

CHRIS HANI
DISTRICT MUNICIPALITY

**SUSTAINING GROWTH
THROUGH OUR PEOPLE**

SPECIAL ECONOMIC ZONE

FEASIBILITY STUDY REPORT 2013



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ABBREVIATIONS

ADSL	Asymmetric Digital Subscriber Line
AFF	Agriculture, Forestry and Fisheries
ASGISA-EC	Accelerated and Shared Initiative for South Africa - Eastern Cape
2G	Second generation of mobile telecommunications technology
3G	Third generation of mobile telecommunications technology
BRI	Basic Rate Interface
CHDM	Chris Hani District Municipality
DAFF	Department of Agriculture, Forestry and Fisheries
DFI	Development Finance Institution
DM	District Municipality
DOE	Department of Education
DOL	Department of Labour
DRDAR	Department of Agriculture and Rural Development
EC	Eastern Cape
ECDC	Eastern Cape Development Corporation
EPZ	Export Processing Zone
FCS	Fixed Capital Stock
FDI	Foreign Direct Investment
FTZ	Free Trade Zone
GDP	Gross Domestic Product
GIS	Geographic Information System
ICT	Information and Communication Technology
IDZ	Industrial Development Zone
IMF	International Monetary Fund
IPAP	Industrial Policy Action Plan
LM	Local Municipality
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act
NGP	New Growth Path
PFMA	Public Finance Management Act



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PRI	Primary Rate Interface
SDZ	Sector Development Zone
SEZ	Special Economic Zone
USDA	United States of America Department of Agriculture
WWTW	Water Waste Treatment Works



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EXECUTIVE SUMMARY

The purpose of this document is to determine the feasibility of establishing a Special Economic Zone (SEZ) and sector clusters centered in the Chris Hani District Municipality (CHDM).

An SEZ is defined as a geographically limited area administered by a single body offering certain incentives and benefits to businesses physically located within the zone. Over the last decade, the number of SEZs worldwide has grown dramatically as they are increasingly being used as an economic policy tool. Traditionally, SEZs can either be Free Trade Zones (FTZs), Export Processing Zones (EPZs), Industrial Development Zones (IDZs) or Sector Development Zones (SDZs). Economic benefits associated with the establishment of an SEZ include:

- Increase foreign and domestic private sector investment;
- Export growth and diversification;
- Development of industries;
- Skills upgrade and technological transfer; and
- Improvement of effective tax rates through enhanced tax collection within the zone.

CHDM is classified as a Category C2 Municipality, indicating a largely rural character and low urbanisation rate. CHDM is responsible for the implementation of economic development initiatives and the creation of a conducive environment while advancing the social, economic and transformation needs of the District. The District has high levels of unemployment (59%) and abject poverty persists at about 49.1% in 2011.

CHDM is located at the heart of the Eastern Cape (EC) and has a land area of 36 106 km². By virtue of its location, the District inherited a majority of the under-developed local municipalities from both the former Transkei and Ciskei and as a result faces many economic development challenges. The proposal to establish a SEZ with complementary sector clusters in the District is seen as one of the few opportunities to improve economic performance, while also improving the living standards of its inhabitants. Some of the challenges facing the Municipality include: heightened levels of poverty, weak domestic and foreign investment, high unemployment rates, skills gaps, weak manufacturing and processing industries as well as a fragile economic environment.

In trying to deal with these challenges, the Municipality investigated various economic development instruments that are integrated and inclusive of the eight (8) Local Municipalities (LMs). Through an extensive spatial development analysis, Lukhanji LM was selected for the establishment of the proposed SEZ. The SEZ will be biased toward the agro-processing sector and will take advantage of the region's agricultural strengths. The proposed SEZ will be located near the old Queenstown industrial area. The suggested location has almost all the necessary base infrastructure such as water supply connection, waste management works, electricity supply, ICT infrastructure, roads and rail connection to the economic hubs of Eastern Cape and rest of the country. One possible constraint has been identified under the spatial planning section; the existence of a landfill site just to the north of the proposed SEZ site. This will need further assessment.



The LMs will form sector nodes that will yield primary production so that the Agro-processing Hub (the Queenstown SEZ) has adequate quantity and quality of input raw materials. This approach is inclusive and it ensures that economic activities and job creation occur not only in the proposed SEZ, but also in LMs of the District and possibly adjacent District Municipalities as suppliers.

In an attempt to narrow down the amount of produce to initially focus on for processing in the proposed SEZ, a filtering mechanism was used. The following criteria were used in the crop and livestock selection process:

1. Market demand of the primary product;
2. Access to SEZ (road/rail linkages / average travel distance);
3. Existing raw materials (in LM municipalities/volumes available/cost to secure raw materials);
4. Land availability;
5. Basic infrastructure (water/electricity);
6. Job creation potential;
7. Value chain opportunities; and
8. Profit margins for primary product.

Following this selection process, in which weightings were applied to each of the abovementioned criteria, it was scored through extensive research and discussions with relevant local and district Government officials, farmers and farmer organizations. The outcome was that maize, wheat, sheep, goat and beef cattle were identified as the major agricultural primary products to supply the CHD SEZ. The following table depicts the clusters that are proposed in the various CHD LMs to not only supply raw materials to the CHD SEZ for value addition but also to increase production of the identified commodities for purposes other than supplying the SEZ.

Municipality	Cluster #	Proposed Cluster	Input Commodity	Supply Spoke	SEZ
Inxuba Yethemba	1	Bio-ethanol industry	Sugar beet, Sorghum	Emalahleni	N/A
	2	Ostrich cluster	Ostrich	Tsolwana	Value addition of feathers and skin
Tsolwana	3	Sheep Cluster	Sheep	All other LMs	Storage, process, package, distribute
	4a	Vegetables (Sub)	Cabbages	Lukhanji, Sakhisizwe, Engcobo	Storage, process, package, distribute
Inkwanca					



Lukhanji	5a	Beef Cluster	Cattle	Inkwanca	Storage, process, package, distribute
	6	Dairy Cluster	Cattle	Intsika Yethu, Emalahleni	Storage, process, package, distribute
	7	Wheat Cluster	Wheat	Emalahleni	Storage, process, package, distribute
	8	Poultry	Chickens	All other LMs	Storage, process, package, distribute
	4b	Vegetables (sub)	Cabbages	Tsolwana, Sakhisizwe, Engcobo	Storage, process, package, distribute
Intsika Yethu	9	Maize Cluster	Maize	Engcobo, Sakhisizwe, Lukhanji	Storage, process, package, distribute
			Dry Beans	Intsika Yethu, Lukhanji, Sakhisizwe	
	10	Piggery Cluster	Pigs	Lukhanji	Storage, process, package, distribute
	11	Stockfeed Cluster	Soya, Sunflower, Lucerne & Maize (70%)	Inxuba Yethemba, Lukhanji, Sakhisizwe, Engcobo, Emalahleni	Storage, process, package, distribute
	12	Goat Cluster (Tsomo)	Goats	All other LMs	Storage, process, package, distribute
Emalahleni	13	Coal mining	Coal	Inkwanca	Storage, process for energy



Engcobo	5b	Beef Cluster (sub)	Cattle	Intsika Yethu	Storage, process, package, distribute
	14	Forestry (demand)	Timber	Intsika Yethu, Sakhisizwe	Timber Storage, process, package, distribute
Sakhisizwe	5c	Beef Cluster (sub)	Cattle		Storage, process, package, distribute
	4c	Vegetables (sub)	Vegetables		Storage, process, package, distribute

A further refinement was done to indicate the most likely sectors to flourish in the SEZ. Based on extensive product research and discussions with relevant local and district Government officials, farmers and farmer organizations, market demand of the primary produce, job creation potential, value chain opportunities of the product and support infrastructure, the following five (5) sectors for Agro-processing in the SEZ were identified as likely to be profitable:

- i. Maize
- ii. Wheat
- iii. Goat
- iv. Sheep
- v. Beef/Cattle.

Three (3) additional sub-sectors have been investigated as they are derived from the primary sectors in the table above:

- a) Dairy from Cattle;
- b) Wool from Sheep; and
- c) Mohair from Goat.

The proposed CHDM SEZ has been planned and designed with the following considerations and parameters in mind:

- About 15 agro-processing factories are feasible;
- The ultimate electricity demand for the proposed SEZ is approximately 100 MW. Each factory is estimated at about 5 MW maximum design for electrical supply;
- The land size is about 350 ha (300 – 500 ha) in Lukhanji LM;



- For water requirements in the SEZ, a peak factor of 2,4 is recommended. This will result in a domestic water demand of 24,000 l/ha/day (8 400kL/day). All other design parameters, such as minimum and maximum hydrostatic pressures, could be factored into the preliminary design, as well as a medium risk fire category allowing two hydrants to discharge at any specific time with a design flow of 25 l/s per hydrant;
- The initial costs for the SEZ development are estimated at R2 billion inclusive of capital cost, training, legislative compliance and ICT. This amount excludes offsite costs such as upgrading the rail permanent way and providing rolling stock and locos and upgrading any roads and the providing the trucks to transport produce; and
- The numbers of jobs to be created are estimated at 16 324 construction jobs and 27 948 operational jobs giving a total of 44 272 by 2031, with most of the jobs being created locally by pro-active skills training interventions.

The minimum annual volume of supply from the eight (8) commodities to make the proposed SEZ viable is noted as:

- a) Wool for Scouring Facility – 1 750 000 kilograms per year equates to roughly 437 500 sheep.
- b) Dairy plant – 70 000 litres of milk per day with roughly 15 000 000 litres per year at about 3 500 milk cows.
- c) Abattoir with about 400 cattle per day with a minimum of 110 000 cattle per year
- d) Wheat processing plant of 5 000 tons of wheat per year
- e) Maize processing of not less than 1 000 tons of maize per year
- f) Sheep for Mutton equates to a minimum of 40 sheep per day and roughly 10 000 sheep per year or 1,2 million tons per year
- g) Goat meat with about 40 goats per day translating into roughly 10 000 goats per year or 1,2 million t per year
- h) Mohair of about 45 kg of mohair per day (approximately 9 goats @ 5 kg each) equates to 2 700 goats per year or 13 500 tons per year.

The study shows that the proposed CHDM SEZ is feasible provided R2bn is made available within the 5-10 years development timeframe to galvanise the productive use of CHDM's agricultural potential.



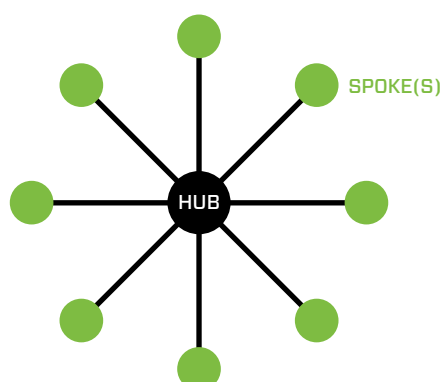
1 INTRODUCTION

The CHDM is located at the heart of the EC with a land area of 36 106 km². By virtue of its location, the District inherited a majority of the underdeveloped local municipalities from both the former Transkei and Ciskei and as a result it faces many economic development challenges. The proposal to establish a Special Economic Zone (SEZ) with complementary sector clusters in the District is seen as one of the few opportunities to improve economic performance, while also improving the living standards of its inhabitants. Some of the challenges facing the Municipality include heightened levels of poverty, weak domestic and foreign investment, high unemployment rates, skills gaps, weak manufacturing and processing industries as well as a fragile economic environment.

The District has high agricultural potential and generally good fertile soils. With the proposed SEZ and the identified appropriate sector nodes, CHDM is hoping to unlock this agricultural potential through strategies and investments that expand primary production to provide raw materials for domestic and export markets and enable a vibrant agro-processing sector to be developed. Primary production, processing and marketing need to be linked in a continuous value chain to develop both upstream and downstream opportunities. Such strategies will attract both local and foreign investment which will expand the District's economy. The CHDM is geographically well placed, with good base road and rail infrastructure, to offer opportunities for exports to Southern Africa, Africa as a whole and international markets.

In trying to address these under development challenges, CHDM investigated various economic development instruments that are integrated and inclusive of the eight (8) Local Municipalities (LMs), i.e. Inxuba Yethemba, Tsolwana, Inkwanca, Emalahleni, Sakhisizwe, Engcobo, Intsika Yethu and Lukhanji LM. For a number of sound reasons, Lukhanji LM was preferred for the establishment of an Agro-processing Hub, based on the SEZ concept, allowing it to take advantage of the region's agricultural strengths. Further, the LMs will become sector nodes that will provide primary production so that the Agro-processing Hub has adequate quality and quantity of input raw materials. This approach will ensure that economic activities and job creation occur in LMs throughout the District and in the proposed SEZ.

Figure 1: Illustrating supportive production in nodes around the central SEZ hub





The operational principles are:

- The Hub denotes the proposed SEZ and the spokes will be the sector clusters that are located in the eight LMs.
- Spokes are primary nodes of production;
- Products will be consolidated and moved towards the Hub ;
- The model emphasises regional integration with a core capacity (Hub) while building capacity through spokes;
- Spokes will retain higher employment and production footprint; and
- The Hub will require higher skills level for agro-processing, investment promotion and SEZ bulk infrastructure.

1.1 The Cluster Approach

The most basic definition of industrial clusters is that they are "groups of firms within one industry based in one geographic area" (Swann and Prevezer cited in Vom Hofe & Chen, 2006: 9). Hill and Brennan (2000) define competitive industrial clusters as "concentrations of competitive firms or establishments in the same industries". An example of a geographical cluster is the EC automotive and components industry. The South African automotive industry was originally located at major ports, where imported components were assembled before the final products were dispatched to the markets. There were specific reasons why the South African automotive assemblers located close to ports, but these did not initially represent industrial clusters of linked and interdependent firms. An industrial cluster is thus more than simply a geographical concentration of industries in a particular economic sector.

The definition of industrial clusters has been expanded to include 'complementary services' that can add further value to the operations of the sector. This definition emphasises the vertical connections between industries and their support services and represents a geographically bounded concentration of similar, related or competing businesses with active channels for business transactions, communications and dialogue that share specialized infrastructure, labour markets and services, and that are faced with common opportunities and threats (USNET, cited by Kuper. 1997). Such firms may benefit from the so-called "agglomeration economies (savings)" or as clusters of businesses generally found in large cities (urbanisation economies).

In South Africa, the Wool and Mohair Cluster initiative included not only the related industry partners, but also the growers, organized labour and the wholesale and retail trade sector. The example of the Wool and Mohair Cluster illustrates, that not all clusters are geographically concentrated. This cluster initiative brought together its partners from across the country. While most of the growers and brokers are concentrated in the EC, several of the processing firms are based in Gauteng and other centres and the textiles and clothing firms include those in



Durban and Cape Town.

In 1997, the dti made concerted efforts to promote the notion of industrial clustering in order to improve South Africa's competitiveness. It established a cluster secretariat and embarked on a nationwide awareness campaign and capacity building initiatives and, by November of that year, over one thousand (1000) participants had attended national cluster workshops. Also, dti released a promotional brochure entitled 'Co-operating to Compete: The South African Cluster Programme' (South Africa, the dti, 1997).

1.2 The SEZ Concept

A Special Economic Zone (SEZ) is defined as a geographically limited area administered by a single body offering certain incentives and benefits to businesses physically located entities within the zone. Over the last decade, the number of SEZs worldwide has grown dramatically as they are increasingly being used as an economic policy tool.

Worldwide, there are approximately 3000 zones in 135 countries, with 2301 zones in 119 developing countries. The 3000 zones account for over 68 million direct jobs and over US\$500 billion of direct trade-related value added.¹ The majority of the zones are currently in Asia, Latin America, Central Asia and Central & Eastern Europe and are, amongst other things, engaged in labour intensive manufacturing of apparel, electrical and electronic goods for export. The development of SEZs in Africa started in the 1990s. To date, there are 114 zones in Sub-Saharan Africa, with Nigeria, Kenya, Ghana, Zimbabwe and South Africa having more than four zones each. Different types of SEZs exist, targeting different sectors, markets and investors. Traditionally, SEZs can either be:

- Free trade zones (FTZs),
- Export processing zones (EPZs), or
- Single factory EPZs.

There are many economic benefits associated with the establishment of an SEZ including:

- Increase foreign and domestic private sector investment;
- Export growth and diversification;
- Development of industries;
- Skills upgrade and technological transfer; and
- Improvement of effective tax rates through enhanced tax collection within the zone.

