> <li>• General issues faced by SMEs in South Africa</li> <li>• Proposed actions through policy or non-policy to solve challenges</li> </ul>	<p>upstream oil and gas services industry</p> <ul style="list-style-type: none"> <li>• Included respondents in public sector-funded institutions such as provincial agencies, micro-finance sectors or enterprise development agencies</li> </ul>
Multilateral Organisations/ International Respondents	<ul style="list-style-type: none"> <li>• Propose actions (policy/non-policy) on how to promote SME investment in the sector</li> <li>• Lessons learnt</li> <li>• Examples of local industry participation frameworks with regards to oil and gas</li> <li>• Experience with supplier development frameworks or support programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Organisations must be involved in support for SMEs in South Africa in conjunction with levels of local government through consulting or financing</li> </ul>

The data analysis began with transcribing the interviews and becoming familiar with the responses. Supporting documentation that was submitted by the respondents was also evaluated and used to provide context to the interview discussions.

During the process of data dissemination, each response text was studied carefully and thoroughly in order to establish patterns in the responses, and best determine on how to represent the data in the research report. This was followed by development of concepts that contextualised and shaped the results and discussion page.

Respondents' viewpoints on open-ended questions such as listing the top three challenges for SME uptake, and recommendations on solutions (Appendix B) were grouped into similar context-based responses.

The research performed had some limitations in terms of its geographic considerations and through the design. The majority of the respondents were based in the Western Cape (Saldanha Bay and Cape Town) and in Pretoria. This was not the intention of the research, but occurred due to two reasons: firstly, the Western Cape is considered the unofficial headquarters of the upstream oil and gas industry, and secondly, the respondents from Durban and Richards Bay were not willing to participate in the research. The research was also conducted at a single point in time, and not over a continuous, longitude approach. This limits the research to a particular view and feeling from the respondents at the time of the interview; the longitudinal approach would have been able to capture views and perceptions over a period of time (ICBE TrustAfrica Fund, 2011).

Figure 3-3 shows the classification of the respondents by type of institution, their primary focus, type of goods and/or services provided and their reference classification assigned to protect their confidentiality.

**Table 3-3: Respondent Characteristics (Key Actors in Oil and Gas)**

<b><u>Participant Category</u></b>	<b><u>Reference</u></b>	<b><u>Focus of the Enterprise</u></b>	<b><u>Type of Goods/Services</u></b>
Transnational	TNC1	Independent Oil & Gas E&P	Exploration & Production

Corporation (TNC)		company focusing on light oil drilling in African and Atlantic regions	/Extraction of crude petroleum or light oils
	TNC2	Provision of oilfield services and products to the drilling, evaluation, completion, and production areas in offshore and onshore activities	Drilling (e.g. well construction, rig equipment sales, mechanised systems); evaluation (e.g. geo-mechanics, open-hole services); completion (e.g. fracturing technologies, hole casing); production (e.g. coal-bed methane, pipeline speciality services) and intervention (e.g. fishing services, pipe recovery, wellhead systems)
	TNC3	Independent oil and natural gas exploration and production company	Exploration and production of oil and natural gas, with a focus on deepwater production
Small Business Forum / Support Organisation	SBF1	Mandated to implement Government's small business strategy through development, support and promotion of small enterprises throughout South Africa	Assistance in starting businesses, growing and developing businesses, provision of information and networking events for business skills
	SBF2	Development and enhancing the growth of SMMEs in the West Coast	Delivery of quality and cost-competitive services such as networking, improving SMMEs capabilities, and streamlining programmes to become SME-friendly
	SBF3	Foster the establishment of survival, growth and development of SMMEs and contribute to poverty alleviation and job creation	Direct lending products (e.g. bridging loans, term loans, structured finance) and wholesale lending products (e.g. specialised funds, MFI support)
Industry Association	IA1	Promotion and development of South African-based industry (incl. SMEs) supplying products and services to the Oil and Gas Industry	Marketing and business development promotion; working with government and SOCs to create enabling environment; helping local companies understand and align to industry standards; skills initiatives and networking activities
International Organisations (International Respondents)	IR1	Responsible for working with communities on resource-based projects to ensure high safety standards, fostering innovative industries, science and enterprise within eight divisions	One of the key focus areas is local industry participation which ensures that local industry receives full, fair and reasonable opportunity to participate in major resource projects taking place within the state
	IR2	A multilateral organisation working on programmes that achieve greater prosperity and improvement of lives that is consistent with the New Growth Path in South Africa	Inclusive growth programmes such as supplier development, climate change issues, service delivery; South Africa's regional and global development role, as well as program management

Small, Medium Enterprises in South Africa	SME1	Specialised engineering service provider; marine and ship repair and industrial new build services company	Engineering services and fabrication provider to the marine, offshore and oil & gas industry
	SME2	A specialised logistics and manufacturing transport provider to the freight, manufacturing and rigging industry	Transport, hazardous packaging and material handling, rigging, stevedoring and lashing etc.
	SME3	Occupational health provider to various industries and public sector organisations	Medical tests, Health and fitness certifications, on-site medical services and emergency medical services
Government	GOV1	National government department with a focus on industrial development and the vision to create an inclusive and functioning economy for all	Financial assistance, SMME and Business Linkages, Industrial Development, Regulatory & Legislative Business Guidance; Trade, Export and Investment Promotion
	GOV2	Provincial Government department focusing on creating a vibrant and sustainable economy with employment opportunities for all	Work and skills programmes, tourism support and registration, red tape reduction centres, and integrated economic development services
	GOV3	State-Owned Company (SOC) focused on oil and gas through exploration and production, and petrochemical products	Exploration and Production, Offshore Supply Base Logistics and petroleum products

## Chapter 4: Analysis of Results & Findings

### 4.1. Key Actors in the Oil and Gas Sector

An analysis of the key actors within the oil and gas sector was a necessary first step in terms of evaluating the potential opportunities, challenges and finally, recommendations on achieving increased uptake of SMEs through business linkages and government support policies.

Figure 2-2 highlighted the three levels of services within the upstream oil and gas services cluster. At the specialist services level, the supporting services included seismic services, rig hire, well services and drilling, and equipment supply. The opportunities identified by the ICBE TrustAfrica Fund (2011) included engineering contracting and project management, equipment supply, and consultancy services. However, Heum et al (2011, p. 19) acknowledged that this was a difficult area for SMEs to be competitive due to the specialist technical and capital-intensive nature. Respondents from government and local industry associations confirmed that no businesses of South African origin were involved in the specialist services sector. Instead, this area of the value chain was dominated by foreign companies or foreign subsidiaries that employ local skills, and was similar to the situation in Nigeria (Vaaland, Soneye, & Owusu, 2012).

*Our operations in West Africa are extremely capital intensive and technologically advanced – we don't see South African SMEs breaking into this market anytime soon, even with government and TNC partnership programmes (TNC1 respondent)*

The area of direct and indirect services was where the respondents see existing, and further potential for development of SMEs and local small businesses. Interviews with government officials correlated with this, and showed that industrial policy focus areas aim to support the existing engineering expertise in the country, as well as logistics and indirect support services.

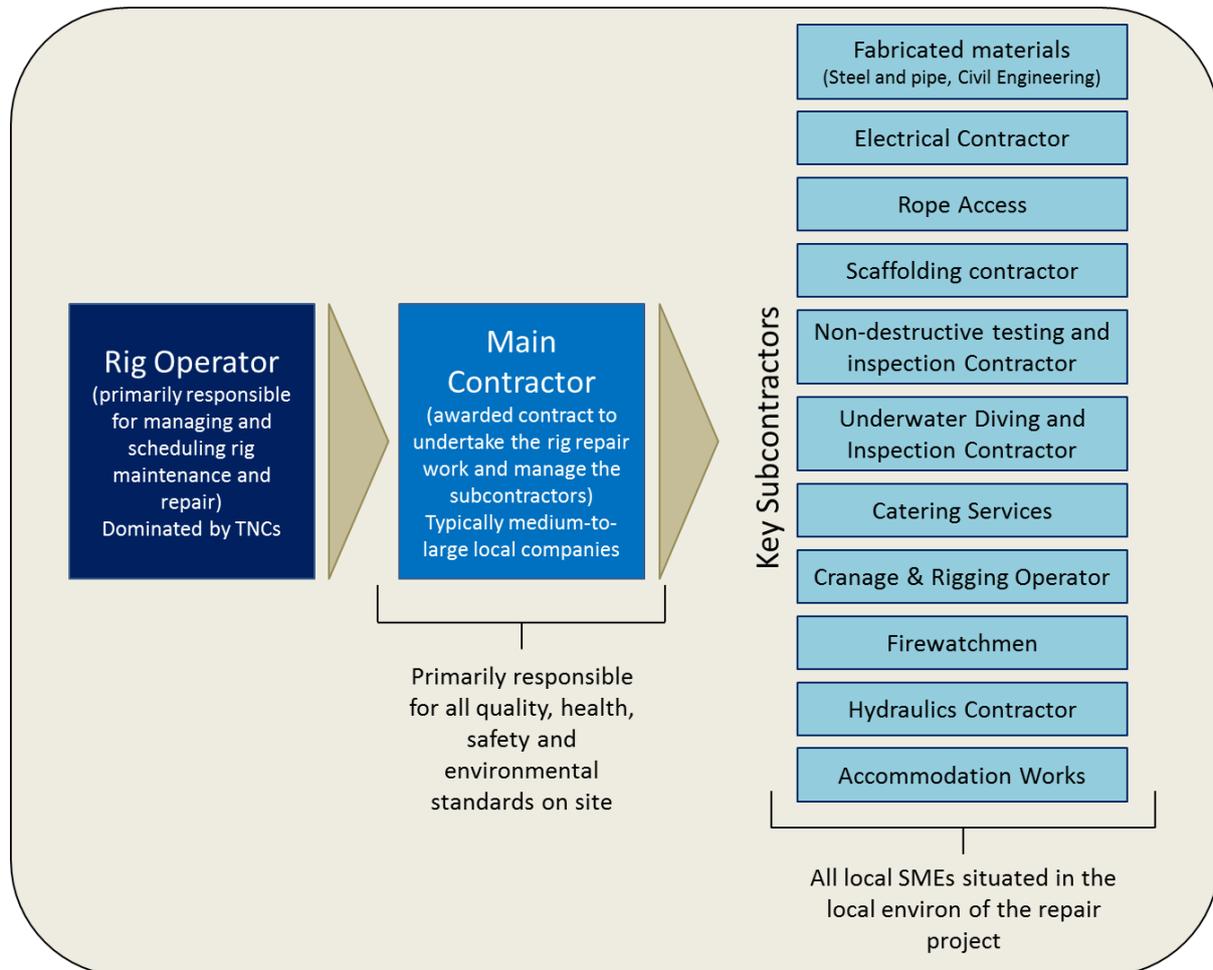
*As an owner-operated and financed SME, we identified a niche in the oil and gas market to provide specialist, on-time delivery of goods and services. We knew we couldn't play in the direct upstream market because capital requirements are too high. We had to incrementally increase our quality and health and safety standards, but we believed we had a good service to offer (SME2 respondent).*