The purpose of this document is to analyze CHDM's current situation, in an attempt to determine the feasibility of establishing an SEZ in the area.

¹ These figures were derived from a database developed by FIAS, in close consultation with the World Economic Processing Zones Association (WEPZA), and International Labour Organization (ILO) data from an ILO document dated April 2007.



2 SOCIO-ECONOMIC ANALYSIS OF CHDM

The purpose of this section is to analyze the current social and economic situation of Chris Hani District Municipality (CHDM), in an attempt to establish the feasibility or otherwise of establishing an SEZ in the area.

2.1 Population and Age Distribution

The CHDM contributes about 12.1% to the EC's total population. The district is home to approximately 796 000 people, 93.3% of whom are Africans, 4.2% are coloured and 2.0% are white while Indians and Asians represent only 0.2% of the total population. Inxuba Yethemba is the LM with the highest proportion of coloured and white population as they represent 32.1% and 10.6% of the municipality's population respectively. Inkwanca LM, which is the smallest municipality in the region, has 6.3% white and 4.1% coloured people. As per Table 1 below, Lukhanji LM accounts for the biggest share of the District's population as it has 24.0% of the total. Engcobo and Intsika Yethu represent the second and third biggest proportion of the District's population. The table below depicts the district's population by local municipality and by population group.

Table 1: Chris Hani District Population by Local Municipality and Population Group, 2011

	Black African	Coloured	Indian & Asian	White	Other	Total
	(%)					
Chris Hani	93.3	4.2	0.2	2	0.3	100
Inxuba Yethemba	56.2	32.1	0.3	10.6	0.8	8.2
Tsolwana	90.8	6	0.2	2.7	0.3	4.2
Inkwanca	88.9	4.1	0.2	6.3	0.6	2.8
Lukhanji	92.5	3.8	0.5	2.8	0.4	24
Intsika Yethu	99.4	0.3	0.1	0.1	0.1	18.3
Emalahleni	98.4	0.6	0.1	0.6	0.3	15
Engcobo	99.7	0.1	0.1	0.1	0.1	19.6
Sakhisizwe	97.6	0.9	0.2	1.1	0.3	8
						100

Source: Stats SA Census, 2011

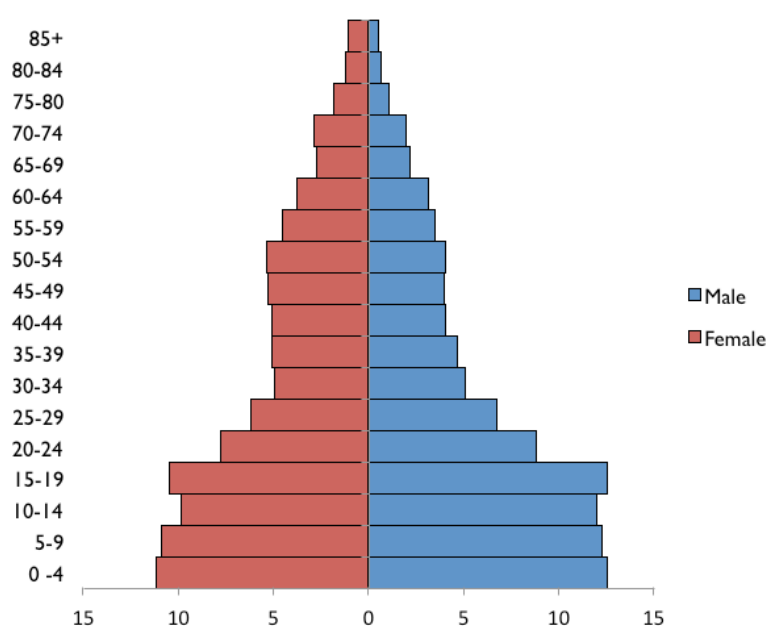
As shown in Figure 2 below, about 70% of the District's population consists of the youth in the 0-34 age cohort. The District's population is relatively equal in terms of gender in all age cohorts, even though males are relatively more than females in the 0-34 age cohort, while in the 35 and above cohort, females are relatively more than males in the District. The active population represents 57.6% of the total population of which 53.4% are female. The same trend



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is observed in the LMs of CHDM. The population's structure therefore represents a substantial workforce pool for future development. The figure below depicts the distribution of CHDM's population by age and gender.

Figure 2: Population and Gender Distribution of CHDM, 2011



Source: StatsSA Census, 2011

2.2 Poverty and Inequality in CHDM

Poverty and inequality remain the biggest challenges facing the District and EC Province. Reducing poverty and inequality is one of the millennium development goals; as a result, the Provincial Medium Term Strategic Framework (MTSF, 2009-2014) has also highlighted this as a challenge and developed a strategy for improving the living conditions of the majority of South Africans. The definition of the concept of poverty varies across countries. In this document, the World Bank poverty threshold has been used, which is living below \$2 per day. However, the level of global monetary poverty is expected to fall below 23% by 2015. The table below illustrates the percentage of people that are living in poverty in CHDM by LM.



Table 2: Proportion of the Population Living in Poverty

	1996	2000	2005	2011
	(%)			
Eastern Cape	53.5	58.5	56.5	47.9
Chris Hani	59.8	64.2	59.4	49.1
Inxuba Yethemba	40.7	51.1	55.7	59.8
Tsolwana	50.8	53.5	49.8	42.7
Inkwanca	52.3	58.1	72.8	75.2
Lukhanji	45.9	55.8	53.4	43.8
Intsika Yethu	61.7	60.9	50.9	36.6
Emalahleni	63.9	65.0	55.1	40.2
Engcobo	77.6	80.1	74.2	63.2
Sakhisizwe	69.2	78.6	80.5	78.0

Source: StatsSA Census, 2011

From Table 2 above, the number of people living in poverty in CHDM decreased slightly from 59.8% to 49.1% of the total population between 1996 and 2011. Engcobo and Sakhisizwe LMs accounted for the highest numbers of people that were living in poor conditions in the District in 1996, while in Inxuba Yethemba, the proportion of people living in poverty was relatively lower with 40.7% when compared to other municipalities in the District. In 2011, Sakhisizwe and Inkwanca LMs recorded the highest percentage of people living in poverty, with 78 and 75.2% respectively. These two LMs are the only local municipalities which recorded a significant increase in the percentage of people that were living in poverty between 1996 and 2011. CHDM is also facing inequality challenges as the District's Gini Coefficient increased from 0.59 to 0.61 between 1996 and 2010. Thus, CHDM is not immune from the poverty and inequality challenges facing the country. The District is predominantly rural and with only one centre of economic activity which is in Lukhanji LM. An urgent need for much greater economic activity is vital for poverty alleviation in the District.



3 ECONOMIC PERFORMANCE OF CHDM

3.1 CHDM Fixed Capital Stock

Fixed Capital Stock (FCS) reflects the actual value of the stock of fixed assets in the economy and as such provides an important indication of overall investment patterns and wealth². It includes buildings, installations, transmission devices, machinery, equipment, means of transport, tools, production and sales implements, draft animals and commercial stock. A nation uses capital stock in combination with labour to provide services and produce goods, and is critical as an enabler of economic growth. This section looks at the level of FCS by economic sector and asset type in CHDM with particular emphasis on its LMs.

3.2 Fixed Capital Stock by Economic Sector

Table 3 below highlights information on FCS proportions by economic sector in the EC, CHDM and its LMs in 1996, 2001 and 2011. On average, total assets in CHDM increased by 4.1% compared to a 4.4% increase in the Province between 1996 and 2011. The tertiary sector maintained the highest proportion of total assets in the Province, CHDM and its LMs over the years. This sector has accounted for more than 77% of the total assets in the District over the years followed by the secondary sector, while the share for the primary sector remained below 10%. In 2011, assets for tertiary sector in CHDM slightly increased to reach R1.39bn, while still representing only 8% of the Province's tertiary sector. Over the years, FCS of the primary sector in the District has plummeted from R95.7m in 1996 to R45.6m in 2011. This indicates substantial decrease in investment in the primary sectors such as agriculture, forestry and fishing industries as well as mining and quarrying industries has substantial impact in CHDM as it is a rural region.

Five out of the eight LMs have exhibited the same characteristics as the CHDM with regard to the performance of the three sectors. Indeed, the tertiary sector represented the lion's share (more 74% in each LM) of the total assets, followed by secondary sector and with the primary sector representing the least proportion for the reviewed period. In 1996 and 2001, the primary sector had second highest share of total assets in Inxuba Yethemba, Tsolwana and Inkwanca LMs. The primary sector has not only experienced the lowest share of total assets but the value of those assets has been decreasing in all LMs over the years. Despite its large primary sector assets compared to other LMs, Inxuba Yethemba LM experienced a significant decline of assets from R37m in 1996 to only R11.4m in 2011.

² The Eastern Cape Socio-Economic Analysis and Forecast 2013.



Table 3 Proportion of Capital Stock by Sector in CHDM, 1996-2011

	1996			2001			2011		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
	% Share								
Eastern Cape	4.8	25.9	69.2	4.0	28.5	67.5	2.4	27.9	69.7
Chris Hani	9.9	12.7	77.4	8.2	11.9	79.9	2.6	19.0	78.4
Inxuba Yethemba	20.3	11.1	68.6	17.8	12.4	69.8	4.0	16.4	79.6
Tsolwana	42.8	9.9	47.3	32.7	8.1	59.2	11.5	11.1	77.4
Inkwanca	29.1	23.0	47.9	28.8	10.9	60.3	10.1	28.9	61.0
Lukhanji	2.8	14.1	83.0	2.2	13.9	83.9	1.1	26.7	72.3
Intsika Yethu	6.1	10.6	83.3	4.5	8.7	86.8	1.8	12.5	85.7
Emalahleni	6.1	14.1	79.8	4.7	12.5	82.8	2.3	14.5	83.2
Engcobo	3.6	7.4	89.0	2.7	7.0	90.3	2.2	11.4	86.4
Sakhisizwe	12.0	13.2	74.9	9.8	11.5	78.7	3.1	14.4	82.6

Source: Own calculations based on Quantec Research data

3.3 Gross Value Added (GVA) For EC and CHDM

This section provides a trend analysis of the sectorial growth and contribution for the EC, CHDM and its LMs. These trends can be used to assess past performances and, to a certain extent, plan medium to long term strategy.

In recent years, the economies of both the EC and CHDM have been growing slowly, registering less than 3% since 2009. In 2011, the EC economy grew by 2.6%, while CHDM registered 2.4%. Over the years, the District's contribution to the provincial economy has been consistently below 8%.

Over the years, Lukhanji LM has proved to have a much stronger economy compared to other LMs in the District. In 2011, approximately 40% of the District's economic activity came from Lukhanji LM followed by Inxuba Yethemba LM (15.7%) and Intsika Yethu LM (13.8%), while Inkwanca LM made the least contribution (2.5%). During this period, Intsika Yethu's economy grew faster than any other LM within the District, while Emalahleni LM contracted by 0.5%.



Table 4: Total GVA in CHDM, 1996-2011

	1996			2001			2011		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Eastern Cape	4.8	25.9	69.2	4.0	28.5	67.5	2.4	27.9	69.7
Chris Hani	9.9	12.7	77.4	8.2	11.9	79.9	2.6	19.0	78.4
Inxuba Yethemba	20.3	11.1	68.6	17.8	12.4	69.8	4.0	16.4	79.6
Tsolwana	42.8	9.9	47.3	32.7	8.1	59.2	11.5	11.1	77.4
Inkwanca	29.1	23.0	47.9	28.8	10.9	60.3	10.1	28.9	61.0
Lukhanji	2.8	14.1	83.0	2.2	13.9	83.9	1.1	26.7	72.3
Intsika Yethu	6.1	10.6	83.3	4.5	8.7	86.8	1.8	12.5	85.7
Emalahleni	6.1	14.1	79.8	4.7	12.5	82.8	2.3	14.5	83.2
Engcobo	3.6	7.4	89.0	2.7	7.0	90.3	2.2	11.4	86.4
Sakhisizwe	12.0	13.2	74.9	9.8	11.5	78.7	3.1	14.4	82.6

Source: Own calculations based on Quantec Research data

3.3.1 Primary Sector GVA

During the period under review, the primary sector has shown little contribution (less than 6%) at both Provincial and District level. Following the provincial GVA trend in the primary sector, CHDM has experienced a gradual downward trend in its primary sector over the years. In 2011, the EC's GVA for the primary sector grew by 2% compared to only 0.9% for CHDM. The District's contribution to the total primary sector of the Province has been consistently declining since 2001, reaching the lowest share of 7.8% in 2011.

In 2011, the primary sector grew by less than 2% in all LMs in CHDM with Emalahleni LM experiencing a contraction of 0.2%. Inxuba Yethemba LM dominated the primary sector in the District with a contribution of 26.1%, followed by Tsolwana LM (16.2%) and Lukhanji LM (16.1%). However, GVA in the primary sector has been declining in all LMs since 2001. In Inxuba Yethemba LM, the primary sector GVA fell from R175.2m in 2001 to only R59.7m in 2011.

The primary sector is dominated by the agriculture, forestry and fishing (AFF) industry, as this represented more than 80% of primary sector activities in each LM. In 2011, the AFF industry was dominated by Inxuba Yethemba LM with a contribution of 26.85 of the total industry for the District. However, the AFF industry saw a very low growth of less than 2% in all LMs during this period. Therefore, the establishment of an Agro-processing SEZ will contribute towards reviving a vibrant primary sector in the District. The following table highlights GVA for the primary sector in the EC, CHDM and its LMs in 1996, 2001 and 2011.



Table 5: GVA for Primary Sector in CHDM, 1996 - 2011

	1996			2001			2011		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Eastern Cape	2 341	-1.5		2 875	23.2		2 953	2.0	
Chris Hani	352	-3.0	15.0	425	23.9	14.8	229	0.9	7.8
Inxuba Yethemba	133	-1.5	37.8	175	25.7	41.3	60	0.8	26.1
Tsolwana	60	-7.9	17.0	63	24.3	14.8	37	1.2	16.2
Inkwanca	37	1.7	10.6	54	27.3	12.8	23	1.5	10.0
Lukhanji	42	-5.4	11.9	48	25.2	11.3	37	1.5	16.1
Intsika Yethu	24	-1.9	6.9	21	9.5	5.0	24	0.2	10.5
Emalahleni	18	-6.3	5.0	18	20.1	4.2	10	-0.2	4.2
Engcobo	12	-1.4	3.4	12	12.1	2.7	24	0.7	10.4
Sakhisizwe	26	-0.4	7.4	34	23.1	8.0	15	0.2	6.6

Source: Own calculations based on Quantec Research data

3.3.2 Secondary Sector GVA

The secondary sector has been the second largest contributor to the economy of both the EC and the District over the years. In 2011, the secondary sector contributed 20.8% to the total economy of the Province, while its contribution to the CHDM total economy was around 12.8%. During the same period, the secondary sector in the District contracted by 1% with a contribution of only 4.5 % to the provincial secondary economy.

In 2011, seven out of eight LMs in CHDM's secondary sector economy contracted. Lukhanji LM is leading this sector (representing a lion's share of 47.5%), followed by Inxuba Yethemba local municipality with 16.9%. Unlike the primary sector, the GVA for the secondary sector has been on an upward trend over the years.

Despite its negative growth in 2011, manufacturing industry dominated the secondary sector in all LMs in CHDM. Approximately 48% of the total manufacturing industry in the District came from Lukhanji LM, see Table 6 below.



Table 6: Secondary Sector GVA in CHDM, 1996 - 2011

	1996			2001			2011		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Eastern Cape	18 163	-0.4		21 797	6.0		27 373	0.7	
Chris Hani	687	0.7	3.8	812	10.9	3.7	1 230	-1.0	4.5
Inxuba Yethemba	115	5.8	16.8	160	15.0	19.7	208	-0.9	16.9
Tsolwana	23	-2.2	3.4	24	6.9	3.0	32	-0.6	2.6
Inkwanca	41	-8.1	6.0	31	7.2	3.8	35	-2.0	2.8
Lukhanji	310	2.1	45.2	393	11.2	48.4	584	-0.9	47.5
Intsika Yethu	57	-1.6	8.3	54	5.7	6.7	177	-1.4	14.4
Emalahleni	59	-6.1	8.6	54	6.1	6.6	72	0.2	5.8
Engcobo	46	-2.6	6.7	48	10.7	5.9	80	-1.9	6.5
Sakhisizwe	35	6.1	5.0	48	11.3	5.9	43	-1.4	3.5

Source: Own calculations based on Quantec Research data

3.3.3 Tertiary Sector GVA

In 2011, tertiary sector contributed 77% to the total provincial economy compared to 84.8% contribution in the CHDM. The tertiary sector in the Province grew by 3.1%, while the District saw a very similar improvement of 3%. CHDM represented only 8% of the Province's total GVA for the tertiary sector in 2011.

Approximately 40% of the tertiary sector GVA came from Lukhanji LM followed by Inxuba Yethemba LM with 15.3%. Over the years, there has been an upward trend in the tertiary sector GVA in seven LMs, the exception being Emalahleni LM. The GVA of the tertiary sector in Emalahleni LM has been steadily contracting over the years. In 2011, Intsika Yethu LM showed the fastest growth (6.5%) compared to any other LM in the District.

General Government Services (GGS) dominated the tertiary sector in all eight LMs. In 2011, Lukhanji LM dominated (39.9%) total GVA for the tertiary sector in CHDM. During this period, GGS grew faster than any other industries in the tertiary sector in all LMs except Emalahleni which saw a contraction of 6.9%.



Table 7: GVA for Tertiary Sector in CHDM, 1996 - 2011

	1996			2001			2011		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Eastern Cape	66 450	4.5		72 317	1.0		101 347	3.1	
Chris Hani	5 686	3.6	8.6	6 254	4.7	8.6	8 157	3.0	8.0
Inxuba Yethemba	882	4.5	15.5	976	5.8	15.6	1 247	1.8	15.3
Tsolwana	154	6.8	2.7	187	5.0	3.0	267	5.1	3.3
Inkwanca	131	8.7	2.3	167	5.9	2.7	181	3.9	2.2
Lukhanji	2 395	3.4	42.1	2 631	5.2	42.1	3 258	2.2	39.9
Intsika Yethu	648	1.3	11.4	673	3.3	10.8	1 122	6.5	13.8
Emalahleni	530	1.4	9.3	515	-0.1	8.2	458	-0.7	5.6
Engcobo	575	4.0	10.1	657	5.7	10.5	1 106	4.7	13.6
Sakhisizwe	367	6.2	6.4	439	5.8	7.0	510	2.0	6.3

Source: Own calculations based on Quantec Research data

3.4 Trade Analysis

The importance of international trade has been reinforced by the rapid pace of globalisation and industrialisation across the globe³. International trade includes the exchange of goods and services between countries. This section analyses international trade trends in the EC and more particularly in CHDM.

3.4.1 Trade Balance in CHDM

Despite being dominated by trade deficits for many years, CHDM has experienced a net positive trade balance over the past 2 years. The highest net positive trade balance was achieved in 2012 (R192 million), significantly higher than the R104 million surplus in the previous year. The trade balance was largely driven by changes in exports for manufacturing and agricultural produce like vegetable products.

In 2012, the District saw a significant growth in both exports and imports. The export value grew by 88.5% from R209.5 million in 2011 to R395 million in 2012, while imports grew by 92.4% from R105.5 million to R202.9 million respectively over the same period. Table 8 below shows that there has been a significant upward trend in exports in the District since 2012, with manufacturing and agricultural products as key drivers. Table 8 below shows the trade balance for the EC and CHDM in 2001, 2006 and 2012.

³ The Eastern Cape Socio-Economic Analysis and Forecast 2013.



Table 8: Trade Balance for CHDM, 2001 - 2012

		2001		2006		2012	
		R billion	Annual % Change	R billion	Annual % Change	R billion	Annual % Change
EC	Trade Balance	-0.886		-6		-8.3	
	Export	16.5	-28.4	25.9	7.7	29.5	-13.7
	Import	17.4	24.8	31.9	18.0	37.8	5.6
CHDM	Trade Balance	-0.005		-0.099		0.192	
	Export	0.019	-14.5	0.020	-60.5	0.395	88.5
	Import	0.024	28.5	0.119	34.6	0.203	92.4

Source: Own calculations based on Quantec Research data

3.4.2 CHDM Export Value by Region

There has been a shift in export destinations as the focus has moved from the Americas to Europe in the recent years. In 2012, Europe accounted 55.4% of the total commodities exported from the District. During this period, export to all regions increased significantly except Africa which showed a negative growth of 21%. Exports from CHDM to other African countries accounted for only 1.3% of the total export value as it declined from R6.5 million in 2011 to R5.1 million in 2012. Table 9 below shows exports from CHDM region in 2001, 2006 and 2012.

Table 9: Export Value by Region, 2001 - 2012

	2001			2006			2012		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Africa	0.357	101.1	1.9	1.7	25.6	8.2	5.1	-21.0	1.3
Americas	13.7	563.7	71.8	8.1	-78.6	40.0	126.4	38.7	32.0
Asia	2.7	-70.8	14.3	1.9	-75.5	9.5	37.6	68.6	9.5
Europe	2.3	-73.8	11.8	5.8	81.7	28.8	218.8	157.8	55.4
Oceania	0.038	-98.2	0.2	2.7	173.7	13.5	7.0	48.2	1.8

Source: Own calculations based on Quantec Research data

3.4.3 CHDM Import Value by Region

CHDM has been mostly importing its goods from Europe followed by Asia and the Americas, while Africa accounted for the least imports. In 2012, approximately 68% of total imported goods came from Europe. Import value from Africa declined by 66.6% in 2012. Table 10 below shows imports into CHDM by region in 2001, 2006 and 2012.



Table 10: Import Value by Region, 2001 - 2012

	2001			2006			2012		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Africa	0.277	84.5	1.1	1.5	344.0	1.3	0.1	-66.6	0.1
Americas	3.7	176.8	15.1	8.0	-15.3	6.7	23.0	41.5	11.3
Asia	7.0	0.5	28.6	19.1	129.8	16.0	38.1	16.5	18.8
Europe	9.6	58.6	39.5	89.8	27.9	75.3	137.4	145.6	67.7
Oceania	3.812	-14.8	15.6	0.7	110.2	0.6	4.3	2766.0	2.1

Source: Own calculations based on Quantec Research data

3.4.4 CHDM Export Value by Commodities

Table 11 below shows that exports from CHDM are dominated by manufacturing and agricultural products in the form of vegetables, live animals and animal products. In 2012, vehicles, aircraft, vessels and associated transport equipment accounted for 61.6% of the total exports from the District. Exports of vegetable produce increased significantly from R31.4 million in 2011 to R81.6 million in 2012, representing 20.6% of total exports from the District. Table 11 below shows exports for top five commodities from the District by region in 2001, 2006 and 2012.

Table 11: Exports for Top Five Commodities, 2001 - 2012

	2001			2006			2012		
	R million	Annual % Change	% Share	R million	Annual % Change	% Share	R million	Annual % Change	% Share
Vehicles & accessories ⁴	-	-	-	0.332	-23.3	1.6	243.1	127.9	61.6
Vegetable produce	-	-	-	0.398	-51.1	2.0	81.6	160.0	20.7
Wood & accessories ⁵	-	-	-	0.001	-99.1	0.0	33.1	32.0	8.4
Live animals, animal products	0.017	-84.5	0.1	2.9	1024.1	14.2	20.1	33.6	5.1
Machinery & mechanical appliances & accessories ⁶	10.444	-22.2	54.7	12.9	-10.0	63.6	6.7	-67.4	1.7

Source: Own calculations based on Quantec Research data

⁴ Vehicles, aircraft, vessels & associated transport equipment.

⁵ Wood & articles of wood; wood charcoal; cork & articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware & wickerwork.

⁶ Machinery & mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image & sound recorders & reproducers, & parts & accessories of such articles.



CHRIS HANI
DISTRICT MUNICIPALITY

SPECIAL ECONOMIC ZONE (SEZ) BILL

4

4 SPECIAL ECONOMIC ZONE (SEZ) BILL

SEZs in South Africa are to be governed by a suite of legislation whose pillar is the SEZ Bill. This Bill is still be discussed by the Parliamentary House of Traditional Leaders, however all indications are that it will become law by 2014.

This primary SEZ legislation has been prepared by the *dti* and is supported by all other national legislation, especially the Customs and Excise Act for all SEZs seeking customs' incentives. The operations of SEZs are governed by the SEZ regulations which are themselves supported by various sector strategies and guidelines including the National Development Plan (NDP), Industrial Policy Action Plan (IPAP) and New Growth Path (NGP). The predecessor of the SEZ programme is the IDZ programme which was established by the *dti* in 2000 as an incentive programme to boost industrial expansion and create jobs amongst other objectives.

It is important to note that South African SEZs are not exempted from any existing legislation and, at present, all national legislation (unless so specifically excluded) is in force within their boundaries. SEZs are geographically based industrial parks that have special provisions to aid in the attraction of Foreign Direct Investment and enhance industrial growth. The Customs and Excise Act, which prescribes the movement (import and export) of cargo, governs operations within the Customs Controlled Areas (CCA's) of SEZs. Internationally, some SEZs are governed in terms of the Kyoto Protocol where national customs laws are not in effect. Indeed, some others suspend or limit labour rights, which is not a situation that South Africa will support.

Due to the limited success that the IDZ Programme has had over the past ten years, in 2008 the *dti* began a comprehensive review of the Programme. The review has resulted in a major revision to the Programme, which now becomes the SEZ Programme, with changes being made to legislation, strategic intent, governance and programme financing.

4.1 The SEZ Bill

This Bill provides for the designation, promotion, development, operation and management of SEZs. It includes the establishment of an SEZ Advisory Board, creation of incentives, registration and deregistration of SEZs and other governance issues.

The purpose of SEZs, and the original purpose of IDZs, is the facilitation of the creation of industrial complexes with strategic economic advantages for targeted investments and industries in the manufacturing sector and tradable services. SEZ licensees and operators are therefore expected to develop infrastructure, attract investments,



promote regional development, create decent sustainable work, provide socio-economic benefits and promote skills development.

The new SEZ Bill allows for the creation of an Advisory Board which will consist of 15 members representing Government, organised labour, organised business, civil society and independent persons on the basis of their knowledge and expertise relevant to SEZs. Its function is to:

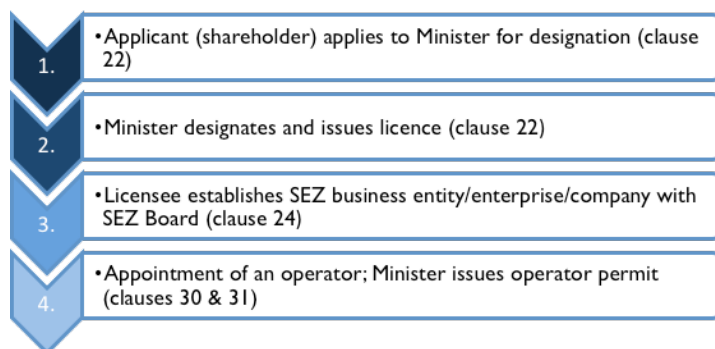
- Advise the Minister on policy and strategy regarding SEZs;
- Consider applications for SEZ designation, for SEZ operator permits and transfers and make recommendations to the Minister accordingly;
- Liaise with SEZ licensees and operators on implementation of SEZ strategic plans; and
- Make recommendations to the Minister regarding approval of the operator's decision to locate a new investor in the SEZ.

The dti will act as the Secretariat for the Board and will support and facilitate functions of the Board.

4.2 Approval of an SEZ

An SEZ may only be designated if either an application has been received in this regard by the Minister of the dti or if the Minister himself initiates ("in the national interest") the designation of an area. In order to succeed, the application must demonstrate that the designation of the area as a SEZ shall further government's industrial development objectives.

Figure 3: SEZ Designation Process



The applicant must submit a comprehensive feasibility study indicating that the applicant has sufficient access to financial resources and expertise, has ownership or control of the area proposed and, if it is to be implemented by a Public Private Partnership (PPP), the ownership structure of the PPP. The applicant shall, if successful, be issued with a licence.

⁷ SEZ Bill sec 23(2)a



There are several categories of SEZs and the Minister may, at his discretion, amend these are:

- a Free Port;
- a Free Trade Zone;
- an Industrial Development Zone; and
- a Sector Development Zone.

On designation of the SEZ, if it is solely owned by the government, then it must be registered as either a business enterprise (national or provincial enterprise) as per the Public Finance Management Act (PFMA) or, if owned by a municipality, as a municipal entity as per the Municipal Systems Act (MSA). If it is a PPP, it must be registered as company in terms of the Company's Act.

After the registration, the licensee (owner) must appoint a Board for the entity and must undertake an open and transparent process to appoint an operator of the SEZ. On appointment by the entity, the operator must apply to the Minister of the *dti* for an operators permit. Before issuing a permit, the Minister must be satisfied that the agreement between the licensee and operator adequately provides for duties and obligations, and the terms and conditions for development, operation and management of the SEZ.

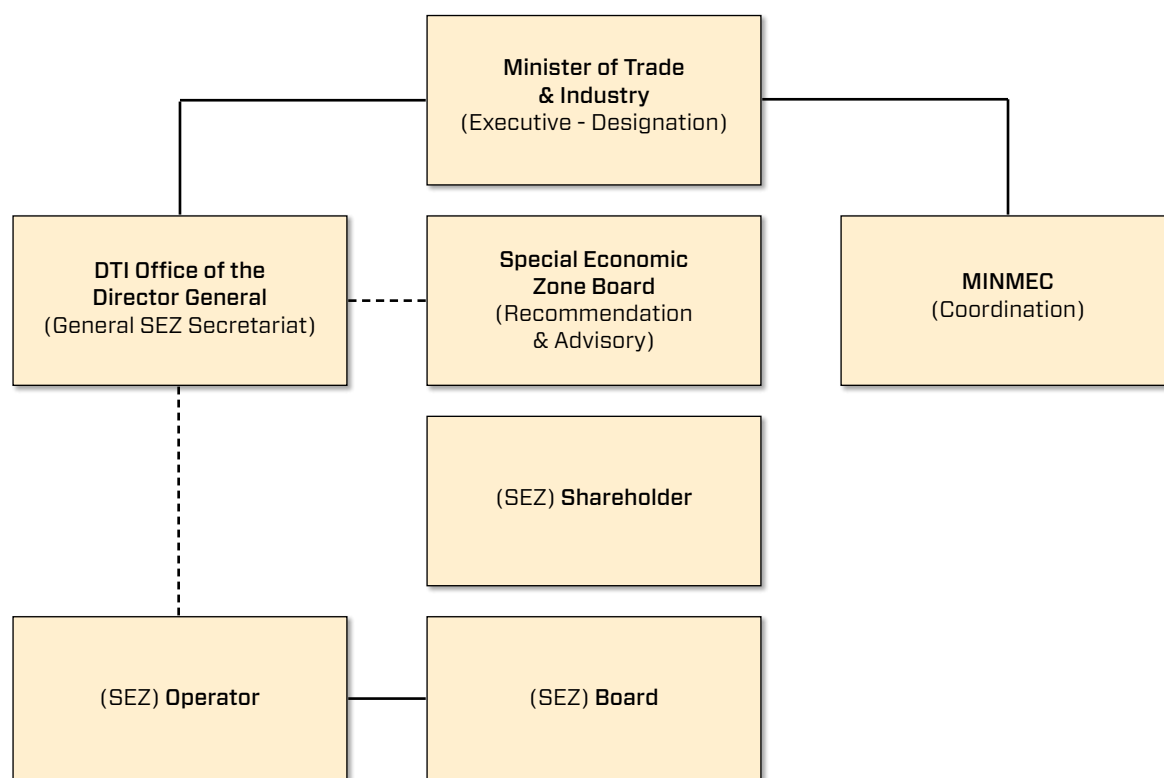
4.3 SEZ Governance

The SEZ Bill increases the role of the Minister of the *dti* as the SEZ champion, and also allows for the Ministerial Committee on Economic Development (MINMEC) to assist in the coordination of the Programme. This not only gives the Programme a high level political champion but also confirms the Programme as a national programme with representation from every Province. The SEZ Bill, when compared to the IDZ regulations, also increases the responsibilities of the shareholder.

Firstly, the primary licence for the SEZ is vested in the shareholder and not in the operating company. In addition, the roles of the operator and the shareholder are split with the operator being a service provider to the licensee. Importantly, the appointment of an operator is to be done in line with the Preferential Procurement Policy (open transparent and equitable). If the operator is viewed as having underperformed, the *dti* may withdraw the operator's right to operate after consulting with the shareholder.