While the indirect services did not seem as technical or require the same standards, both the oil and gas industry association in South Africa as well as the TNCs reiterated the importance of the provision of a holistic service in-country when making a decision on which port to award a rig repair contract.

*What many SMEs don't realise is that the support services such as accommodation, laundry, crew transport and even entertainment are a crucial part of where we decide to bring a rig in for repair (TNC3 respondent).*

Respondent SME1 provided a list of the sub-contracted project requirements for a recent rig repair contract which included Underwater Inspections in Lieu of Dry-Docking (UWILD) inspection, life boat upgrades, tank repairs, accommodation overhaul, drilling equipment overhaul, and Balance-of-Plant (BOP) overhaul including drill string compressor change-out. This contracted work translated into the core sub-contracting requirements shown in Figure 4-1.

**Figure 4-1: Conceptual Process of Rig Operator, Main Contractors and Key Subcontractors**



Source: Researcher's own design; Respondent Interviews Data

Figure 4-1 highlighted the respondent's views that almost all of the subcontracted services are awarded to local SMEs, in line with research that the further down the value chain, the higher the levels of participation by SMEs because the initial capital investment was much less (World Bank, 2012).

*(Our) main focus is to support South Africa's strong engineering base and provide a favourable environment to develop these SMEs in the direct and indirect support services... (We) don't see South African SMEs necessarily providing the specialist oil and gas upstream activities (GOV1 respondent).*

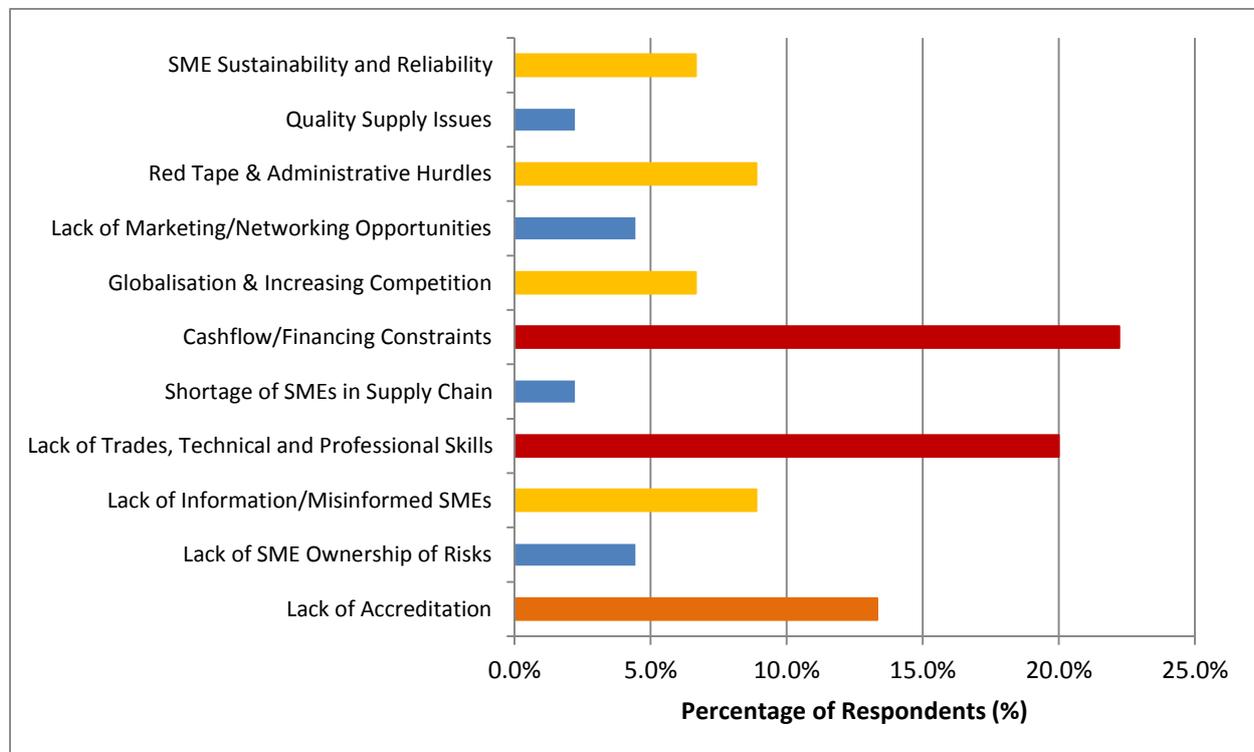
The main contractor for rig repair projects was also a local business, and the rig operator placed the responsibility for all SHEQ considerations on sub-contractors on the main contractor.

The opportunities identified fall under the services sector which included rig and marine vessel repair contracts; fabrication of specialist equipment, piping and components, and logistics support. Marine vessels included supply vessels and drill ships (Respondent Interviews). These opportunities matched the natural strengths of the South African engineering and industrial base.

## 4.2. SME Decisions and Willingness to Invest

In order to evaluate an overall list of constraints and challenges for uptake of SMEs within South Africa's Oil and Gas industry, respondents from all institutions were asked to list their top three challenges which are presented in Figure 4-2.

**Figure 4-2: Summary of Respondents' Views on Core Challenges to SME Uptake/Utilisation in South Africa's Oil & Gas Industry**



Source: Respondent Interviews Data

There were two challenges identified in the responses which received more than 20% of the responses each; namely cash-flow/financing constraints, and lack of trades, technical and professional skills. A second tier of challenges identified by over 13% of the respondents was the lack of accreditation or industry certifications within SMEs. A third tier of challenges which received between 5-10% of the responses each included SME sustainability and reliability; red tape and administrative hurdles; globalisation and increasing competition; and lack of informed SMEs. The remaining responses included quality supply issues (which could be closely linked to lack of accreditation); lack of marketing or networking access; shortage of SMEs across the supply chain; and the lack of SME ownership of risks.

**Cash flow and financing constraints** was listed as the number one challenge by 22% of the responses. Respondents associated this challenge with the high costs of procuring and maintaining capital machinery and equipment; a mismatch in funding to business requirements and/or gaps in the financing arena; as well as general difficulties associated with accessing financing related to accreditation costs.

*It can take up to 3 months to receive an answer regarding a funding application which means that an SME will lose the opportunity of being awarded a contract (SBF2 respondent)*

These funding schemes were provided by national government and SME support agencies, and included incentives, co-funding grants and micro-finance credit or loans. In some cases the administration requirements were so restrictive, local small businesses opted to avoid the incentives and use personal finance or apply for bank loans.

*The administration required to follow up on a funding application with government is extremely burdensome, and is often a deterrent to companies applying within the relevant financing arena... in some cases business have only heard back six months after they submitted their application, and in other cases they have never received a response (IA1 respondent).*

The second biggest challenge was the **lack of construction trades, technical and professional skills**. The Oil & Gas sector has different skills requirements to the general manufacturing and industrial competencies; however there are some similarities between the qualification processes in the initial stages. Insurance requirements insist on a level of skilled labour working in the oil and gas services sector, and this has to be enforced by all actors in the value chain regardless of size, number of employees or service operations.

*Another key consideration is skills requirements of our staff – they need to have proper certifications and many years in the industry. They need to be literate. Someone who welds stainless steel in his backyard for a living does not have the right qualifications to weld in the Oil & Gas industry. That's a university degree with at least five years' experience before you can become a coded welder (TNC2 respondent).*

A lack of skills was listed as a critical internal factor that could potentially endanger a company's performance, and was often a localised problem. It could have an effect on how many projects a contractor or SME can undertake and inadvertently meant they needed to turn down contracts.