Figure 4: SEZ Governance Structure



4.4 SEZ Funding

In the review of the IDZ Programme, a weakness was identified in regards to the funding of IDZs. This weakness was a direct result of the insistence on only annual allocations of funds, even though this was found to be not supportive of the operating models of the various IDZs where confirmed multi-year funding was required to meet medium term commitments. For example, IDZs needed to develop at a pace set by the investors themselves, as they were the ones committing funds to their projects in the IDZ, and not at a pace arbitrarily determined by government. In trying to secure investments under those conditions and with frequent investor requirements for top structures, investors were often lost. Another cause of lost investments was the long drawn out Environmental Authorisation process.

In addition to the above, IDZs were not able to raise funds in the commercial market due to the pressures of having to function as commercially vibrant institutions responding to business and investment requirements, while also required to comply with the PFMA . To partially remedy this, the *dti* will establish a SEZ Fund whose objective will be



to support the promotion and development of SEZs. The fund will be warehoused at the *dti* and funding applications will be accepted year round and recommendations passed onto the SEZ Board.

Table 12: SEZ Fund Evaluation Criteria

CRITERIA	DESCRIPTION	WEIGHTING
Investment Support	Support investment directly linked to industries and sectors identified within in IPAP, NGP and the NDP	30
Employment Creation	Creation and sustaining employment opportunities	20
Other Socio-economic Factors	Export promotion	10
	Down-stream and upstream industries	10
	Technology development	10
	Infrastructure development	10
	Small business development	10

In future, SEZs will not be funded through direct funding (budget line with National Treasury) but rather via a multi-channel process. The new funding process is focused on the creation of new sources of funding and the introduction of tighter restrictions on the use of government funding. In addition, SEZs need to be able to source private sector funding and request project specific funding from DFI's such as the Industrial Development Corporation (IDC), Development Bank of South Africa (DBSA).

Operational funding must be sourced from shareholders, such as provincial or municipal governments. In cases where the shareholder is incapable of funding the designated SEZ, the Minister of the *dti* (if so advised by the SEZ Advisory Board) may approve funding through the SEZ fund. In that case, the funding injected would be converted into equity and, over a period of time, continued injections could result in the SEZ being owned by the *dti*. Disbursements of the funds are governed by the Programme Guidelines for the SEZ Fund. The funding criteria for the fund are detailed in Table 13 below. Not all development costs are accommodated for in the SEZ fund and qualifying criteria are included in Table 13.



Table 13: SEZ Fund Qualifying Criteria

CLASSIFICATION	DESCRIPTION	NOTES (Funding)
Infrastructure Development	General infrastructure, selected top structures	General infrastructure, municipal infrastructure, clearing and servicing of land, fencing in, fills security and lighting, access roads, etc.
		Site preparation, investor specific infrastructure, utility connections to bulk supplies, road access
		Top structures, limited to multi-purpose and shared services centres or generic top structures
Business Development	Expenditure related to business development	Limited to cost of project specific feasibility studies, feasibility studies, technology testing, training, EIAs and General Research related to planned investments & clusters
Business Development	Expenditure Related to business development	Limited to cost of project specific feasibility studies, feasibility studies, technology testing, training, EIA and General Research related to planned investment & Clusters
Feasibility Studies for new SEZ	Objective is to support feasibility study	<ul style="list-style-type: none"> Maximum Grant of R 15 million R 5 Million for prefeasibility R15 million for Feasibility One project per province
Feasibility Studies for Investment Projects	Support investment projects on a 50:50 basis	<ul style="list-style-type: none"> Feasibility Studies for investment projects by private investors Feasibility Studies for investment projects being considered For projects above R 200million with beneficiation & manufacturing not located in any SEZ/IDZ

Source: SEZ Funding Guidelines, 2013

For capital requirements, any SEZ may apply for funding from the SEZ fund or other DFIs such as IDC, DBSA or from a commercial bank. This will necessitate that all SEZs are granted borrowing powers (IDZs were never given borrowing powers) which the National Treasury has agreed to. In the case of the SEZ fund, projects will be partially



funded according to fund disbursements' guidelines as outlined in Table 14. In the case of top structures, the only structures to be funded will be those that are multi-user or generic facilities. Table 14, below details the relevant criteria as they appear in the SEZ funding guidelines.

The SEZ fund has been capitalised by government to the tune of R10 billion over the next ten years. However individual SEZs will be limited by the SEZ guidelines to no more than R250 million per year.

Table 14: Non-qualifying Costs

CLASSIFICATION	NOTES
Applicant will not qualify	Selected top structures where investor has not committed before enactment of SEZ Act
	Customized factory buildings for investor
	General infrastructure outside of zone
	Social and recreational infrastructure
	Residential buildings and office parks
	Operational expenditure
Non SEZ	Private Industrial Parks that are not designated as a SEZ
Other Costs	Adjudication committee may consider any costs relating to activities of the SEZ as qualifying or qualifying based on the merits of each case.

Source: SEZ Funding Guidelines, 2013

4.5 SEZ Incentives

The most important aspect of the legislative review has been the acknowledgement by national government that, in order for the SEZ Programme to succeed, it needed to be supported with a new and globally competitive suite of incentives. This has resulted in government proposing the new incentives identified below.

All SEZs will qualify for VAT and customs relief (similar to that for the current IDZs) and the employment tax incentive. Businesses operating within approved SEZs, approved by the Minister of Finance in this case, will be eligible for two additional tax incentives.

Firstly, all such businesses can claim accelerated depreciation allowances on capital structures (buildings):

- Qualifying companies that erect or improve buildings and other fixed structures will be entitled to a special rate of capital (depreciation) allowances in lieu of normal allowances. This rate will equal 10 per cent per annum over 10 years.



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AGRICULTURAL SECTOR ANALYSIS IN EC

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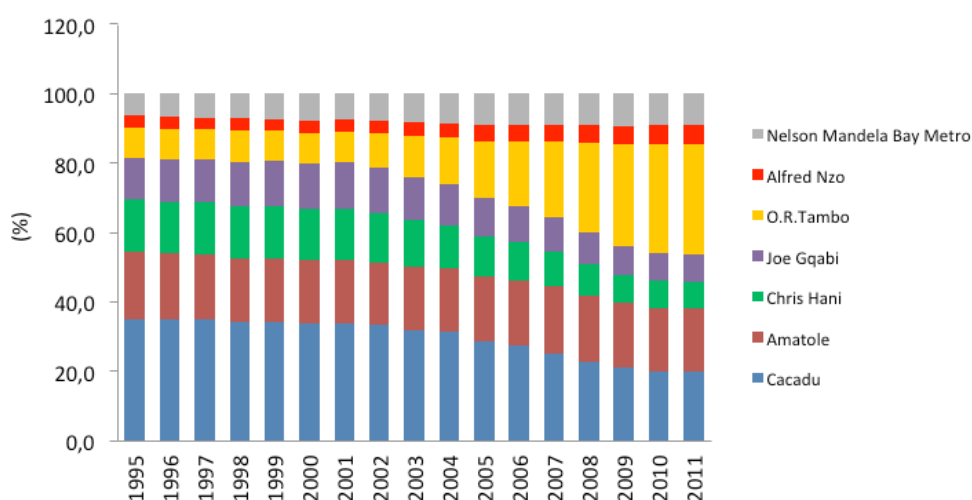
Secondly, certain companies (carrying on qualifying activities within an approved SEZ) will be subject to a reduced corporate tax rate, i.e. 15% instead of 28%.

- It should be noted that all employers employing low-salaried employees (below R60 000 per annum) within SEZs will be entitled to the employment incentive. The incentive will apply regardless of employee age.

5. AGRICULTURAL SECTOR ANALYSIS IN EC

The EC accounted for approximately 7% of the annual South African Agriculture, Forestry and Fisheries sector (AFF) GVA from 2006 to 2010. The leading provinces were KwaZulu-Natal and the Western Cape, with 29% and 23% respectively. At the district level in the EC, O.R. Tambo overtook Cacadu as the leading contributor to AFF GVA in 2008. In 2011, OR Tambo district was the biggest contributor to the Province's primary sector (31.7%), a 0.3% increase when compared to the previous year, followed by Cacadu district (19.8%) and Amatole district (18.3%). OR Tambo district has increased its share of the primary sector output by 22.9% between 1995 and 2011, while Cacadu's share plummeted by 15.4% during the same period owing to a focus in the automotive sector in the region. Between 1995 and 2011, CHDM's share of the primary sector output decreased by almost 50% from 15.3% to 7.8%. The following figure shows the proportions of EC districts' output in the primary sector.

Figure 5: Share of the EC Districts in the Primary Sector, 1996 - 2011



Source: CDC calculations based on Quantec Research data



Primary sector activities are mainly the production of basic foodstuffs and the extraction of raw materials. This sector comprises activities in the agriculture, forestry and fishing industries as well as mining and quarrying industries. Table 15 below identifies the contribution made by each Province to the overall output of the country's primary sector. In 2011, about 20% of the primary sectors' output in South Africa came from the North West Province, while the EC has been the smallest contributor to the overall output since 1995. The primary sector contributed only 2.1% to the country's total economy in 2011, a decrease of 0.2% from 2009. The AFF industry accounted for more than 93% of the total contribution to the primary sector in the Province.

Table 15: Primary Sector GVA Contribution by Province, 1995-2011

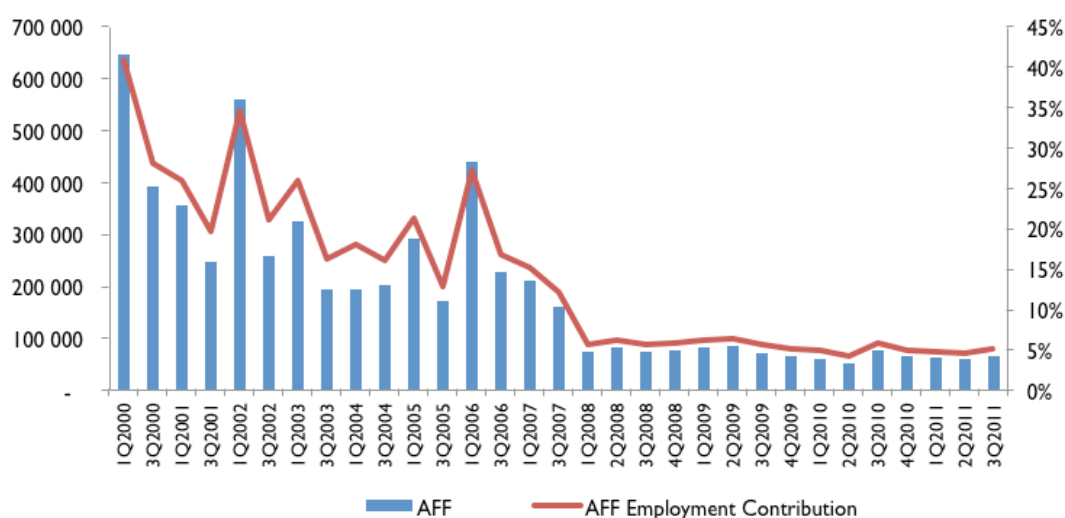
	RANK	1995	RANK	2005	RANK	2011
Western Cape	8	6.3	8	6.5	7	7.0
Eastern Cape	9	1.9	9	1.5	9	2.1
Northern Cape	7	7.0	7	7.2	8	6.9
Free State	6	9.2	6	8.1	6	7.4
Kwazulu-Natal	5	9.9	5	9.6	4	11.2
North West	1	20.5	1	20.4	1	20.6
Gauteng	4	14.4	4	11.1	5	9.7
Mpumalanga	3	15.2	3	16.7	3	16.6
Limpopo	2	15.7	2	18.7	2	18.5

Source: CDC calculations based on Quantec Research data

Another unattractive factor is the decline in employment within the AFF sector in the Province. Employment in the AFF sector in the eastern part of the EC has, as a result of the decline in AFF in general in the Province, declined from over 40% of the total employment in 2000, to only about 5% in 2011.



Figure 6: EC AFF Employment numbers and percentage employment to total



Source: CDC calculations based on Quantec Research data

5.1 Climate and Rainfall

The climate in CHDM varies from arid to very cold high veld and falls mainly into 2 climatic zones, i.e. Arid and Semi-Arid Moderate Midlands, and Arid and Semi-Arid Cold high lying land (Agricultural Development Programme for the Eastern Cape, 1986). The rainfall varies dramatically over the area depending mostly on altitude and distance from the coast. In the western arid areas, the average annual precipitation is between 200mm and 300mm whereas in the eastern high lying areas of Cofimvaba it is 700-800 mm. The greater part of the area is, however, arid to semi-arid and receives less than 400mm per annum. Rainfall distribution is erratic and dry spells are a frequent occurrence.

5.2 Temperatures

The temperature is characterised by extremes during the summer months, the maximum temperature often exceeds 40°C in the lower lying areas in the western (arid) section. Minimum temperatures in the winter months in the high lying areas are often well below zero and frost and snow is a common occurrence throughout the area. Frost can, however, occur at any time of the year in the Molteno area. This area experiences the largest inter-diurnal variation (change from one day to the next) in temperature (Roets & Associates, 1999). The temperature in the eastern part of the CHDM is a bit more moderate with frost occurring from mid-May to mid-September.



5.3 Geology & Soils

The ground conditions in CHDM consist mainly of Beaufort sediments intruded by Dolerite. These comprise Shale, Mudstone and Sandstone. The soils in CHDM are mainly from the Beaufort and Molteno series of the Karoo sequence. As a result, the soils are poorly developed, shallow or duplex (rocky) and are mostly not suitable for crop production. In the valleys, however, deeper soils do occur. As an example, in the Fish River Valley there are 15 soil forms of which the Hutton, Clovelly and Oakleaf forms (Binomial Classification) are dominant. Soil salinity is, however, a major problem in the irrigated areas in the Cradock, Hofmeyr and Tarkastad. The soils of the more arid areas of CHDM are generally shallow and consist mainly of the Mispah, Glenrosa and Swartland forms. In the flood plains, watercourses and plains, deeper soils of the Oakleaf, Dundee and Valsrivier form are more common.

5.4 Water Resources

CHDM falls within four river systems:

- The Great Fish River draining the central/western area southwards;
- The Kei River draining the central/eastern area southwards;
- The Mbashe River draining the eastern area southwards; and
- The Orange River draining to the North.

Of these, the Fish and Kei Rivers are the most significant rivers in terms of the catchment areas in CHDM. The total surface water available in the District has been estimated from the Eastern Cape Water Resources Assessment as follows:

- Potential maximum yield (including dams and transfers) = 1013.5 m cum /annum
- Probable total consumption and losses = 775.8 m cum/annum
- Available surface water resource = 237.7 m cum/annum.

It is clear that, across the whole of CHDM, there is a positive surface water balance and that approximately 23,4% of the potential yield is still available for use, providing drought conditions do not exist. It is however worth noting that the resource is concentrated at the major dams and rivers and, as would be expected, is not readily or cheaply accessible to all potential users located at a distance from these resources.

5.5 Contextual and Legal Environment

The Agro-processing Industry is among the sectors identified at a national level by the IPAP, NGP and the NDP for its potential to spur growth and create jobs because of its strong backward linkages with the primary agricultural sector. Potential for agriculture is also advocated in the Provincial Growth and Development Plan (PGDP). At a



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OVERVIEW OF CHDM AGRICULTURAL SECTOR

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district level, the CHDM Integrated Development Plan (IDP, 2012-2017) broadly defined the agricultural sector as having “potential to contribute to job creation, promotion of livelihoods’ opportunities and contributing to sustained social and economic growth and development”. The IDP also highlights the following sub-sectors for investment:

- a) Agro-processing, e.g. cheese, wool production;
- b) Livestock farming, particularly Goats and Cattle; and
- c) High Value crop production, e.g. hydroponics and bio-fuels.

6 OVERVIEW OF CHDM AGRICULTURAL SECTOR

The Agricultural sector in CHDM can be divided into two types, namely: the subsistence lifestyle farming and commercial farming; livestock farming of cattle, goats, ostriches and sheep is common in both subsistence and commercial farming in the District. The Agriculture sector accounts for 5% of the District’s economy and 10% of employment.