*If we have more than two contracts that require cranes at the same time, our craning and rigging sub-contractor does not have enough qualified crane operators to fulfil the demand... this is not a company-specific problem, it's a country-wide problem (SME1 respondent).*

This was a difficult challenge for an SME to overcome individually due to the costs of training and/or retaining that skill without losing them to a specialist international firm. South Africa's qualification levels and number of technical skills being produced were not sufficient to meet the demand of the nascent Oil & Gas industry developments. Respondents indicated that the shortage of technical skills was a global challenge, and not just a South African challenge. A small number of medium and large-sized companies have established their own training centres to ensure they had sufficient skilled

operators for repair, maintenance and industrial projects within port precincts and rig or supply vessels (IA1 respondent). The shortage of skills in the oil and gas sector was not limited to specialist and direct services, but a challenge in indirect services as well.

*We often see SMEs or entrepreneurs with a poor understanding of the required financial and business skills, no business plan or strategic direction, and constrained cash flows due to poor pricing decisions (SBF2 reference).*

Entrepreneurs or individuals tend to follow promising opportunities for supply requirements of services and goods, and decide to start a business based on their technical skills. However they have no understanding of business management and their client interaction skills are non-existent (SBF1 respondent). These challenges are very similar to those faced by SMEs in the oil and gas services sector in Uganda and Nigeria (Heum, et al., 2011).

A third challenge that SMEs face in the Oil & Gas industry is the **lack of accreditation**, otherwise known as the “Standards Gap” (The Africa Report, 2012). The Standards Gap considers ISO accreditation standards, American Petroleum Institute (API) industry standards, and company-specific standards and documentations such as Health, Safety and Environment (HSE) or Quality Assurance Policies. Of the SMEs interviewed, all of them had implemented ISO 9001 accreditation, and SME1 had also implemented documentation with regards to their internal Quality Policy and Occupational Health and Safety Policy. The cost of implementing the standards was all done through personal finance.

*We have our own quality and Occupational Health and Safety policy statements that reinforce our continued commitment to quality standards. Although it is an expensive operation or system to maintain, our clients cannot make use of our services without it (SME1 respondent).*

*Companies, especially SMEs, struggle to become accredited because it is a costly and resource-intensive process, and South Africa’s government funds do not cover accreditation costs (IA1 respondent).*

South Africa’s policy environment and considerations with regards to industry standards were at the mercy of the international oil and gas industry which sets the product and process standards across the value chain (Wamono, Kikabie, & Mugisha, March 2012). These standards were mandatory requirements to monitor insurance risks and premiums, as well as to ensure maximum safety considerations are adhered to in dangerous weather and operating conditions.

*In some cases, local SMEs don’t understand why they need to have certification standards and accreditation; in other cases they don’t know where to start to find information on what standards are needed (SBF2 respondent).*

In 2011, the Western Cape Government published a document on the level of support for oil and gas SMMEs (Orford & Wood, 2011). In response to the lack of use of information resources and

accreditation support, over 60% of the respondents said they did not make use of the information and support on accreditation since it was not relevant to their sector (GOV2 respondent).

SME and Industry Association respondents highlighted the consistent challenge of **red tape and administration compliance challenges**. This was a relevant challenge for SMEs, with estimates that the cost of public red tape could be a factor of four to five times higher for SMEs than for large corporates. This has resulted in a waste of resources as well, because it was often the business owner who was the only person that could deal with compliancy issues (Falkena, et al., 2011).

*We cannot expand our medical and emergency services to mobile or on-site services for oil and gas companies because legislation requires monthly permit approvals, licenses and reports which are too costly and time consuming for a small business like us (SME2 respondent).*

The argument regarding this challenge was not that these regulations were non-essential and should be waived for SMEs; it was that larger companies or TNCs could easily afford the costs of the regulatory processes and accreditations while SMEs struggled to break into the market (SBF respondent).

Red tape was not just limited to public sector bodies because SMEs struggled to meet the qualification requirements for tenders or project bids from large corporates or TNCs, and State-Owned Companies (SOCs). This included relatively simple processes such as invoicing and payment constraints, and documentation required for bid submission e.g. tax clearance certificates, VAT registration, and bank statements etc. because SMEs did not always have the information on hand (GOV3 respondent).

*Many SMEs don't meet our bidding qualification criteria because they didn't attach a copy of a document or certificate, or they simply don't have the experience required to provide the service (GOV3 respondent).*

In order to submit a bid as part of a tender or contract, companies needed to ensure they met all the requirements and include all supporting documentation – this was both a time-consuming process, and costly and resource-intensive in terms of the administration.

For large corporates, the advent of **globalisation** has created new market opportunities for E&P activities, but simultaneously new competitive forces and challenges that impacted directly on supply chain management. SMEs struggled with different challenges associated with globalisation which included having to deal with increased competition from low-cost suppliers and foreign SMEs operating in the domestic market.

*Increasing competition has meant South African contractors only win one out of every two rig repair jobs based on quality, location of the port in comparison to competitors, and the cost competitiveness of the bid (SME1 respondent).*

Ports such as the Astican fabrication facility in Las Palmas competed with South African contractors on a cost and infrastructure basis, but the Port of Saldanha Bay and Port of Cape Town were two days less travel time for a rig in Nigeria (DCD Marine / Transocean, 2013).

There can be benefits to globalisation: while the costs and administrative burdens of becoming accredited and registered as suppliers to the international oil & gas administrators were high, the entrance to markets other than the domestic market where the business was based was found to be *relatively easy*.

*Although we struggled financially as the result of financing our own accreditation, globalisation has worked in our favour because our international client would rather work with us, and we have been awarded a small contract for a project in Mozambique (SME3 respondent).*

The SMEs and small business organisations mentioned that a **lack of information** with regards to procurement and business models, as well as understanding of the technology and accreditation systems, was a constraint to SME growth and development in the oil and gas sector.

*We found it difficult to break into the market as a supplier initially because there was a tendency for TNCs and main contractors to use the same suppliers every time. However, we persevered and were able to secure a contract, and then it was a matter of proving ourselves in terms of our quality and supply times (SME2 respondent).*

Main contractors have started hosting informal networking events and information sessions to allow companies the opportunities to tender for various work requirements, such as those detailed in the concept diagram in Figure 4-1 (IA1 respondent).

Respondents also cited a lack of SME willingness to take **ownership of the risks** – financial and non-financial – associated with developing a business, and this included a lack of willingness to utilise existing programmes.

*We see quite a number of SMEs, particularly micro enterprises who are reluctant to access credit because of the high interest rates (SBF2 respondent).*

These findings corresponded with research conducted by the National Credit Regulator on reasons cited for SMEs not utilising financing incentives and micro-finance loans (National Credit Regulator, 2011). Similarly, this corresponded to research in Ghana and Uganda's oil and gas sector where a number of corporates cited the lack of willingness from SMEs to rise to the opportunities as a major challenge (Heum, et al., 2011).

*Many individuals see owners of companies earning a lot of money and so they start their own business, but they are not true entrepreneurs since they are not willing to take risks, and they want government to finance their business (SBF2 respondent).*

The GEM 2012 Report confirmed the view that South African entrepreneurs were one of the least likely to open a business in an international comparison due to a number of external and internal factors (Herrington & Turton, 2012).

SMEs were considered **unsustainable and unreliable** when supplying services and goods to the oil and gas sector with regards to on-time delivery, and longevity of the business life-cycle – particularly for recent start-ups. This was closely related to **quality supply issues** where an SME was not maintaining levels of quality and/or struggling with skilled labour with the experience to fabricate or engineer specialist goods. This was a concern for TNCs who contributed to supporting local small businesses in developing markets through procurement contracts, as it resulted in costs that were wasted if an SME was forced to close its doors, or alternatively time if goods needed to be reproduced because the quality standards were insufficient.

This did not discount the value and contribution that local content and supplier development programmes have on SME development. However, SMEs ultimately needed to be sustainable from a financial and resource consideration without this assistance, or government support initiatives would not be sustainable or efficient (IFC Oil, Gas and Mining Linkages Program, 2010). The support initiatives should merely have acted as a catalyst in assisting with accreditation and access to opportunities that built business sustainably.

#### **4.2.1. Infrastructure considerations**

Infrastructure was considered one of the essential contributing factors or needs that were directly linked to local business participation. Provision or availability of both hard and soft infrastructure in support of SME uptake in South Africa's Oil & Gas Industry was not considered a major challenge by the respondents. A number of the respondents who operate in countries in Sub-Saharan Africa, such as Mozambique have experienced the inefficiencies and constraints faced by inadequate infrastructure.

*In 2012, the town of Pemba in Mozambique, which previously catered to tourists, had only a single five-star hotel. Our company has had to invest in guest houses and hostel-type facilities to accommodate our construction, technical and management staff who need to be on site for weeks at a time. This is a significant cost to our company, however a justifiable one because of the long-term, high-value resources we have the license to drill on the East Coast (TNC3 respondent).*

The respondents all had access to infrastructure such as water; internet access/ email; telephone and mobile phone coverage; financial institutions and public security such as policing; health centres and electrical power stations; and waste disposal. The TNC and SME respondents all had access to major highways/main roads within 2km from their offices (Respondent Interviews).

Almost all of the respondents noted the significance of government contribution in developing major hard infrastructure such as pipelines, and transport and logistics facilities. However, there were still some concerns with regards to efficient provision of infrastructure.

*The biggest challenge relating to oil and gas infrastructure in South Africa is the length of time and effort it takes to convince the national port's authority that there is demand for specific or dedicated infrastructure, and the subsequent procurement of service providers and construction (IA1 respondent).*

Most of the respondents felt that the provision of adequate infrastructure was a key strength in South Africa's favour, but most of the TNCs noted that many other African countries were fast catching up in putting appropriate infrastructure in place and this would mean South African SMEs would have more competition for supply opportunities in resource-rich countries.