It is understandable that CHDM is economically underdeveloped, as it inherited the former homelands of the Transkei and Ciskei that were previously excluded from services and infrastructure development. Lukhanji LM accounts for about 40% of the District’s GVA and remains the economic powerhouse of the District, mainly driven by secondary and tertiary economic activities. Agriculture and agro-processing are the two areas where the District has a competitive advantage due to the availability of raw materials and fertile land. The District has potential in the processing of produce such as sorghum, maize, vegetables, milk and cheese. The District also has irrigation schemes which provide it with a competitive advantage for high value horticultural production.

6.1 Agricultural Sector as Competitive Advantage of the District

In trying to identify its competitive advantage, CHDM has looked closely at its current agricultural capacity and its future potential in order to be able to exploit its strengths and promote economic growth in the region.

6.1.1 Value Chain Integration

The timber production value chain is located within the North Eastern and North Western corridors, and the timber value adding services are predominantly located in Queenstown, with potential for early gaps in the value chain such as sawmills and treatment and processing of waste.

The livestock value chain extends across all corridors in the District, with a particular focus on strengthening or establishing strategically located public goods investments (abattoirs, tanneries and other value adding facilities).



6.1.2 Agricultural Development

Agriculture is one of the potential growth sectors in the District. The Provincial Department of Rural Development and Agrarian Reform Integrated Agriculture Strategy prioritise the following sectors for investment:

- Agro-processing;
- Livestock farming (goats and cattle);
- High value crop production (hydroponics and bio-fuels); and
- Irrigation schemes.

Livestock farming is an important source of income for both commercial and communal farming in the District. However, the western part of the region is increasingly turning to game farming (Queenstown, Cradock, Tarkastad and Molteno). The District is currently in partnership with the National Wool Growers Association in order to improve the quality of wool sheep, develop a local wool growers association, train farmers on livestock and veld management and build appropriate infrastructure such as shearing sheds and fences. Shearing sheds were built and completed at Intsika Yethu, Lukhanji and Engcobo LMs.

Further partnerships have been created with the Department of Rural Development and Agrarian Reform (DRDAR) and this has resulted to the construction of livestock handling facilities. ASGISA-EC and TEBA Development were involved in assisting with the development of the livestock improvement programme which will result in the training of community members in livestock handling and treatment in certain areas where infrastructure is in good condition. The main aim of this initiative is to improve the quality of livestock (goat, sheep, and cattle), the quality of rams and the provision of veterinary services.

Low skills levels, inadequate access to land and poor veld and livestock management, limited access to markets, limited access to funding and credit by emerging farmers, insecure land tenure, dilapidated and insufficient infrastructure (roads, fencing, stock dams and dipping tanks) remain the biggest challenges in livestock farming.

Dry land cropping is only feasible in small parts of the District (Intsika Yethu, Sakhisizwe and Engcobo). The CHDM is in partnership with DRDAR and Emalahleni LM for the sorghum production programme in Emalahleni LM in order to provide adequate raw materials for the Mill.

High Value Crop Production: the District has partnered with ECDC and an Italian company on hazelnut production at the Glenbrook irrigation project. This project was a pilot which was meant to assess the viability of hazelnut production in the area, with the added value of a successful vegetable business and training programme.

Irrigation Schemes: The District currently has 8000 ha under irrigation (Ncora and Qamata) and there is potential for an additional 7600 ha should the Gariep Transfer Project be implemented. Furthermore, there are areas that



are currently underutilised within the existing schemes such as Shiloh, where only 40% of the scheme is currently utilised. In addition to these schemes, there are many large scale commercial farming enterprises. The District's irrigation schemes are prioritised under the revitalisation and resuscitation programme of the Department of Rural Development and Agrarian Reform (DRDAR). The prioritised schemes in the District are: Shiloh irrigation scheme (where dairy farm has been established) and the Ncora, Bilatye and Qamata irrigation schemes.

6.2 Forestry, Timber and Wood

The District is richly endowed with a number of forest plantation resources which are found in Intsika Yethu and Engcobo LMs and owned by Department of Agriculture, Forestry and Fisheries and (DAFF). Sakhisizwe LM also has woodlots and a few hectares of category A plantations (Pine stands). The area has potential of being rich in forestry, timber and wood production. In relation to SMME development and community empowerment, the District has prioritised the forestry sector as one of the sectors that are key to economic development. As a result, the Wood Cluster programme was proposed. A study that was done revealed that the management of woodlots in the District is poor and the operational costs of the forest plantations and woodlots far outweighs the income generated by these plantations and woodlots. A study conducted for the *dti* on a co-funded sawmill project revealed that there is a need for skills development and technology upgrading to improve productivity and competitiveness. The *dti* has also used CHDM as a pilot for its National Training Programme on sawmilling. This project was conducted in conjunction with SEDA and the forestry SETA in Engcobo charcoal project. As a result, the District developed a forestry strategy and the following projects were identified in the strategy:

- Sawmill project;
- Afforestation programme;
- Pole treatment plant;
- Engcobo charcoal manufacturing project;
- Sakhisizwe charcoal manufacturing project; and
- Tree nursery project.

The two projects that have started are the Engcobo and Sakhisizwe charcoal manufacturing projects.

6.3 Agro-processing

The majority of the District's farm output goes for processing outside the District (milk, beef, wool and fruit). This puts the District at the bottom of the value chain whereas there are opportunities that exist in food-processing especially for convenience foods, specialty foods and organic foods. Apart from food processing, the District can promote high value crops such as cotton and biodiesel. Biodiesel is also encouraged through the sugar beet project near Cradock where Sugarbeet SA, the Central Energy Fund and IDC entered into a partnership that will result in



6000ha of sugar beet being planted. DRDLR will provide land where the required sorghum and sugar beet will be grown. The agricultural aspect of the project is that its spinoff will be the development of livestock in the District as the biofuel farms will produce animal feed that will be used to develop quality beef cattle. The Cradock fuel plant will be a catalyst further industrial revolution in the District.

6.4 Agricultural Strategies

In recognition that CHDM has a comparative advantage in Agriculture and Forestry, the District has strategically and pro-actively taken steps to ensure that continuous support is given to this sector. Below is a summary table of some of the strategies for priority areas and the time frames associated with agriculture and forestry projects in the District. However, in order to support its case for the establishment of an SEZ in the area, the District will need to speed up the implementation of these strategies and put realistic time frames to them, as the strategies can be enablers in this process. Also, the District will need to choose clusters that will yield better value to the economy of the District and focus its resources and strengthen those sectors rather than trying to focus on too many things at once. The table below highlights the strategies identified to support the agricultural sector in the region.

Table 16: Strategies Identified to support the agricultural sector

AREA	OBJECTIVE	STRATEGIES	BASELINE	2013-2017
Forestry Development	To prioritise Forestry as a sector that contributes to reduction of unemployment and economic development	Development and Implementation of Forestry strategy that focuses on value addition	N/A	Final Development & Implementation of Forestry strategy (support & develop saw milling projects in selected LM's Promotion of Afforestation Programmes)
		Continuous support to existing Charcoals	Charcoal Projects	
		Continuous support to Tree Nursery	N/A	



Crop Production and Agro-Processing	To increase the contribution of Agriculture to the district economy	Improving crop production through introduction of new cultivars and supply of production inputs	Dry land crop production at Emalahleni and Encgobo	Implementation of Agricultural Strategy (Crop production and rotation). Implementation of Dry land crops product
		Establishment of village clusters		
		Production of Dry land crop for biofuel and food security		
Livestock Development	To increase contribution of livestock to the district economy	Improving the conditions of livestock through capacity building, medication and value addition	Livestock improvement programmes implemented in partnership with TEBA	Implementation of Master plan, implementation of TEBA MOU and monitoring implementation of operational plan and monitoring
Roads Management	To provide well maintained and accessible roads	To explore and implement the visibility of combining all existing roads units within the district	N/A	Implementation of the results of the single roads unit study
		Implementation of SLA	2 148 km	2 148 kms bladed
			30 km	30 kms regavelled

6.5 Local Municipalities

Figure 7 below depicts the District's developmental agenda in relation to each LM's strengths and areas of potential. This figure also highlights some challenges and actions that should be taken in order to ensure proper beneficiation in the District. This section also summarises the strengths and potential of each of the LMs in the agricultural sector.



Figure 7 CHDM Developmental Agenda

Local Beneficiation is the cornerstone of the Agenda

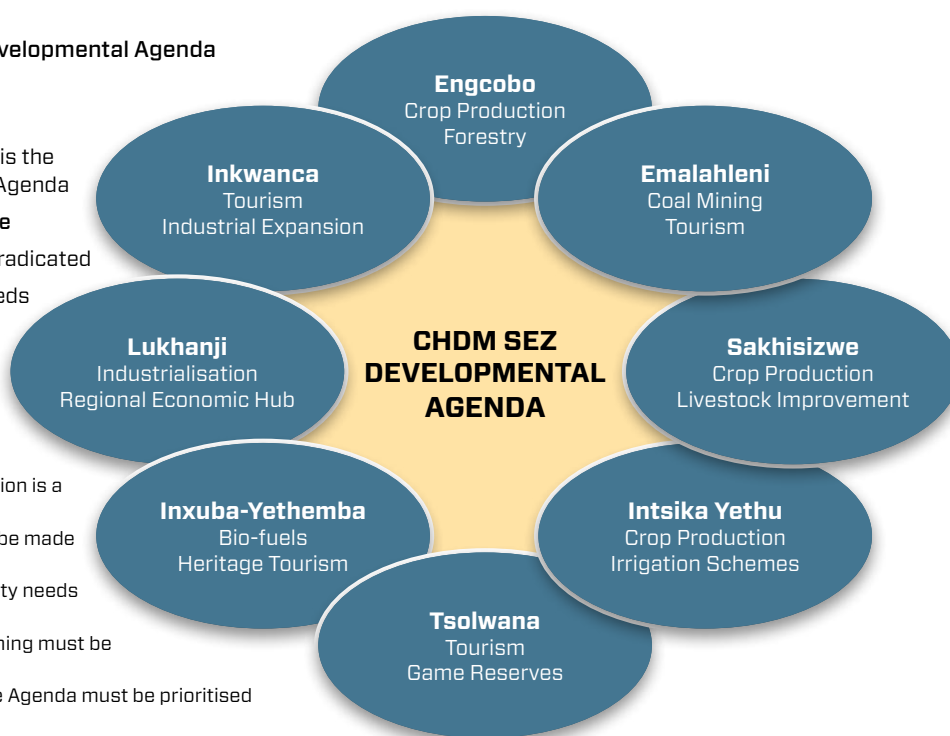
Water Infrastructure

backlogs must be eradicated

Energy Security needs to be addressed

Transport Linkages needs to be maximised

- Resource mobilisation is a key determinant
- Practical IGR must be made non-negotiable
- Institutional Capacity needs to be enhanced
- Research and Planning must be the base
- Communicating the Agenda must be prioritised



Source: CHDM IDP, 2012 – 2017

6.5.1 Lukhanji Local Municipality

Lukhanji LM accounts for 40% of the District's economic activity and is more urban than other LMs in the District. The LM already has significant industrialisation potential with infrastructure and transport linkages to national and international markets. It is also strategically situated as it has access to key national roads and a secure railway line. Lukhanji's road network links it easily with two major ports and IDZs in South Africa which are the East London Port and IDZ and the Coega IDZ and Port of Ngqura.

6.5.2 Inxuba Yethemba Local Municipality

Inxuba Yethemba LM consists of the urban centres of Cradock and Middleburg, with harsh climatic conditions and karoo vegetation. The region is ideal for smaller livestock farming. The average rainfall is usually less than 400 mm per annum which makes irrigation vital for crop farming in this area. The LM has a competitive advantage in irrigation farming and the production of lucerne, oats, vegetables, dairy and piggery. Furthermore, the dry land farming such as beef, sheep, goats and ostrich are distinctive in the area and the quality of wool produced in the area is world renowned. Inxuba Yethemba also has access to a strong road network to both the Port of Ngqura and Gauteng.



6.5.3 Intsika Yethu Local Municipality

Intsika Yethu LM falls within the historic Transkei administration where subsistence farming remains the order of the day. The area is endowed with fertile land and offers great potential for Agriculture. However, one of the key challenges in this area is the existence of communal and informal land ownership systems. Key agriculture industries are cattle, grain, poultry and dried fruit, and forestry which offers potential for downstream activities such as sawmilling and furniture manufacturing.

6.5.4 Emalahleni Local Municipality

Emalahleni LM consists of 3 main towns, Lady Frere, Indwe and Dordrecht and about 34% of the land area is suitable for moderate to limited crop production, while the rest of the area is best suited for livestock farming. Lack of access to suitable roads is the main challenge in this area as only 10% of the LM's land mass is serviced with adequate roads. Key areas of Agricultural opportunities in the region include wool, beef, sorghum, lucerne, peach, apricot and other irrigated crops. The LM has earmarked the potential for coal mining in the surrounding area of Indwe and there is an infrastructure upgrade required for the Tshatshu irrigation scheme to be successful.

6.5.5 Engcobo Local Municipality

Engcobo is one of the CHDM's LM which has a potential in agriculture. The LM has potential in products such as sheep, goats, cattle, sunflower and maize. The rainfall conditions in the area support dry-land crop farming such as maize and beans. The LM also has access to four irrigation systems and some potential in forestry downstream activities such as charcoal and furniture manufacturing.

6.5.6 Sakhisizwe Local Municipality

Sakhisizwe consists of Cala, Elliot and the surrounding rural villages and is one of the LMs that has a potential in Agriculture and Agro-processing. However, the area has a poorly linked road network and the rail system needs to be rehabilitated. Sakhisizwe is one of the LMs that has potential for coal mining in the District.

6.5.7 Inkwanca Local Municipality

Inkwanca LM consists of Sterkstroom and Molteno. The area's climate is conducive to large scale sheep and game farming as it is characterised by cold temperatures during winter but a much more moderate summer climate. This area forms part of the District's coal mining belt.

6.5.8 Tsolwana Local Municipality

Tsolwana LM consists of Hofmeyer and Tarkastad and is home to two nature reserves. The LM land is suitable for game, cattle and sheep farming. The area is also endowed with historical sites and the liberation route which makes Tsolwana attractive to tourists.



7 CLUSTER SELECTION FOR PROPOSED CHDM SEZ

Livestock farming, field crops, horticulture, pastures and game farming are all currently undertaken in the CHDM. Due to the lack of quality control and the unorganized nature of small and subsistence farming activities in the District, agriculture and agro-processing will remain uncompetitive until substantial economies of scale and consistent quality can be achieved. While this study does not discourage the efforts that should be put into all the different agricultural produce in the District, the intent would be to encourage a focussed approach when planning for the processing facilities in the proposed CHDM SEZ. The main purpose of the feedstock selection process is to identify the primary agricultural produce (crops and livestock) that can potentially serve as feedstock to agro-processing facilities within the proposed CHDM SEZ. The intention would be to increase the scale of production and the quality of the selected feedstocks in the primary production areas through the formation of economic clusters in order to create economies of scale and the necessary focused areas for training that would make agro-processing in the District feasible.

The following criteria are crucial for clusters to be successful:

- Relative proximity: production areas must be geographically located close enough to participate effectively in a cluster, and collaborate in cluster initiatives;
- Critical mass: there must be sufficient enterprises / sufficient capacity for clustering to provide significant benefits; and
- Position / role in the value chain: enterprises / sectors should be appropriately positioned in value chain to allow the cluster process to unlock new opportunities.

It is important to understand that enterprises outside the main nodes would have limited benefits from the economic cluster process unless a structured programme is developed to drive benefits in those outliers.

7.1 Rationale

The major agricultural produce currently being farmed in the District includes the following: Maize, Sugar beet, Sorghum, Potatoes, Lucerne, Cabbage, Wheat, Beans, Ostrich, Chickens, Pigs, Goats, Sheep and Beef Cattle. The assumption is that not all available agricultural produce in the District would be processed in the SEZ and that special focus should be placed on selected crops and livestock. This is in line with the focussed approach to feedstock production that should be pursued in order to create the economies of scale required to make agro-processing in the District feasible and to reduce the present cost of transport to high-volume markets that is currently rendering local production uncompetitive.

Clustering is encouraged in the CHDM IDP (2012-2017) and will be adopted in the attempt to build a regionally



competitive position for the selected products and their value chains, by relentlessly clustering resources, competencies and technology in order to achieve the strategic intent. The cluster approach to develop focused and strategically located value chains provide the momentum needed to begin the rebuilding and rejuvenating of small towns within the eight LMs, CHDM IDP (2012-2017).