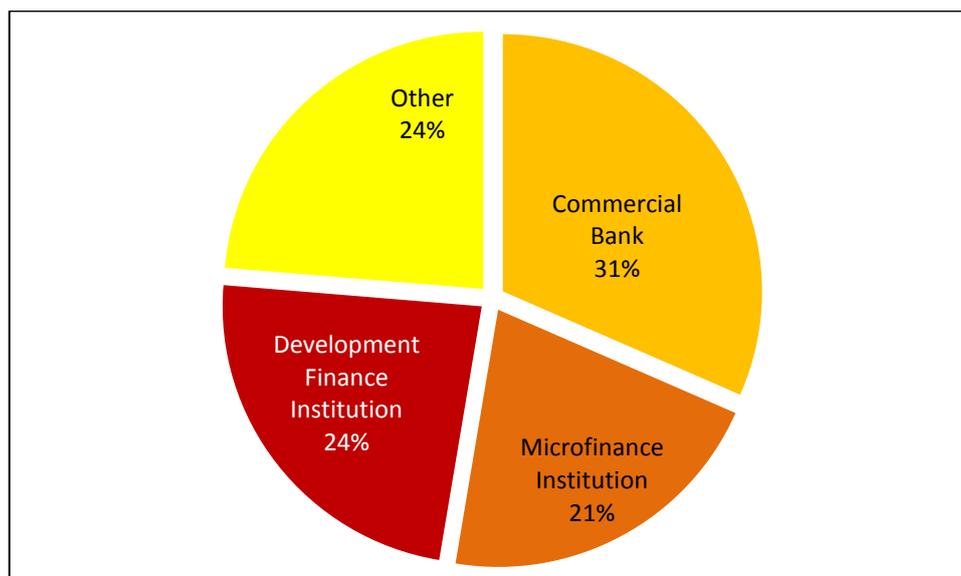
Further, government was required to make strategic investment in transport, energy, Information and Communications Technology (ICT), Research & Development (R&D) infrastructure to encourage private sector investment into the market (Respondent Interviews).

#### 4.2.2. Access to Finance

Respondents were questioned on two aspects of financing namely: do SMEs access finance or save in financial institutions in South Africa; and what sources of capital are used by SMEs when attempting to borrow for purposes of investing in the business. Responses were included from all interviewed organisations, and not just the SME respondents.

On the first aspect of accessing financing and/or saving in financial institutions, the respondents were asked to clarify what financial institutions were used. Commercial banks received the highest response (31%), followed by development finance institutions (24%), microfinance institutions (21%) and others (24%).

**Figure 4-3: Accessing Finance or Savings by Type of Financial Institution in South Africa**



Source: Respondent Interviews Data

*Others included angel investors, venture capital firms, government funding or incentives, personal funds etc. While the commercial banks ranked top in terms of accessing finance*

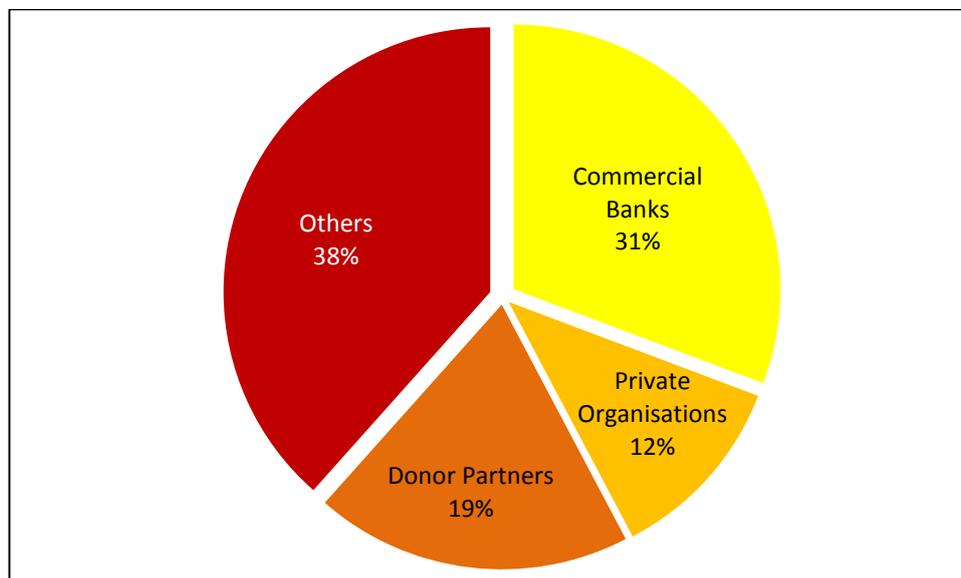
and saving, most institutions indicated that they banked or saved with commercial banks, rather than accessed finance.

*We have recently seen Development Finance Institutions such as the Industrial Development Corporation improve their application processes by implementing an online application portal with easy-to-understand procedures (SBF2 respondent).*

Processing timelines for finance or working capital could still take up to six months, however many small businesses had experienced a positive reception, and expressed a positive view on the dual focus on loans and working capital financing (SBF2 respondent).

Similarly in the second question, respondents were again asked to clarify which financial institutions were used by SMEs in borrowing for the purposes of investing in the business. While the commercial banks still ranked high (second-highest with 31%), the “Other” category claimed 38% of the responses with varying indications as to what was included in this category. SME1 specified “Others” as the Development Finance Institutes (DFIs); SME2 as personal finance; and SME3 as the IDC and government incentives. Private organisations included angel investors, venture capital funds, investment banks and other sources of private sector investment. Donor partners included multilateral organisations such as the World Bank, International Finance Corporation (IFC), United Nations Development Programme (UNDP) etc.

**Figure 4-4: Borrowing for Investment Purposed by Type of Financial Institution in South Africa**



Source: Respondent Interviews

*We used our own finance to develop, grow and ensure our business was competitive – we felt that if we had tried to access other avenues of financing support, we may not have achieved as much (SME2 respondent).*

Despite this, South Africa's formal finance sector which included commercial banks, continued to be recognised as one of the best financial systems globally with strong financial services boards supported by clear legislation and governance procedures (World Economic Forum, 2013).

#### **4.2.3. Procurement and Pricing Policies**

Procurement policies within the Oil and Gas sector were linked with sourcing reliable suppliers who met the SHEQ requirements and the geographic location of those suppliers. All the TNC respondents agreed that supply of goods and services to the oil and gas sector tended to be procured from local companies i.e. companies from the market where the project was being undertaken when and where possible (Respondent Interviews).

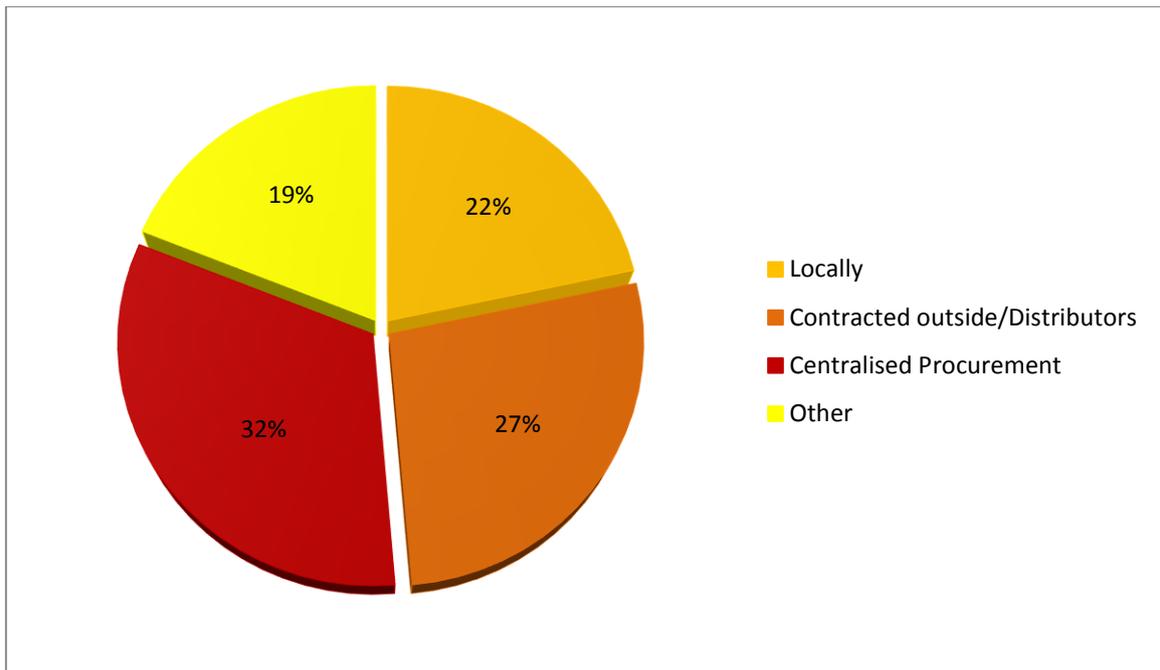
*We work with a supply chain management scheme aligned to our local content and social programmes to ensure we secure logistics of supply and minimise our supply chain risk in a developing country (TNC 1 reference).*

The main consideration for oil and gas companies was primarily a quality and safety factor, followed by a logistics and time factor, and not a cost consideration. This was because rig operators quantify downtime on a rig as money lost in drilling operations, so the longer it took for a rig to undergo maintenance, or a piece of fabricated equipment to arrive, the more money the operator lost (Respondent Interviews). This was in agreement with the literature provided by Transocean when considering how to procure suppliers and sub-contractors on a rig repair project in the Port of Cape Town (DCD Marine / Transocean, 2013).