7.2 Methodology

All the LMs in the CHDM were visited and discussions were held with local government representatives, farmers (commercial and small-scale) and farmer associations in the various municipalities to determine from their perspective what commodities would be best suited for their respective LMs. The agricultural commodities identified as most viable for the different LMs in the CHDM are listed in Table 17 below.

Following the discussions held with farmers and farmers' organizations as well as with local agricultural experts and after extensive desktop research, the agricultural produce was clustered in the areas where the produce will be best suited in terms of:

- its ability to be cultivated and the geographical spread to other potential areas that could feed the cluster;
- its current availability;
- accessibility to the proposed SEZ; and
- its ability to uplift the current socio-economic status of the proposed area.

Table 17: Commodities identified as most viable for CHDM

INPUTS	MAIZE	WHEAT	SORGHUM	SUGAR BEET	LUCERNE	POTATOES	CABBAGES	TOMATOES	FRUIT	CATTLE FARMING	SHEEP FARMING	GOAT FARMING	POULTRY FARMING	DIARY PRODUCTION	PIGGERY FARMING
Emalahleni	x	x	x					x		x	x	x	x	x	
Instika Yethu	x	x			x	x	x			x			x		x
Inxuba Yethemba	x			x	x					x	x	x		x	
Sakhisizwe	x	x	x		x	x	x		x	x	x	x	x		x
Tsolwana	x				x	x	x		x		x				
Lukhanji	x	x	x			x				x	x	x			
Inkwanca					x					x	x	x			
Engcobo	x	x	x			x	x			x	x	x	x		



7.3 Clustering and Selection of Agricultural Produce

The agricultural sector is of political significance to the CHDM as it has the potential to contribute to regional food security, service local markets and assist with socio-economic development. A focussed approach to feedstock production must be pursued in order to create the economies of scale required to make agro-processing in the District feasible and to reduce the present cost of transport to high-volume markets that is currently rendering local production uncompetitive.

Table 18 gives an indication of the potential production clusters that have been identified, the input commodities required for the clusters and the LMs in CHDM that will supply the raw materials to the proposed SEZ. In an attempt to narrow down the amount of produce to initially focus on for processing in the proposed SEZ, a filtering mechanism was used. The following criteria were used in the crop and livestock selection process:

1. Market demand for the primary product;
2. Access to SEZ (road/rail linkages / average distance);
3. Existing raw materials (number municipalities / volume available);
4. Land availability;
5. Basic infrastructure (water / electricity);
6. Job creation potential;
7. Value chain opportunities; and
8. Profit margins for primary products.

Table 18 below provides the clusters proposed in the eight LMs in CHDM, the input commodities required, other LMs that will assist in the supply of raw materials and the value additions that will take place in the proposed SEZ.

Table 18: Proposed Clusters

Municipality	Cluster #	Proposed Cluster	Input Commodity	Supply Spoke	SEZ
Inxuba Yethemba	1	Bio-ethanol industry	Sugar beet, Sorghum	Emalahleni	N/A
	2	Ostrich cluster	Ostrich	Tsolwana	Value Addition of feathers & skin
Tsolwana	3	Sheep Cluster	Sheep	All other LMs	Storage, process, package, distribute
	4a	Vegetables (Sub)	cabbages	Lukhanji, Sakhisizwe, Engcobo	Storage, process, package, distribute



Inkwanca					
Lukhanji	5a	Beef Cluster	Cattle	Inkwanca	Storage, process, package, distribute
	6	Dairy Cluster	Cattle	Intsika Yethu, Emalahleni	Storage, process, package, distribute
	7	Wheat Cluster	Wheat	Emalahleni	Storage, process, package, distribute
	8	Poultry	Chicks	All other LMs	Storage, process, package, distribute
Intsika Yethu	9	Maize Cluster	Maize	Engcobo, Sakhisizwe, Lukhanji	Storage, process, package, distribute
			Dry Beans	Intsika Yethu, Lukhanji, Sakhisizwe	
	10	Piggery Cluster	Pigs	Lukhanji	Storage, process, package, distribute
	11	Stockfeed Cluster	Soya, Sunflower, Lucerne & Maize (70%)	Inxuba Yethemba, Lukhanji, Sakhisizwe, Engcobo, Emalahleni	Storage, process, package, distribute
	12	Goat Cluster (Tsomo)	Goats	All other LMs	Storage, process, package, distribute
Emalahleni	13	Coal mining	Coal	Inkwanca	Storage, process for energy



Engcobo	5b	Beef Cluster (sub)	Cattle	Intsika Yethu	Storage, process, package, distribute
	14	Forestry (demand)	Timber	Intsika Yethu, Sakhisizwe	Timber Storage, process, package, distribute
Sakhisizwe	5c	Beef Cluster (sub)	Cattle		Storage, process, package, distribute
	4c	Vegetables (sub)	vegetables		Storage, process, package, distribute

All the eight (8) selected criteria listed above were given a weighting (Table 19) and, based on extensive research and discussions with relevant local and district Government officials, farmers and farmer organizations, were scored between one (1) being poor or low and five (5) being good or high, for each product. Market demand for the primary product, job creation potential and value chain opportunities for the product were given a weight of 0.2 each, as they were considered to be the primary drivers for product selection and poverty alleviation. To determine the market demand for each crop, access to SEZ and existing raw materials, another layer of weighted averages was calculated (Table 19). Key sub-criteria were identified and weighted through extensive research and were scored from one (1) being poor or low, to five (5) being good or high.

Table 19: Criteria and sub-criteria for crop and livestock selection for the proposed CHDM SEZ

SELECTION CRITERIA	WEIGHT	SUB-CRITERIA (WEIGHT)
Market demand for the primary product	0.2	Export value (0.4)
Producer price per ton (0.2)	9	1.9
Outlook for crop (0.2)	7	7.0
GVA of Agricultural Production (0.2)	6	9.2
Access to SEZ	0.075	Distance to SEZ (0.3)
Rail/Road access and condition (0.7)	1	20.5
Existing raw material availability	0.075	Number of LMs where available (0.6)
Consumption per LM (0.4)	3	15.2
Land availability	0.1	Hectares available in LM for production (1.0)
Basic infrastructure	0.1	Availability of water and electricity as a basic necessity (1.0)



Job creation potential	0.2	Number of potential permanent jobs (1.0)
Value chain	0.2	Number of value addition opportunities (1.0)
Profit margins for primary product	0.05	Potential profit per primary product (1.0)
Total	1	

Feedstock selection only included horticultural crops, field crops and pigs, chicken, goats, sheep and beef cattle as sufficient data required for the analyses used. Crop selection (field crops and horticultural crops) was done separately from livestock selection.

Figure 8: Agricultural Produce Selection Tool

PRODUCE	MARKET ANALYSIS OF THE PRIMARY PRODUCT	ACCESS TO SEZ (ROAD/RAIL LINKAGES/ AVERAGE DISTANCE)	EXISTING RAW MATERIALS (NR MUNICIPALITIES X VOLUME AVAILABLE)	LAND AVAILABILITY	BASIC INFRASTRUCTURE (WATER/ ELECTRICITY)	JOB CREATION POTENTIAL	VALUE CHAIN	PROFIT MARGINS FOR PRIMARY PRODUCT	OVERALL SCORE
Weight	0.2	0.075	0.075	0.1	0.1	0.2	0.2	0.05	1
Maize	0.8	0.285	0.375	0.5	0.3	0.2	0.8	0.1	3.360
Sugar beet	0.48	0.3525	0.165	0.2	0.3	0.8	0.6	0.2	3.098
Sorghum	0.4	0.2475	0.315	0.4	0.3	0.2	0.8	0.05	2.713
Wheat	0.64	0.19875	0.345	0.2	0.3	0.4	1	0.1	3.184
Beans	0.56	0.25125	0.195	0.3	0.3	0.6	0.6	0.15	2.956
Cabbage	0.24	0.375	0.075	0.2	0.3	1	0.4	0.25	2.840
Goat	0.92	0.33	0.165	0.3	0.3	0.4	0.8	0.15	3.365
Sheep	0.76	0.339375	0.345	0.3	0.3	0.4	0.8	0.2	3.444
Beef Cattle	0.64	0.34875	0.33	0.3	0.3	0.4	0.8	0.25	3.369
Chicken	0.6	0.3	0.15	0.3	0.3	0.6	0.8	0.15	3.2
Pigs	0.6	0.2625	0.15	0.3	0.3	0.6	0.8	0.2	3.2125

The Agricultural Produce Selection Tool developed by the CDC team has indicated that the feasibility of processing maize and wheat could all potentially serve as feedstock for processing plants in the CHDM SEZ. Sugar beet will obviously be produced for the new biofuels plant in Craddock. Similarly, the tool indicates that sheep and beef cattle should be considered first when the processing of livestock in the SEZ is considered. Processing of pigs, chicken and goat could also be considered within the SEZ at a later stage, depending on the size of the proposed SEZ.



Figure 8 presents the results that were obtained by using the abovementioned feedstock selection tool. The crops that scored highest were maize and wheat with combined weighted average scores of 3.36 and 3.184 respectively. Sugar beet came in third with a score of 3.098. Sorghum scored relatively low (2.713) but will be used as feedstock during the initial stages of production in the new biofuels plant at Cradock, which is planned to produce 90 million litres of bio-ethanol a year. This is despite the fact that the agreement was for the plant to use sugar beet as feedstock. The plant will, at a later stage, switch its feedstock to sugar beet.

7.4 Sugar beet and Sorghum

As sugar beet and sorghum already have a market in the Cradock bio-ethanol plant, it would be better if they are not considered as supplies to the proposed SEZ at this stage. Emphasis should rather be to improve the production of these crops in the proposed areas for supply to the Cradock plant. There might be an opportunity to develop a second biofuel processing or bio-refinery plant (a facility that integrates biomass conversion processes and equipment to produce fuels, power, heat, and value-added chemicals from biomass) in the District should the new Cradock plant show that it is feasible to do so and raw materials supply is not a problem.

Sheep scored the highest of the livestock with a score of 3.444 while beef cattle came in second with 3.37. Goat, pigs and chicken scored 3.36, 3.21 and 3.2 respectively. There might be a case for two of these products (pigs and chicken) to be processed within the SEZ at a later stage, depending on the size of the proposed SEZ and the effectiveness of these clusters.

7.5 Soybean

Another product that should be considered and probably should have its own cluster in the CHDM is soybeans. A study by Raath (2004) identified areas in the EC that are suited to soybean production. Emalahleni (3,157 ha), Intsika Yethu (30,266) and Sakhisizwe (15,537) LMs were all identified as having suitable land for soybean production. South Africa's soybean production reached 566 000 tons in the 2009/10 season and, with the new Draft Paper on the South African Biofuels Regulatory Framework paving the way for mandatory fuel blending, production should increase substantially over the next few years.

The soybean areas harvested in South Africa varied between 165 400 ha and 311 450 ha from the 2007/08 production season to the 2009/10 production season. During this period, South African soybean yields were at an average yield of 1.7 to 2 tons per hectare under dry land conditions. Soybean production dominates the international oilseed market as it comprises about 54% of the world's total oilseed production. The other major soybean production areas are Mpumalanga (239 250 tons in 2009/10), the Free State (147 250 tons in 2009/10) and KwaZulu-Natal (73 250 tons in 2009/10). Soybean production in these three Provinces represented 82 % of



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SA's total soybean production.

The two biofuel plants and one vegetable oil processing plant planned for the Coega IDZ would alone require in the vicinity of 1,000,000 tons of soybean per annum.

Figure 9: Soybean area planted and total production



Source: Statistics and Economic Analysis, DAFF

7.6 Canola

Canola (rape seed) is mainly grown in the south Western Cape and is primarily used for the production of canola oil and oil cake. Western Cape accounts for about 99% of SA's total canola supply while other Provinces contribute about 1%. Canola is a good source of protein in animal feed and large quantities of protein for animal feeds have to be imported every year. The production of canola in SA is usually lower than the demand and the local consumption requirements for canola is around 37 500 tons per year. This means that there is space in the market to produce more locally. Plans to produce biofuel from canola have also raised the profile of the crop. Initial indications are that about 1,000,000 tons of canola will be required for a planned biodiesel plant in the Coega IDZ and Cradock area.

With these two crops (sorghum and sugar beet) already having a market in the Cradock bio-ethanol plant it would be better if they are not considered to be supplied to the proposed SEZ at this stage. Emphasis should rather be to improve the production of these crops in the proposed areas for supply to the Cradock plant. There might



be an opportunity to develop a second biofuel processing or bio-refinery plant (a facility that integrates biomass conversion processes and equipment to produce fuels, power, heat, and value-added chemicals from biomass) in the district should the new Cradock plant show that it is feasible to do so and raw material supply is not a problem.

7.7 Possible supply of raw materials to CHDM SEZ from neighbouring districts

The CHDM is surrounded by Joe Gqabi District Municipality (DM) in the north, Pixley ka Seme DM in the north west (Northern Cape Province), Cacadu DM in the south west and Amathole DM in the south east. These districts are all able to supplement raw materials' supplies to companies in the proposed CHDM SEZ should there be a need to do so.

7.7.1 Joe Gqabi DM

The main farming activities on commonages and traditional land are sheep, goat and cattle farming. The contribution of these sectors is seldom reflected in official data but thousands of families depend on income from this sector. Although very little land in Joe Gqabi is suitable for cultivation, grazing for farming stock is feasible. In Gariep LM, where only 0.8% of the land is suitable for rain-fed crop production, agriculture contributed 38% to the GGP in 2001, in the form of sheep farming and irrigation-based agriculture along the Orange River and Fish River Tunnel Scheme. In the Gariep, Maletswai and part of Senqu LMs, commercial farmers are mainly small stock farmers (sheep and limited numbers of goats). Wool would be the most likely feedstock that could be supplied from the Joe Gqabi DM.

7.7.2 Pixley ka Seme DM (Northern Cape Province)

Wheat, maize and lucerne are very important crops but there is also a possibility to produce alternative high value crops. Small stock farming is one of the attributes of the region and therefore the region has a strong history of sheep and goat farming. There is also the potential to diversify into more lucrative ventures, like cashmere production. The area produces large quantities of wool that are processed in the EC and the area is recognised as one of the largest wool-producing regions in SA.

The Orange and Vaal Rivers run through the region but irrigation farming is confined to the areas where irrigation farming is practicable, namely along these rivers. The agricultural products include: Maize, Peanuts, Lucerne, Grapes, Dry Beans, Soya Beans, Potatoes, Olives, Pop Corn, Pecan Nuts, Pistachio Nuts and Cotton. The area therefore offers considerable potential to supplementing various feedstocks to the CHDM SEZ.

7.7.3 Cacadu DM

Due to the diverse climate of the Cacadu DM, a wide array of agricultural commodities is produced. Very little arable land exists in the District and therefore agriculture mostly consists of extensive animal grazing. The main agricultural industries, as well as related agricultural raw materials emanating from industries in the District that are relevant to the CHDM SEZ, are as follows: Goats (chevon, mohair and hides), Cattle (beef, dairy and hides),



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Ostrich (meat, leather and feathers), Grains (animal feed), Sheep (mutton, wool and hides) and Chicken (meat and eggs).

Other industries with potential include agricultural related renewable energy (biomass and bio-ethanol) and grains such as maize, lucerne, soya beans and sunflowers for vegetable oils, biofuel and animal feed.

7.7.4 Amathole DM

Agriculture in most parts of the Amathole DM has not yet developed beyond subsistence because of constraints facing agriculture in rural areas. According to the IDP (2012 – 2012), the prospects of agriculture currently look dim due to the lack of inputs, resources and a lack of interest from the youth. The IDP has prioritized grain, citrus and pineapple production but currently the Amathole DM can offer little support to the CHDM SEZ in terms of raw material supplies. However, this district could assist with the provision of machinery, spares and transportation to the Port of East London for ease of logistics.

8 AGRICULTURAL MARKET ANALYSIS AND OUTLOOK

8.1 Global agricultural overview

Agriculture has long been a contentious sector of the global economy with both developed and developing countries employing policies to protect and promote local production. Despite repeated commitments and ongoing negotiations at the World Trade Organisation (WTO), global agriculture remains a highly distorted market.

The major economic growth in developing countries over the past two decades has had a profound impact on agriculture. Most significantly, the combination of growing populations, higher incomes, urbanisation and changing diets has pushed commodity prices upwards. At the same time, domestic productivity in developing countries has improved tremendously such that the share of agricultural production from developing countries has increased and will continue to do so for the foreseeable future.

Global agricultural trade will continue to increase with developing countries capturing most of the export growth. However, the forecasted growth in global agricultural production for the period 2013-2022 of 1.5% per annum is lower than the 2.1% average of the previous decade. Food deficit regions including Asia, the Middle East and Africa will exhibit the strongest growth in demand for agricultural imports due to increases in population and growing wealth in these regions. However, growth in China will continue to exert the greatest influence on global markets and will depend on increased domestic productivity to offset the demand for imports.

On the supply side, the traditional agricultural powerhouses of the USA, EU, Canada, Australia and New Zealand will



remain important players. However, emerging producers such as South America, Eastern Europe and Central Asia will grow in importance.

In terms of agricultural products, trade in crops still dwarfs livestock trade. This is despite the fact that, between 1961 and 2008, the share of the world's agricultural export value coming from livestock products (meat, eggs and dairy) increased from 11% to 17%. However, the portion of livestock is expected to grow further as these products continue to make up an increasingly high proportion of diets in developing countries.

8.2 Agricultural Market Analysis in South Africa

Agriculture has always been an important component of SA's economy, although its contribution to GDP has steadily decreased from 10% of GDP in the 1960s to a current contribution of around 3%. However, the sector's broader value is evidenced by the fact that it accounts for approximately 10% of formal employment (as well as a high proportion of informal jobs).

South Africa's range of environments and climatic conditions means that there is a wide variety of agricultural products. While maize is the largest locally produced crop, approximately 80% of SAs arable land is suitable for livestock farming and this contributes almost half of total agricultural output.

Table 20: Key South African Agricultural Statistics, 2012

GDP	\$402.1 billion
GDP Growth	3% per annum
Population	50 million
Value of agricultural sector	\$12.06 billion
Proportional size of agricultural sector	3% of GDP
Total land area	122.3 million hectares
Percent of arable land	13.5%
Contribution of agricultural sector to exports	8%
Percent of labour force employed in agriculture	10%

Source: Statistics

Besides the growth in demand from the rest of Africa – stemming from the growth in population and material well-being – another key issue arising with respect to agriculture is the effective use of arable land. This entails both the impact of foreign companies – and indeed, countries – purchasing land across the continent – as well as concerns relating to water scarcity and national food security. Thus, while SAs agricultural sector is well-positioned to take advantage of the growth opportunities on the continent, it is also important to be aware of the potential issues.



8.3 SWOT Analysis of South African Agricultural Sector

The SWOT analysis below assesses the broader SA agricultural landscape rather than the specific sectors as it was found that there was significant overlap in the factors that emerged. Factors specific to the individual sectors have been highlighted in the relevant sector analyses.

Figure 10: South African Agriculture SWOT Analysis





8.4 MAIZE

Maize, also known as “corn” in some countries, is a cereal crop cultivated across the world. It is an important staple food, particularly in Latin America and in Sub-Saharan Africa. While both wheat and maize have not witnessed the same dramatic price rises as meat, they have nevertheless contributed to (and been impacted by) these increases as key inputs in the value chain (such as feed). The fact that they are commoditised products and can be effectively substituted by other produce such as soybeans has mitigated the price increases to some degree.

Only 10% of global maize production is traded internationally. The trade in food commodities is increasingly shaped by exports and imports of processed and value-added products as consumer demands and expectations change. Maize usage is typically divided between Feed/Residual (i.e. animal feed) and Food/Seed/Industrial (FSI) usage, each of which constitutes roughly half of total consumption. FSI includes ethanol production, corn syrup, sweeteners, starch cereals, beverages and seed.

Amongst the less obvious applications of maize products are paints, adhesives, antibiotics, dyes, rubber tyres, textiles, soaps and plastics.

Table 21: Global Maize Production and Consumption (in million tons), 2008 – 2013

Year	Global Production	Existing Stocks	Total Global Supplies	Global Consumption
2008	791	129	920	772
2009	788	142	930	777
2010	792	134	926	800
2011	808	129	937	813
2012	815	123	938	829
2013	827	127	954	857

Source: Economist Intelligence Unit

8.4.1 Global pricing changes

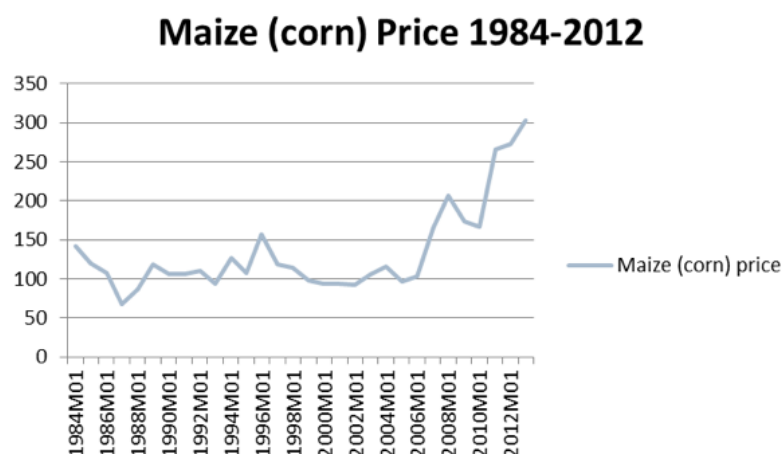
The price for maize is primarily driven by global maize stockpiles and US harvest results. It is expected that the global maize trade will increase by approximately 10% (year on year) in the medium term. The expected trade increase takes into account the strong import demand, growing demand for meat and industrial products, and large exportable supplies.

The price for maize on world markets reached a historic low around 2000. It increased slowly thereafter with more significant increases from 2006. Multiple factors contributed to the price increase including weather shocks, increased use of biofuels, trade policies, low levels of stocks, and rising production costs. The maize price, along



with the prices of other food commodities declined in the latter half of 2008. From mid-2010, prices again began to increase rapidly and it is expected that rising prices and increased volatility will continue in the medium to long term.

Figure 11: Maize Price 1980 – 2012 (in US\$/ton)



Source: IMF

8.4.2 Individual Country Production and Consumption

World maize production for the 2012/2013 season was estimated at 950 million tons. The US is the top producer and consumer of maize comprising 32% and 31% of the total global production and consumption respectively. It was initially expected that the US would have an increase of 20% in its yield compared to the last season, however the US experienced its worst drought in 53 years and its yield is expected to drop significantly. The production in the EU has been relatively stable over the past five years, whereas production in Brazil and Argentina has increased to meet growing demand and take advantage of higher prices.

Over the past ten years, maize consumption has steadily increased. Economic growth, particularly in the developed world, has spurred both direct demand for maize and the demand derived from livestock production. Furthermore, the US has increased its production of ethanol from maize due to rising energy prices. The largest maize consumers are the US, followed by China, the EU, Brazil and Mexico. Strong growth in consumption is expected to continue, particularly for use as a feed grain in Asia. Overall it is expected that world maize consumption will increase at a faster rate in 2014 but factors like slower economic growth and increasing prices could lead to a decrease in consumption.



Table 21: Global Maize Consumption and Key Import and Export Countries, 2012/13

Maize production	% of global	Maize consumption	% of global	Top Maize importing countries (by volume)	Top Maize exporting countries (by volume)
US	32%	US	31%	Japan	USA
China	24%	China	25%	Mexico	Brazil
Brazil	8%	EU	8%	EU	Argentina
EU	6%	Brazil	7%	South Korea	Ukraine
Argentina	3%	Mexico	4%	Egypt	India

Sources: FAO, National Corn Association (USA) and USDA

8.4.3 Maize Imports and Exports

World maize exports have increased over the past decade at an average annual rate of 3%. The US is the largest exporter of maize with approximately 36.8% of total maize exports. Brazil and Argentina also have significant maize exports, while the Ukraine has entered the top 5 maize exporting countries due to its favourable location (proximity to the EU), which has resulted in considerable increases in production.

Japan is the largest maize importer in the world with 15.5% of the world's total volume of imports. It is expected that Japan will continue to increase its imports in the short to medium term. Mexico, South Korea and the EU also import significant volumes, while China is rapidly increasing its import demand.

Table 22: Top Global Maize Import and Export Countries (in million tons), 2012

Top maize importing countries	Volume		Top maize exporting countries	Volume
Japan	15.5		US	36.8
Mexico	10.5		Brazil	20
South Korea	9		Argentina	18
EU	9		Ukraine	18
China	7		India	3.5

Source: USDA

8.4.4 Key global companies

Like wheat, the global trade in maize is dominated by a handful of global commodity-trading companies, details of which are provided in Table 23. All of these companies have a presence in South Africa.



Table 23: Key Players in the Global Maize Trade, 2012

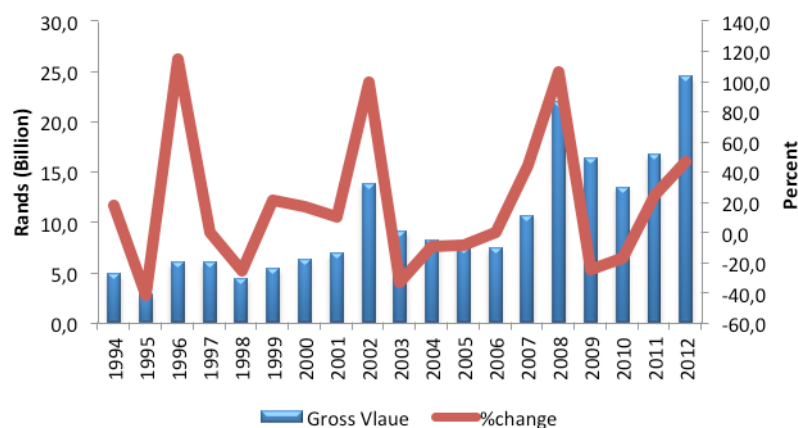
Company	Headquarters	Approx. agricultural revenues (2011)
Cargill	USA	\$120 billion
Archer Daniels Midland (ADM)	USA	\$80 billion
Bunge	USA	\$60 billion
Louis Dreyfus	France	\$35 billion
Glencore	SA/Canada	\$10 billion

Sources: Oxfam and Frost & Sullivan

8.4.5 Domestic Market Analysis of Maize

In terms of monetary value, Figure 12 shows that the gross value of maize has also fluctuated for the period under review. The gross value of maize declined significantly between 2002 and 2006, from R13.8billion to R7.4billion, mainly attributed to declining producer prices and production. Gross value has since recovered and amounted to R25billion in 2012, a 46.6% increase from R16.7billion recorded in 2011.

Figure 12: Maize Gross value in Rands, 1994 to 2012



Source: Own Calculations based on Quantec data

8.4.6 Provincial Breakdown of Maize

Maize is produced in all SA Provinces, with Free State being the leading producer with a 40% share, followed by the North West and Mpumalanga with 21.8% and 21.2% respectively. The EC and Western Cape have, over time, been the lowest producers of maize in the country.

The Free State increased its share of maize production from 33.1% in 2002 to 40.0% in 2012. Over the same period,



the North West production share decreased considerably from 29.6% in 2002 to 21.8% in 2012. EC production contribution was almost unchanged from 0.5% in 2002 to 0.8% in 2012.

Table 24: Provincial breakdown of maize production, 1994 to 2012

	2012	2002	2012	2002
	Tons ('000)		% Share of Total Maize Production	
Eastern Cape	92	45	0.8	0.5
Free State	4730	3217	40.0	33.1
North West	2574	2885	21.8	29.6
Mpumalanga	2504	2068	21.2	21.2
Northern Cape	606	511	5.1	5.3
Gauteng	552	484	4.7	5
KwaZulu Natal	516	402	4.4	4.1
Limpopo	226	106	1.9	1.1
Western Cape	30	14	0.3	0.1
Sakhisizwe	367	6.2	6.4	439

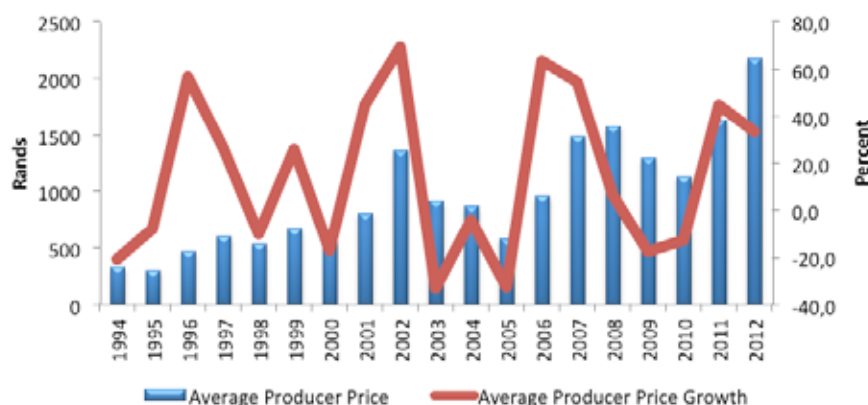
Source: Own calculations based on Quantec data

8.4.7 Maize Prices

8.4.7.1 Yellow Maize Prices

Yellow Maize prices have fluctuated between 1994 and 2012. The prices steadily increased from R330 per ton in 1994 to R1 360.00 per ton in 2002. From 2003 to 2012, yellow maize prices have been volatile reaching a peak of R2 179.86 per ton in 2012 up 44.6% from R1, 363.14 per ton in 2011.

Figure 13: Yellow maize average prices, 1994 to 2012



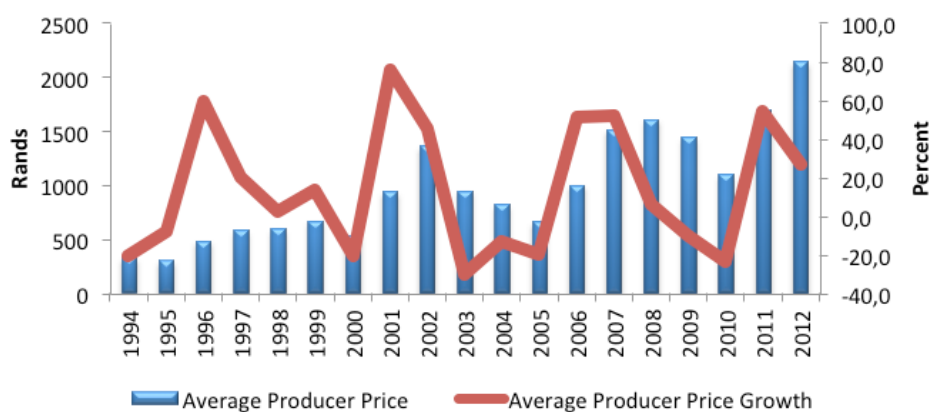
Source: Own Calculations based on Quantec data



8.4.7.2 White Maize Prices

White Maize prices followed a similar trend to yellow maize prices. The price of white maize considerably rose from R330.00 per ton to R1 361.3 per ton in 2002. White maize prices decreased significantly from 2003 and then increased to its highest level at R2 144.1 per ton in 2012.

Figure 14: White maize average prices, 1994 to 2012

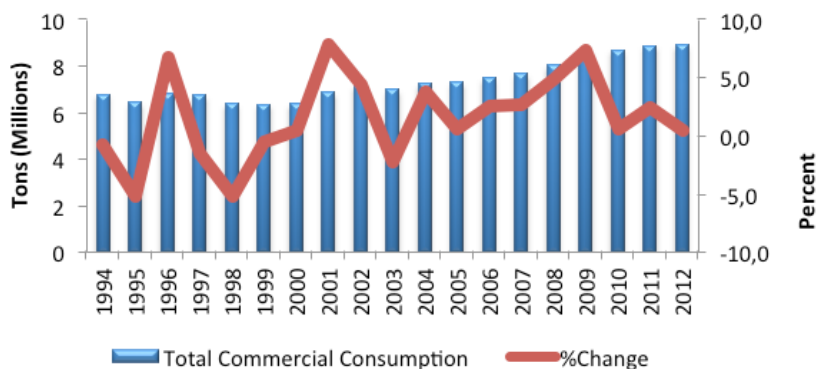


Source: Own Calculations based on Quantec data

8.4.8 Domestic Consumption of Maize

Consumption of maize in SA has gradually increased over the past ten years, from 6.8 million tons in 1994 to 8.9 million tons in 2012. For the period under study, the lowest level of consumption was in 1999 with 6.3 million tons consumed.