*Ultimately quality, health and safety considerations, product type and specification, and the project location determine how our procurement decisions are made. In certain cases, external supply chain logistics companies are used because they manage all the risk for us as the E&P operator (TNC2 respondent).*

Respondents were asked to indicate the method used by most companies when procuring goods from service providers (Figure 4-3).

**Figure 4-5: Procurement Decision Processes in South Africa's Oil & Gas Industry**



Source: Respondent's Interview Data

The majority of the respondents noted that procurement was still done through centralised procurement (32%) and was favoured by the TNC respondents who felt they could manage their supply chain risks and associated costs in a better manner. Certain international service providers and suppliers were also contracted to E&P companies for all their international operations, regardless of whether there was a local company able to complete the requirements, however most of these contracts were for highly specialised services.

*Governance procedures... require all suppliers to meet the group contracting and procurement standards which include full due diligence and risk assessment. In some cases procurement decisions are made at our head office, but in others local companies are deemed to have a better local knowledge, for example environmental consultants (TNC1 respondent).*

Outside contractors and authorised distributors made up 27% of the procurement decisions – these included logistics and third-party contractors Figure 4-1 showed the procedures for awarding a rig repair contract to a single contractor who then sub-contracted specific services to smaller, more specialist suppliers. Most respondents agreed that in almost all cases in South Africa, the contract was awarded to a single company who then outsourced to subcontractors. This made it difficult for SMEs who did not have a track record to get into the supply market, but similarly allowed the rig operator to outsource all of the risk to the main contractor.

Local procurement makes up 22% of the procurement by geographic location and included the number of SMEs and local companies that are considered when procurement takes place. Other procurement made up the remaining 19% of the decisions, and is typically characterised by tender processes or contract decisions by both TNCs and public sector entities.

Competition from low-cost markets was not considered a major issue by the respondents, since the most important procurement decision was based on logistics i.e. how quickly can the component be delivered; and secondly did the supplier meet the SHEQ standards or policies. Nonetheless, due to the increase in globalisation, South African SMEs needed to ensure they were globally competitive and not just competitive in the local market (Respondent Interviews).

### 4.3. Value Chain Analysis

The respondents were asked a number of questions on what SMME services they typically used within their line of work in the Oil & Gas sector. Table 4-1 lists the classification of services with a detailed breakdown of sub-services that were included in the questionnaire (Appendix B).

**Table 4-1: Value Chain Services in the Oil & Gas Sector**

<b>General Description</b>	<b>Details</b>
Transportation Services	Trucks, cars, loading vans and trucks
Logistics Services	Fuel supply, in-house fleet management, customs clearing and cargo handling etc.
Technical Services	Telecommunications, plumbing, metal fabrications, electrical and mechanics, road maintenance, civil works, crane services etc.
Micro financing/foreign exchange bureaus	Credit agencies
Tourism Services	Lodging, hotel and catering services, conferencing, crew transport, tours
Trade in Goods	Spare parts, field gears, construction materials, food etc.
Real Estate	Permanent dwellings, bunking facilities and camps, self-catering accommodation
Consultancy Services	IT, environmental management, HR management, procurement and financial management, quality assurance, inspection etc.
Community & Social Services	Education and vocational training, health services/clinics etc.
Waste Management	Recycling, waste removal and collection, site preparation etc.
Ambulance and Emergency Services	
Security	
Warehousing	Warehousing, general storage of spare parts, facilities management, hazardous chemicals storage etc.
Labour contracting	Casual & Semi-skilled
Office supplies	

Source: Interview Questionnaire (Appendix B)

TNC1, an international company with a Cape Town-based operations office has made use of transportation services, customs clearing and cargo handling, plumbing and general maintenance, as well as building security and stationery suppliers (Respondent Interviews). A recently-established Liquid Petroleum Gas (LPG) storage operator in South Africa initiated a supplier pre-qualification

process to identify SMEs able to provide services for the construction, operations and maintenance at their LPG facility in Saldanha Bay. There was no SME capable of providing the fabrication services for the LPG bullets within the local environs, and most local SMEs that applied were in the security guard services, cleaning services, labour contracting and recycling/rubbish removal (Greve, 2013).

This was not surprising given that the majority of South Africa's SMEs were based in the tourism services, business support and services sectors. Very few companies were specialised in the area of manufacturing and engineering, emergency services and transportation; particularly when projects were located further afield from the major economic hubs in the country (FEM Research, 2013).

The TNC respondents clarified that regardless of the type of service or goods procured, whether indirect or direct services, their expectations for SMEs were the same as for any of their contractors, particularly because of the strict nature of the Safety, Health, Environmental and Quality (SHEQ) standards.

*Regardless of whether they are SMEs or major international suppliers, they need to meet our HSE and quality standards. Environmental considerations are important since they can have a direct and indirect impact on our reputation. If possible, our suppliers should also consider contributing to skills development (TNC2 respondent).*

While accreditation and health & safety standards were imperative, many private sector investors including TNCs as well as State Owned Companies (SOCs) in South Africa recognised the need for assistance for SMEs. Most SOCs have internal pre-qualification processes or supplier databases which required companies to submit all documentation upfront. A South African example was the business support hubs implemented by Transnet Group (SOC) Pty Ltd with the first hub opened in Johannesburg in August 2013. The hubs provided assistance to business owners for services ranging from "registering a business, financial support, business development support, procurement advisory services, tax registration and help with BEE requirements" (Timm, 2013, p. 1).

*We host supplier information sessions and workshops for local SMEs to assist them in registering on our supplier database, as well as providing information on the requirements when they are responding to a tender (GOV3 respondent).*

TNC2 assisted SMEs through skills training both internally and from suppliers in order to draw from a strong pool of resources in an emerging market. TNC3 focused on a three-pronged approach; namely workforce development, supplier development and community investment. TNC1 has a more developed approach of establishing enterprise centres in local communities in Sub-Saharan countries, however nothing based in South Africa currently to provide SMEs with the tools to developing skills in oil and gas supply chains (Respondents Interviews).

#### **4.4. Awareness on Policies of Use, Exploitation, Participation and Benefits from the Sector**

The intention of the research was to make use of the respondent's input into recommendations on how to support SMEs, improve on the current local oil and gas policies, and input into the

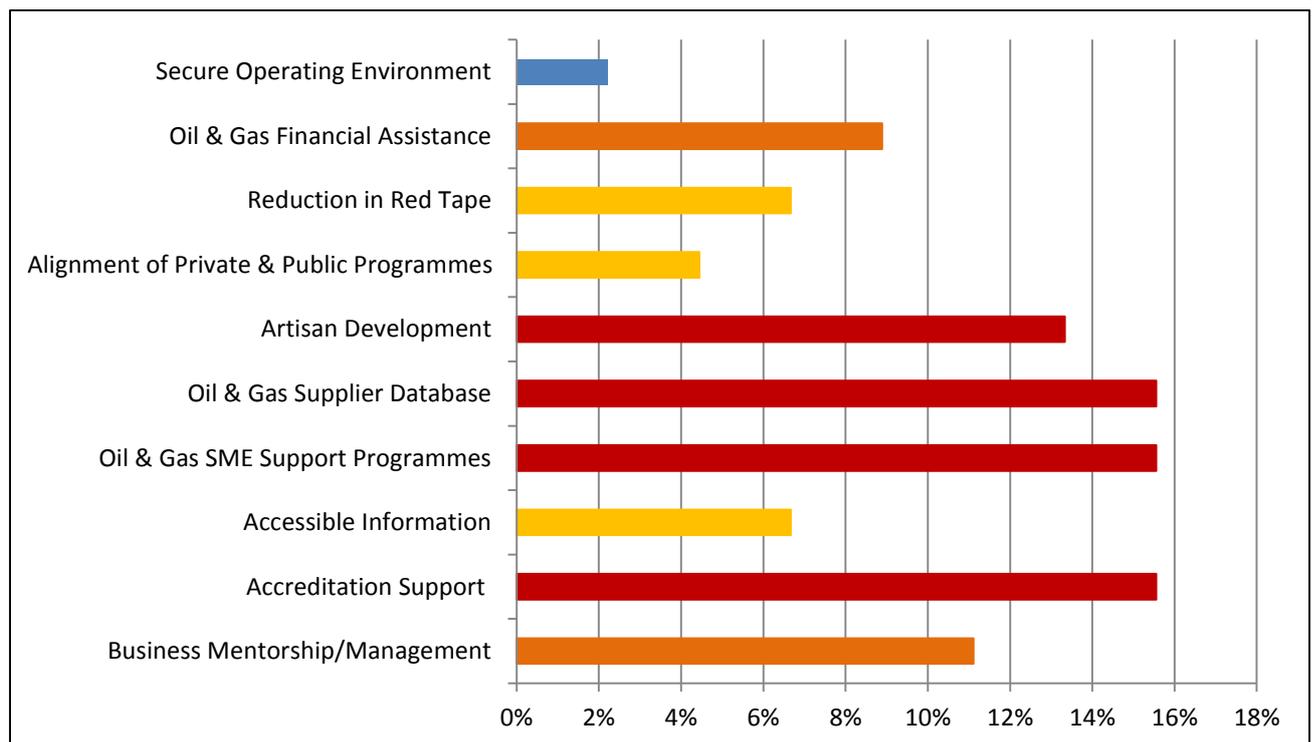
development of a supplier development framework. The responses were more varied and across the spectrum of responses than those regarding challenges for SME uptake (Section 4.2).

The first tier of recommendations on support initiatives included artisan development programmes, an oil and gas-specific supplier database for ease of access to SMEs, SME support programmes including local content policies focusing on oil and gas, and accreditation support. Each of these recommendations received between 12-16% of the responses.

The second tier of recommendations on support initiatives included financial assistance to SMEs within the oil and gas sector, and business mentorship and management skills training, which both received 8.9% and 11.1% support respectively.

The third tier of support recommendations included accessible information (6.7%), reduction in red tape (6.7%), and alignment of public and private-sector led initiatives to support SME uptake (4.7%). With the specific focus on oil and gas initiatives in South Africa, the Industrial Policy Action Plan 2013/14 made reference to the need for intervention initiatives that reacted quickly to SMME development capabilities and needs (the dti, 2013).

**Figure 4-6: Recommendations on Support Initiatives and Focus Areas for SME Uptake in South Africa's Oil & Gas Industry**



Source: Respondent Interview Data

The level of local skills and availability of these skills was considered a key decision-making factor when a rig operator was awarding contracts. Due to the existing industrial base in South Africa, the amount of skilled labour was significantly higher than many African countries, but respondents expressed their concern that not enough was being done to boost **artisan development** through centres of excellence, or training centres and existing tertiary education centres. Both the TNC and

SME respondents indicated that they had to resort to in-house funding or direct training of artisans to meet demands.

*South Africa's manufacturing SETA does not produce artisans trained to sufficient levels for oil and gas, so if we want to ensure security of skilled labour we have to undertake training internally. The other problem is trying to tell someone that although they have a SETA certificate, they are not qualified enough (SME1 respondent).*

Oil and gas artisan development programmes were considered crucial if South African SMEs were going to benefit from the full potential of the services sector, and build on the existing engineering expertise.

An **oil and gas supplier database** was proposed as a solution to support additional uptake of SME procurement into the oil and gas sector in South Africa. Many of the micro and small enterprises do not have marketing tools such as websites, and some do not have email addresses which made it difficult for investors to identify potential suppliers. A supplier database would assist this, and furthermore provide a platform for consistent monitoring and evaluation of quality, and health and safety standards. Industry associations and national government have instrumental roles to play in this regard; industry associations because they have a membership database, and national government because they were primarily responsible for SME development.

*An LPG fabrication company has insisted on utilising as many local companies as possible – both in terms of the local environ of the project, and local in terms of South African companies, but it has been expensive and time-consuming to achieve a simple matter of identifying potential suppliers and sub-contractors (IA1 respondent)*

International companies and contractors reaffirmed that they were willing to make use of localised suppliers, no matter the size, due to logistics and time considerations if they had a better means of accessing them (Respondent Interviews).

**Oil and gas support programmes** have included recommendations on both financial and non-financial services to SMEs. Respondents highlighted the challenge that South Africa does not have specific support programmes for oil and gas considering it has only been acknowledged as a priority sector in the country's industrial policy plans since 2011.

*We are starting to see more oil and gas SMEs requiring assistance in focus areas such as project management skills, business management skills, business mentorship support; as well as access to facilities that focus on fabrication, welding and testing skills (IR2 respondent).*

Additional focus areas for support programmes were assistance for SMEs to meet tender, financial and technical requirements through mentorship.

*Sector-specific support programmes need to be a partnership between government and private sector in terms of support provided, training programmes, financing and materials required (IR1 respondent).*

Implementing successful sector-specific programmes required key officials in levels of government who understood the oil and gas sector (Respondent Interviews).

**Accreditation support** was acknowledged as one of the key recommendation focus areas by both TNC and SME respondents, because above all other considerations, TNCs and main contractors could not waiver on the standards required by the sector. One of the underlying requirements to provide accreditation support was to train SMEs and educate them on why accreditation standards related to quality, health, safety and environmental considerations were important, as well as the level of these requirements.

*Many SMEs struggled to understand why accreditation standards are important, what the requirements were for their businesses, and were often not aware of potential organisations that could assist them (SBF1 respondent).*

The role of private sector was also important, particularly those of TNCs because they know the requirements they demand from their suppliers.

*We cannot expect SMEs to meet our quality and safety standards themselves, especially those in developing countries with an emerging oil and gas sector. We recently established our first supplier centre in Sub-Saharan Africa to help improve local content and assist in our rigorous pre-qualification requirements. Hopefully this will be the first of many (TNC1 respondent).*

Respondents suggested that more could be done to make funds available for accreditation requirements, since government grants and incentives tend to cover capital equipment, assets and in some cases, working capital (Respondent Interviews).

**Oil & Gas financial assistance** could make a significant contribution to furthering the development of SMEs. The 2013/14 Global Competitiveness Report highlighted and commended South Africa for some areas of the financial index, for example, ease of access to loans ranked 22<sup>nd</sup> of 148 countries, and venture capital availability ranked 28<sup>th</sup> (World Economic Forum, 2013). However, SME and SBF respondents highlighted that the availability of financial assistance was not the issue, rather that the financial assistance did not meet the requirements of oil and gas-specific SMEs.

*Accessing finance through incentives or a small business support agency is difficult in the oil and gas sector – the pre-qualification criteria are for general industry, and the account managers have no understanding of your business and the way the oil and gas sector works (SM3 respondent).*

SMEs based in the direct or technical services were often disqualified for financing because their capital expenditure to employment ratios exceed the limits set by government – this was because the technical equipment costs are much higher than for general industry (Respondent Interviews). This linked closely to literature on the “missing middle” of finance, but with a sector-specific focus.

Respondents also indicated that it was difficult to access funding from formal financial institutions since they did not grant credit for accreditation requirements. Capital equipment for fabrication was a costly consideration for most SMEs, and the financial assistance available was not sector-specific (Respondent interviews).

**Accessing information** on opportunities involved has varied by project, and with specific tender opportunities. All respondents indicated that the more information on projects and opportunities available, the better the SMEs would be able to prepare in advance. Most of the contractors in South Africa in rig repair projects have held project briefing sessions for interested companies to inform them on the scope of work, SHEQ requirements, contract duration and subcontracting opportunities (Respondent Interviews).

*One of the main considerations for SMEs in South Africa was whether they could access all of the information they needed at a single point to minimise the amount of time spent researching opportunities and requirements (IA1 respondent).*

The main contractors have also provided assistance and information on the pre-qualification requirements that subcontractors would have to undertake, which included safety induction tests, health and drug-check screenings and a quality inspection. The main contractor was responsible for the induction tests and screening costs to assist SMEs.

**Reduction in Red Tape** was listed by the SME and SBF respondents as a key contributor in supporting the growth and development of supplier development in the oil and gas sector.

*One of the examples is with the South African Revenue Services... we do not disagree with the requirements, but the amount of paperwork and time to get goods through customs or pay a security deposit means that the country loses out on a large market for equipment repair. It is simply too costly and time-consuming in an industry that demands efficiency and world-class logistics (SME1 respondent).*

SMEs struggled with administrative issues, labour legislation and this was coupled with the fact that in many SMEs, the owner is also the manager and skilled worker which meant that they did not have time or resources to deal with these issues (Respondent Interviews).

One example of trying to reduce red tape was the Western Cape Government’s Red Tape Unit which was established as a call centre to provide companies with easy-to-access advice and assistance on bureaucratic delays e.g. business registration, EIA/HIA applications, business permits and licences, and zoning applications. Considering small businesses were key employment contributors to the South African economy, the national government has committed to speedily reducing the red tape

associated with small business development in oil and gas (the dti, 2013); however this has not been clearly expressed in terms of detailed action points. In the context of oil & gas, it would be difficult to overcome red tape entirely considering the level of certification and internal company policies on health and safety; however assistance from private sector TNCs through pre-qualification programmes has been suggested as a possible solution (Respondent Interviews).

**Business Mentorship programmes** were suggested as an alternative to direct government or small business organisation support initiatives, and could have the potential of more value for the SME since the mentorship was typically carried out by a large corporate or TNC involved in oil and gas.

*The value of business mentorship programmes does not only assist the SME, it can have unintended benefits such as giving TNCs an understanding of SME operations and challenges, as well as providing indirect encouragement and monitoring of the SMEs without it feeling like 'big brother' (IR1 respondent).*

These types of programmes were not very prevalent in South Africa's oil and gas sector; however one of the roles of multilateral organisations and industry associations was to assist in networking and industry capabilities.

While a **secure operating environment** did not appear as one of the top recommendations, many TNCs consider this a 'given', or extremely important when weighing the risks of investment decisions. In South Africa's case, the environment was considered stable in comparison to other African states, but less so than Oil & Gas hubs such as Singapore (Respondent Interviews).

#### **4.4.1. Existing Policies and Programmes in South Africa**

Almost all of the respondents indicated they were familiar with the B-BBEE Codes of Good Practice, with the second biggest awareness and utilisation of government support being the Sector Education and Training Authorities (SETAs). TNC1 also mentioned the South African Qualifications Authority (SAQA) and the relevance on skills training programmes. All of the SME respondents were aware of the Small Enterprise Development Agency (seda) and Small Enterprise Finance Agency (SEFA), as well as development finance institutions such as the Industrial Development Corporation (IDC).

*It is more difficult for businesses outside of the major cities to access support because the seda and SEFA offices are not based there, and there are less support facilities in general (SBF2 general).*

The SME respondents have already indicated the difficulty in accessing government services and incentives, as well as ineffective information on how and where to access support. These responses correspond closely to the literature published by the National Credit Regulator (2011). In terms of the B-BBEE regulations, none of the TNC companies were required to procure with the regulations in mind since they were not involved in government procurement.

The training and skills requirements were also set at international standards, and therefore the financing and training programmes through the SETAs, in particular the Manufacturing and Engineering Related Services SETA (merSETA) were not sufficient for the international industry. SMEs listed issues with the current system as administrative difficulties, no guarantee of funding for a set number of trainees, as well as difficulty in applying the programme (Respondents Interviews).

*We have the capacity to train, but the amount of administration and documents that need to be submitted to the merSETA for trainees makes it tough as a small business. There was also no guarantee on how many trainees would be financed, and we would be informed halfway through the training year – this put intense pressure on us to decide how many people we thought we could afford to train (SME3 respondent).*

Both TNCs and SMEs highlighted that the current government incentives for supporting skills were only targeted at low-end or unskilled labour, which did not allow them to access the funding when looking at apprenticeships for the oil and gas sector.

Despite some of these challenges, most of the respondents acknowledged that the SETAs have created a good platform of standard training programmes across a range of sectors. SEFA was only established in 2012 as a merger of two micro-finance funds and none of the SMEs in this survey had made use of the new agency.

#### **4.4.2. Responsibilities and Provision of Support**

The responses from all institutions regarding whose responsibility it was for supplier development support ranged across government, private sector, industry associations, small business forums, Development Finance Institutions (DFIs) and even non-government organisations (NGOs).

Government, policy advisors, economists and business experts agree that SMEs were the driving factor of most economies globally; employing people, contributing to economic development, higher production volumes, increasing exports and growing entrepreneurial skills (Abor & Quartey, 2010). Ultimately it could be argued that supporting SMEs through both financial and non-financial support mechanisms was a public good, because of the positive implications of a healthy SME economy. This argument supported the view that government needs to be the main driver for SME support programmes and regulation regarding small businesses (Kirumba, 2000).

Both international respondents (IRs) stated that in any supporting initiatives, the role of government needed to be an enabling or facilitating one, and not a controlling role which created a crowding-out of private sector or other alternative support mechanisms for SMEs. Government needed to understand that their role was to provide the guidelines on how SMEs need to be supported, and to outline the vision of the development of SMEs.

*Government's role in supporting SMEs should be through a provision of the right infrastructure, supporting frameworks and finance. However the most important aspect of*

*support needed to focus on providing clear guidelines and responsibilities for all stakeholders (IR1 respondent).*

Government needed to be able to commit to providing the required infrastructure, and established institutions for SME support and committed funding. GOV1 identified the need to support small businesses in the oil and gas sector through ease of doing business, reduced administration requirements and quicker approval times, and this was reiterated in the country's Industrial Policy Action Plan (Respondent Interviews).

*Although national government is responsible for directing the vision for SME development, it requires the support of all stakeholders, including private sector to work with and provide the sector understanding and guidance for rolling industrial policy requirements (GOV1 respondent).*

The role of private sector was equally important to the support for small businesses, since private sector was more flexible and adaptable than government, which made it easier to adapt to changing market needs and demands (Respondent interviews). Types of private sector institutions included chambers of commerce, business organisations or business councils, exporter councils, and companies.

*The initiatives by private sector to support entrepreneurs and SMEs are more flexible, and businesses receive an answer in a much shorter timeframe, with clear application requirements and communication (SBF2 respondent).*

Many TNCs ran their own internal workforce and supplier development programmes without financial support or administration assistance from government. IA1 also supported this view with relation to the oil and gas industry, because TNCs understood their quality, and health and safety requirements and could pass this on to SMEs (Respondent Interviews).

SME2 highlighted that they felt government's role was the strongest since they were ultimately responsible for legislation that should make it easier to do business in South Africa. They also stated that where regulation existed, companies felt more certainty in a secure operating environment (Respondent Interviews).

IA1 acknowledged the need for more coordinated private sector support for local small businesses through lobbying, responding and commenting on legislation; networking and business development; industry capacity building, and marketing. A good example was the automotive industry which was represented by strong industry associations such as the National Association of Automobile Manufacturers of South Africa (NAAMSA) and the National Association of Automotive Component and Allied Manufacturers Association (NAACAM). NAAMSA and NAACAM had been instrumental in lobbying government with regards to legislation, the composition of incentives, export tariffs and minimum local content requirements amongst others (GOV2 respondent).

Commercial banks were another option when considering key role players in providing support to small businesses within the financing arena. Similarly multilateral organisations were key in providing support and advisory roles alongside national governments.

## 4.5. Summary

The findings identified and highlighted throughout Chapter 4 have intended to provide insight and understanding to the thoughts, perceptions and experiences of all institutions and key actors in the study and involved in the upstream oil and gas sector.

Quotes were used to provide rich insight and the context to the in-depth and personal views of the respondents as identified during the interview process.

The findings followed the same layout as the Interview Questionnaire (sample attached in Appendix B) and included insight into the procurement model and key actors involved in the Oil and Gas Sector, and challenges and constraints identified by all respondents that affect SME decisions and willingness to invest. External constraints such as infrastructure, access to finance and financial institutions, and procurement and pricing policies were included in this analysis. Value chain analysis and awareness on policies of use, exploitation and benefits from the sector were used to gain insight into suggested and tested support initiatives by various role-players.

The insight into SME uptake and utilisation, willingness of TNCs to utilise local companies, government support and policies, and financing methods in South Africa has shown that the country faces similar challenges to those in developed and emerging oil and gas markets, and therefore could benefit from some of the same recommendations (highlighted by the respondents). Examples of what TNCs and other government institutions have implemented to support supplier development were highlighted in the responses on possible support solutions.

The internal and external factors effecting willingness of TNCs and SMEs to invest in the oil and gas sector correlated with the conceptual framework in Figure 1-4.

## Chapter 5: Recommendations

Local content had the potential to bring about a range of benefits to the country and directly to SMEs and local small businesses, as well as lowering the operating costs through development of a competitive market and increased domestic market understanding of operational requirements. In addition, local content was vital in aligning business development and planning with government goals for economic development and building local capacity. The willingness and logistics motivation from TNCs to make use of local SMEs to ensure competitive advantage and minimising supply chain risk, coupled with high external expectations for oil and gas companies to make use of local suppliers for goods and services in their activities, has the potential to boost South Africa's current engineering expertise. Therefore, supplier development in South Africa's nascent oil and gas industry, capacity building needed to be focused on programmes and activities that directly support operational delivery of local SMEs.

At this stage, government support need not require a change in existing legislation as the foundation framework was in place and prioritises SME development, as well as development of the oil and gas upstream industry.

While South Africa's legislation already had a strong focus on developing SMEs, it needs some refining to make it efficient and easy to use by SMEs. The Government need to evaluate the current policy system and expand the services available to consider priority sector requirements (not just oil and gas). This include making available finance for accreditation requirements, as well as providing an ease-of-doing-business environment that supports SMEs and allow them to focus on their core business operations.

In addition, existing supplier development centres such as those established by Transnet Group and small business forums, could be used to build capacity in terms of educating companies on industry standards, providing business mentorship, and establishing fabrication and welding centres of excellence at dedicated oil and gas supplier development centres. In order to achieve the impacts intended by government, supplier development programmes need to incorporate further skills training and apprenticeships for local suppliers and support in gaining access to credit to help local businesses develop. Dedicated artisan-training centres to international standards are needed to support capacity and skills requirements of local SMEs, and showcase the country's expertise and competitiveness.

One area of recommendation, namely business mentorship programmes, has not been addressed in South Africa to date. This area could have the potential to provide direct linkages and business partnerships between government, TNCs and SMEs. A supplier database has already been put in place by the industry association, but it is not a comprehensive list of all companies across the country. The value chain analysis indicated that many TNCs utilised local services (both direct and indirect) in South Africa already. A supplier database could enhance the growth and level of companies across the value chain by: 1) making international investors aware of possible suppliers; and 2) providing access to suppliers. A database could also allow suppliers to indicate whether they are accredited or not, and what standards or certifications they have in place.

Recommendations on reducing the red tape are not only intended to facilitate an ease of doing business, but include providing the right environment to facilitate natural growth and competitiveness of the sector. This would have unintended benefits of stimulating further employment and growing businesses through contracts and revenue opportunities.

The ultimate responsibility for SME development sits with government to ensure that these recommendations are implemented, and the relevant support provided. The industry association need to take a stronger role in coordination and liaising between government and private sector, as well as lobbying for changes and industry support initiatives. Overall, there is need for coordinated levels of interaction between all of the key stakeholders in South Africa's oil and gas industry. This would facilitate natural partnerships between stakeholder relations, and contribute to development of expertise within government. Multilateral organisation can assist in this coordination and provide vital input and experiences into the process. This coordination also speaks to the recommendation of implementation of a supplier database where TNCs can easily access the local suppliers.

Effective coordination could include documentation and dissemination of international requirements in terms of supply of services and goods to SMEs and local businesses. The skills and training programmes can also be targeted at this specific activity. This effective coordination also means continuous monitoring and evaluation of sector support requirements to ensure the legislation and support initiatives are relevant.

Commercial banks, micro-finance institutions, small business forums, and other stakeholders are not excluded from these recommendations – the role and contribution of all institutions is vital in the framework analysis.

Most importantly, although South Africa's own offshore and onshore oil and gas reserves are yet to be quantified, the country must not sit and wait for opportunities to develop. Globalisation and requirements from TNCs have meant there are opportunities for South African SMEs throughout Africa. Implementation of the recommendations would result in maximum supplier development, employment creation and revenue generation for the local economy.

Since this study only interviewed three SMEs, further research undertaking could include a more in-depth study on South African SMEs operating within the oil and gas sector with specific focus on their experiences with regards to challenges, maximising opportunities, in-house solutions to skills and accreditation and other aspects.

## Chapter 6: Conclusion

From a research perspective, this study was the first focused study on supplier development in the upstream oil and gas industry in South Africa. Previous studies such as the Marintek Reports (2010 and 2012) and high-level analysis by the South African Oil and Gas Alliance (SAOGA) have provided some insight into the existing supply chain in South Africa, but not an analysis of SME constraints and maximising utilisation within the value chain. These considerations were often discussed in conversation and seminars, workshops and networking breakfasts, but have yet to be captured in a study. As the first study of its kind, and given the time and resource limitations, it was a high-level insight into these constraints, challenges and solutions, sector. The intention was to identify some of the challenges affecting SME uptake in the sector, as well as identify solutions to existing policy requirements, key role players' responsibilities and interaction, and support programmes that needed to be implemented to initiate a comprehensive supplier development framework. The study was intended to form the basis for further in-depth studies into South Africa's oil and gas industry.

An effective supplier development framework does not simply provide support for SMEs and local business; it assists TNCs to ensure the continuity of supply which is one of the most critical goals in purchasing and supply chain risk management. It also assists government in managing and financing support programmes for priority sectors effectively and efficiently with a clearly communicated goal to all role-players.

South Africa's SMEs were not dissimilar to those in developed (Norway, Australia and United Kingdom) and developing (Nigeria, Brazil, Ghana, Mozambique) oil and gas markets in terms of their challenges. On the positive, South African SMEs benefited from a relatively stable macroeconomic environment; existing institutions and legislation concerning business; developed and functioning business infrastructure, and relatively established social infrastructure. These four considerations offered predictability, incentives, an enabling environment and social inclusion, which ultimately provided the foundation for a strong supplier development framework.

On the negative, South Africa's own oil and gas market is still developing, and therefore oil and gas-specific support programmes (private and public sector) are non-existent.

The framework has a strong industrial and engineering capacity on which to build a strong downstream value chain for the oil and gas services sector. The country is ideally positioned geographically between West and East African markets, and the country has a hinterland of support services that exist in fabrication, logistics and marine repair industries. Together with the relevant recommendations on oil and gas-specific support programmes, the South African oil and gas value chain has the potential to develop a multitude of competitive suppliers for services on the African continent.

Oil & Gas Services is already considered a priority focus sector in South Africa's Industrial Policy Action Plan (IPAP), and there are already SMEs involved within the oil and gas services cluster. Failure to implement some of the recommendations summarised in Chapter 5 will not directly result in the failure of existing SMEs and industrial capabilities. A failure to implement competitive programmes would result in South Africa losing out on the potential benefits of increased earnings, foreign exchange, investment and job opportunities, and potential to minimise adverse social and

cultural effects. These benefits are best achieved through an effective and dynamic supplier development framework that supports SMEs within a competitive market environment.

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## Appendix B: Interview Questionnaire (SAMPLE)

### Supplier Development Framework Analysis of Small and Medium Enterprises (SMEs) in South Africa's Upstream Oil and Gas Sector

#### A Research Project in Part Fulfilment of Masters in Development Finance

University of Cape Town's Graduate School of Business

#### THIS FORM IS INTENDED FOR SOUTH AFRICAN MICRO, SMALL & MEDIUM ENTERPRISES

The expected impact of the Study is to be able to make informed recommendations on how to achieve:

- Increased uptake of SMEs and Local business within the offshore supply services hub
- Increased business partnerships and linkages between SMEs, Transnational Corporations (TNCs) and Government
- Increased employment opportunities and income generating activities
- Improvement of the current upstream oil and gas policies and input into the development of local content protocols

#### PART ONE: ENTERPRISE CHARACTERISTICS

##### 1. Geographical/Location of the business

1.1	Country of Origin	
1.2	Province	
1.3	Municipality	
1.4	Name of Enterprise	
1.5	Physical Address	
1.6	Telephone	
1.7	Name of Respondent	
1.8	Designation	

##### Interview Date:

Month (mm):	Day (dd):	Start Time:	End Time:

#### PART TWO: KEY ACTORS IN THE OIL AND GAS SECTOR

2. What is the main focus of your enterprise?
3. Mention the type of goods/service in which the enterprise is engaged

Industrial Classification (HS Codes if applicable)	Specify Product/Service provided
e.g. Manufacture of machinery and equipment	Pipe fittings


### PART THREE: SME DECISIONS AND WILLINGNESS TO INVEST

#### A – INTERNAL FACTORS

- a. Please state the year in which your business started operations.....
- b. State the shareholding/ownership of the Business Entity

Nationality	Country of Residence	Shareholding (%)

- c. What is the main market for your products? Please mark with an X.

Market	Mark with X	Specify
Local		
Export		

- d. Who are your customers within the upstream oil and gas industry?

Name company/customer	Form of business	Consumption Category (Tick the applicable)		
		Small	Medium	Bulk

- e. In your opinion, how are procurement decisions made by contractors?  
 1 = Locally ( ) 2 = Contracted outside/distributors ( ) 3 = Centralised procurement ( )  
 4 = Other specify ( )

3.5.1 If necessary, please explain your choices in Question 3.6.

- f. Have you seen or experienced a difference in pricing between low-cost suppliers, domestic suppliers and international suppliers when evaluating a particular product?

1 = Yes ( ) 2 = No ( )

3.7.1. If yes, list them.....

- g. Are there any specific quality standards and related licenses required for your business operations?

1 = Yes ( ) 2 = No ( )

3.7.1. If yes, list them.....

h. Do you have any means of ensuring quality standards for your goods/services supplied?

1 = Yes ( )    2 = No ( )

## B – EXTERNAL FACTORS

i. Do you access finance or save in any of the following financial institutions in South Africa?

1 = Yes ( )    2 = No ( )

3.9.1 If so, specify the specific institution in the table below:

	Financial Institution	Tick as appropriate
1	Commercial Bank	
2	Microfinance Institution	
3	Development Finance Institution	
4	Other (specify)	

j. Within the past five years, have you attempted to borrow for purposes of investing in your business?

1 = Yes ( )    2 = No ( )

3.10.1. If yes, what was the source of this capital?

1 = Commercial banks, 2= Private Organisations, 3 = Donor partners, 4 = Others (specify)

k. Is it easy to access main roads/highways from the location of your business?

i) If yes, what is the distance? .....

ii) if no, what is the distance? .....

l. Other than roads, is there is any other developed infrastructure in the area?

1 = Yes ( )    2 = No ( )

3.12.1. If yes, specify in the table below (tick where appropriate)

1	Water	
2	Internet access/email facilities	
3	Telephone/ landline	
4	Post office services	
5	Waste Disposal	
6	Mobile phone coverage	
7	Electric power stations	
8	Health centres	
9	Financial Institutions	
10	Security (police etc.)	

#### PART FOUR: VALUE CHAIN ANALYSIS

- a. Have you ever participated in the upstream oil and gas sector with specific reference to an offshore supply services hub?

1 = Yes ( )      2 = No ( )

4.1.1 If yes, please mention the year and how you participated.....

4.1.2 Are you still participating? .....

4.1.3. If no, what made you drop out? .....

- b. Have you thought about participating in the upstream oil and gas sector?

1 = Yes ( )      2 = No ( )

4.2.1 If yes, at what level of activity do you think you would participate?

- c. Have you put in place any strategies/mechanisms should an opportunity arise?

- d. If there are opportunities to partner with an oil rig operator or international company and/or Government in the upstream sector, would you be willing to participate in supplying goods and services?

1 = Yes ( )      2 = No ( )

4.4.1 If yes, what goods and services would you be willing/able to supply?

	Partnership Area	Specific Activity
1	Transportation services (trucks, cars, loading vans and trucks)	
2	Logistics services (fuel supply, in-house fleet management, customs clearing and cargo handling etc.)	
3	Technical services (telecommunications, plumbing, metal fabrications, electrical and mechanics, road maintenance, civil works, crane services etc.)	
4	Micro financing/foreign exchange bureaus	
5	Lodging, hotel and catering services	
6	Trade in goods (spare parts, field gears, construction materials etc.)	
7	Real estate, camps and accommodation	
8	Consultancy services (IT, Environmental management, HR management, procurement and financial management, quality assurances, inspection etc.)	
9	Community and social services e.g. Education and vocational training, health services/clinics etc.	
10	Waste management	

11	Ambulance and emergency services	
12	Security	
13	Warehousing and facilities management	
14	Labour contracting (casual and semi-skilled)	
15	Office supplies	

e. In your opinion, what are the three main challenges for SMEs in South Africa accessing opportunities within the Oil & Gas value chain? Please explain where necessary.

- (1).....
- (2).....
- (3).....

f. Do you think there are benefits for SMEs to be used in the Upstream Oil & Gas Industry?

**PART FIVE: AWARENESS ON POLICIES OF USE, EXPLOITATION, PARTICIPATION AND BENEFITS FROM THE SECTOR**

a. Are you aware of any policies or programmes that exist to support SMEs become more competitive within the Oil & Gas sector?

1 = Yes ( )      2 = No ( )

5.1.2 If yes, please provide the details .....

5.1.3 Have you tried to access some of these programmes, and where you successful?

1 = Yes ( )      2 = No ( )

b. Based on your experience, can you identify three areas where you feel that SMEs should be given more support

- (1).....
- (2).....
- (3).....

i. Who do you think should provide this support?

**THANK YOU FOR YOUR TIME AND PATIENCE IN RESPONDING TO THE QUESTIONS**

**Please indicate if you would like to receive a summarised fact sheet on some of the findings.**