Figure 15: Total commercial consumption of maize, 1994 to 2012



Source: Own Calculations based on Quantec data



8.4.9 Maize Area Planted, Maize Production and Consumption

Over the past ten years, the total maize area planted has fluctuated, with a peak of 4, 661.0Ha in 1994 and the lowest planted area of 2, 032Ha in 2006. This increase in total area planted was accompanied by a corresponding increase in the total production. Increases are usually attributable to increases in the average producer prices during the two production seasons, which encourages a farmer to plant maize during the subsequent period.⁸ In 2010, higher volumes of maize were observed mainly due to better harvests along with above normal rainfalls that were experienced during that season. Though consumption has been growing, the supply of maize has been able to meet the demand.

Table 25: Maize Area Planted, Maize Production and Consumption, 1994 to 2012

	Total Area Planted for Maize	Total Maize Production	Consumption of Maize	Planted Area	Production Of Maize	Consumption of Maize
	Hectares (Ha)	Tons ('000)	Tons ('000)	%change	Tons	Tons
1994	4661.0	12067.0	6773.0	6.5	32.9	-2.8
1995	3526.0	4406.0	6417.0	-24.4	-63.5	-0.8
1996	3761.0	9694.0	6842.0	6.7	120.0	-5.3
1997	4023.0	9582.0	6738.0	7.0	-1.2	6.6
1998	3560.0	7204.0	6383.0	-11.5	-24.8	-1.5
1999	3567.0	7461.0	6341.0	0.2	3.6	-5.3
2000	4012.0	11001.0	6362.0	12.5	47.4	-0.7
2001	3189.0	7487.0	6852.0	-20.5	-31.9	0.3
2002	3533.0	9732.0	7151.0	10.8	30.0	7.7
2003	3651.0	9391.0	6983.0	3.3	-3.5	4.4
2004	3204.0	9482.0	7243.0	-12.2	1.0	-2.3
2005	3223.0	11450.0	7283.0	0.6	20.8	3.7
2006	2032.0	6618.0	7462.0	-37.0	-42.2	0.6
2007	2897.0	7125.0	7660.0	42.6	7.7	2.5
2008	3297.0	12700.0	8029.0	13.8	78.2	2.7
2009	2896.0	12050.0	8613.0	-12.2	-5.1	4.8
2010	3263.0	12815.0	8658.0	12.7	6.3	7.3
2011	2859.0	10360.0	8857.0	-12.4	-19.2	0.5
2012	3141.0	11830.0	8895.0	9.9	14.2	2.3

Source: Own Calculations based on Quantec data

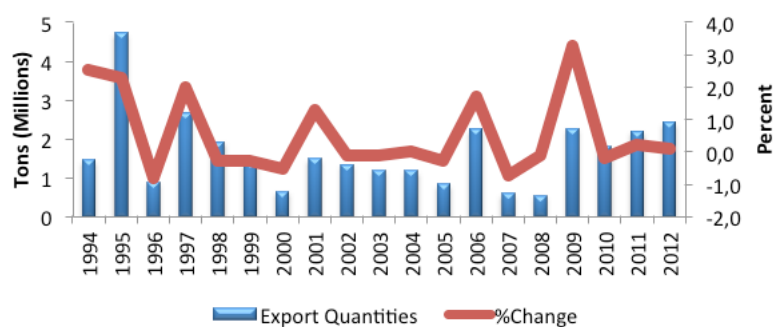
⁸ Department of Agriculture, Forestry and Fishery: Maize Market Value Chain Profile 2012.



8.4.10 Exports of Maize

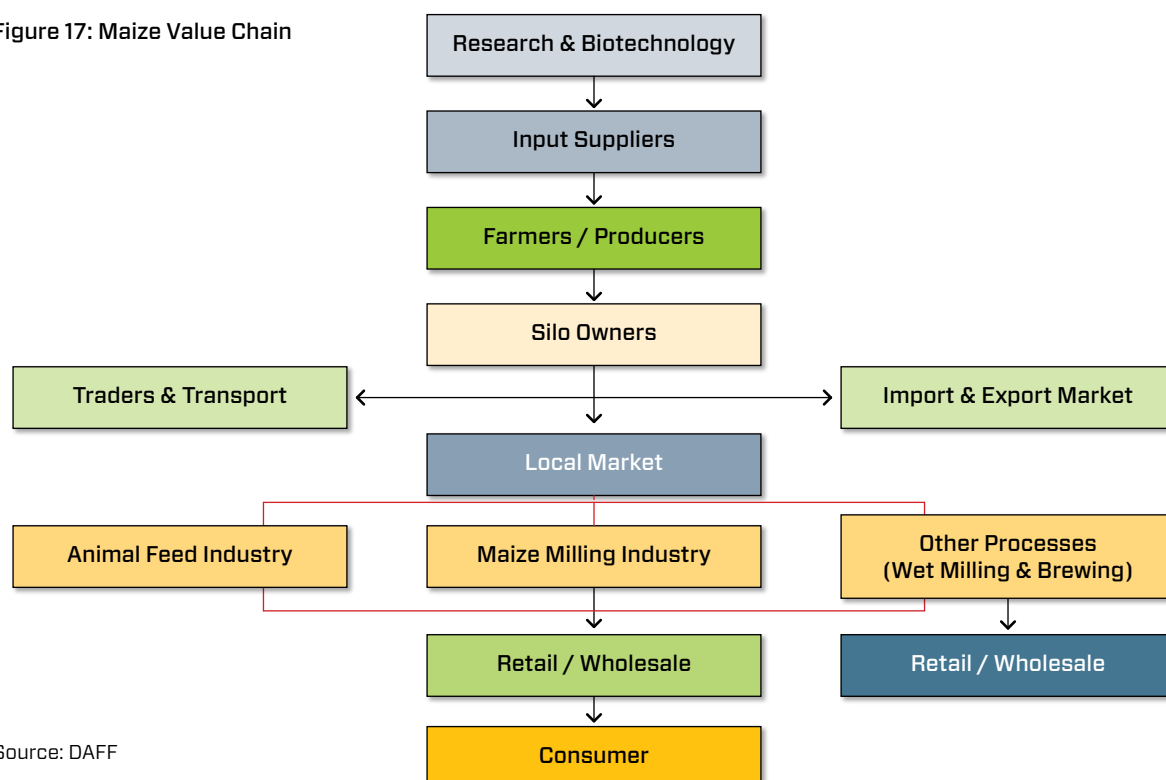
SAs maize exports between 1994 and 2012 fluctuated considerably. In 1995, maize exports from SA reached their highest peak at 4.7 million tons. SAs maize exports faced a major dip in 2007 declining to 597 000 tons and continuing to drop in 2008 to 534 000 tons, reaching its lowest level for the period.

Figure 16: Exports of Maize, 1994 to 2012



Source: Own Calculations based on Quantec data

Figure 17: Maize Value Chain



Source: DAFF



Table 26: Primary products derived from Maize

Category	Specific products
Food	Bread
	Sweet corn
	Polenta
	Mealie Pap
	Other baked goods
	Popcorn
	Cereals
	Corn of the cob
Beverages	Maize-fermented beverages
Animal feed	Low-quality maize
	Milling by-products (bran, germ etc.)
	Pellets
Industrial uses	Adhesives
	Coatings
	Plastics
	Resins
	Paper products
Biofuels	Ethanol
Building materials	Tires
	Insulation
	Musical instruments and other crafts

Source: Frost & Sullivan

8.5 WHEAT

Globally, the majority of the wheat that is produced is used for human consumption, including the production of bread, cereals, and various baked goods. Wheat is also used as seed, animal feed and in non-agricultural processes, including the production of alcohol, as an absorbing agent for disposable diapers, in adhesives and in various other industrial applications such as for starch on coatings. It should be noted that, unlike many other forms of agricultural produce, wheat can be stored for extended periods with no negative effects.

Wheat is considered a commodity and is traded as such on platforms around the world, notably the Chicago Mercantile Exchange. The use of futures contracts – which are backed by physical assets – to ensure commodity prices is a longstanding method and one that has precipitated the uptake of other financial instruments that have become entrenched in exchanges across the world.



Table 27: Global Wheat Production and Consumption (in thousands of tons), 2008 – 2013

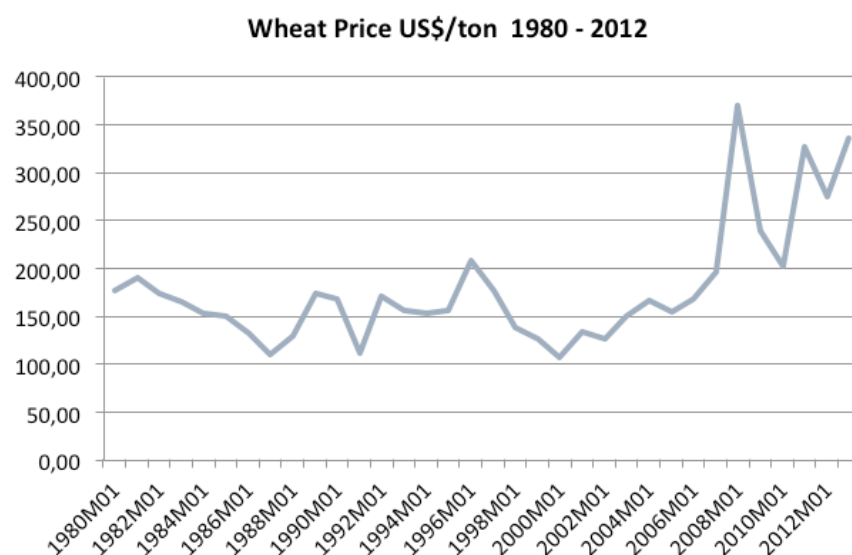
Year	Global Production	Existing Stocks	Total Global Supplies	Global Consumption
2008	683464	169543	853007	643500
2009	687005	202278	889283	654270
2010	652366	198981	851347	655663
2011	697271	198943	896214	697309
2012	656172	175832	832004	679283
2013	711418	182784	894202	704466

Source: USDA

8.5.1 Global pricing changes of Wheat

While both wheat and maize have not witnessed the same dramatic price rise as livestock products over the past twenty years, they have nevertheless been affected by these increases as both are key inputs in the value chain (as feed). The price increase has largely been mitigated by the fact that wheat and maize are commoditised products that can be substituted by other crops, notably soybean.

Figure 18: Wheat Price 1980 – 2012 (in US\$/ton)



Source: USDA



8.5.2 Individual Country Production and Consumption

Wheat is a staple component of diets across the world and this is reflected in the fact that the major countries involved in both production and consumption match the most populous countries. Thus China, India, the US, Russia and the EU constitute the top 5 in both lists.

Table 28: Top 5 Wheat Producing and Consuming Countries, 2012

Total wheat production	% of global production	Total wheat consumption	% of global consumption
EU	20%	China	18%
China	17%	EU	17%
India	13%	India	13%
US	8%	US	5%
Russia	7%	Russia	5%

Source: USDA

8.5.3 Wheat Imports and Exports

China and India consume what they produce, whereas the USA, EU and Russia are able to export their excess production. Canada and Australia produce far more than they consume.

Table 29: Top Global Wheat Import and Export Countries (in millions of tons), 2012

Top wheat importing countries	Volume	Top wheat exporting countries	Volume
Egypt	10 000	USA	30 000
China	8 500	EU	25 000
Brazil	7 700	Canada	23 000
Indonesia	7 200	Australia	19 500
Algeria	6 500	Russia	16 000

Source: USDA

8.5.4 Key global companies

The global trade in wheat is dominated by a handful of global commodity-trading companies, details of which are provided in Table 30. All of these companies have a presence in SA.



Table 30: Key Players in the Global Wheat Trade

Company	Headquarters	Approx. agricultural revenues (2011)
Cargill	USA	\$120 billion
Archer Daniels Midland (ADM)	USA	\$80 billion
Bunge	USA	\$60 billion
Louis Dreyfus	France	\$35 billion
Glencore	SA/Canada	\$10 billion

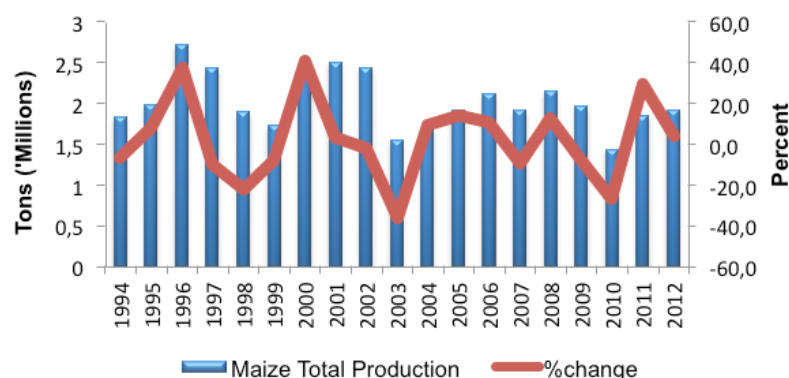
Sources: Oxfam and Frost & Sullivan

8.5.5 Domestic Market Analysis of Wheat

Wheat is the second most important grain crop produced in SA. Most of wheat produced in SA is bread wheat, with small quantities of durum wheat in certain areas used to produce pasta. Wheat is mainly used for human consumption (bread, biscuits, breakfast cereals, rusks, etc.) and the remaining is used as seed and animal feed. Other non-food wheat uses include the production of alcohol for ethanol, absorbing agents for disposable diapers as well as adhesives and industrial uses such as starch on coatings. It estimated that there are between 3 800 and 4 000 producers of wheat in SA.

Figure 19 below depicts the volatile production of wheat from 1994 to 2012. The highest wheat production was achieved in 1996 with 2.7 million tons followed by a sharp dip in 1999 to 1.7 million tons. The average annual production over the period under consideration was 2.02 million tons.

Figure 19: Total wheat production in South Africa, 1994 to 2012.



Source: Own Calculations based on Quantec data



8.5.5.1 Provincial breakdown of wheat

Over the past decade, Western Cape has dominated wheat production with a 36.7% share in 2002 to 46.2% in 2012. Northern Cape is the second highest contributor to wheat production in the country, up from 13.2% in 2002 to 15.1% in 2012. EC, on the other hand, lagged behind contributing only 1.0% of national production in 2012, up from 0.5% in 2002. Furthermore, it can be seen that production of wheat has been decreasing in all the Provinces, excluding EC and Limpopo, refer Table 31.

Table 31 : Provincial breakdown of wheat, 2002 and 2012

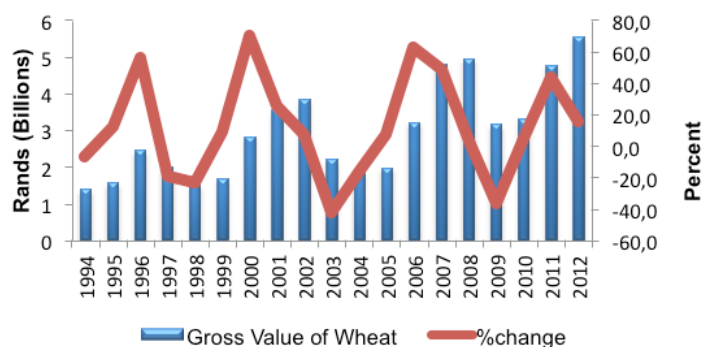
	2012	2002	2012	2002
	Tons ('000)		% Share of Total Wheat Production	
Eastern Cape	20	11	1.0	0.5
Western Cape	884	892	46.2	36.7
Free State	377	820	19.7	33.8
Northern Cape	290	320	15.1	13.2
Limpopo	159	68	8.3	2.8
North West	114	146	6.0	6.0
KwaZulu Natal	34	40	1.8	1.6
Mpumalanga	27	120	1.4	4.9
Gauteng	10	12	0.5	0.5

Source: Own calculations based on Quantec data

8.5.6 Gross Value of wheat

The monetary value of wheat has been volatile over the period of 1994 to 2012. The lowest value of R1.5 billion was observed in 1998, while the highest value was R5.5 billion in 2012. The average gross value from 1994 to 2012 amounted to R2.98 billion.

Figure 20 : The Gross Rand Value of Wheat, 1994 to 2012



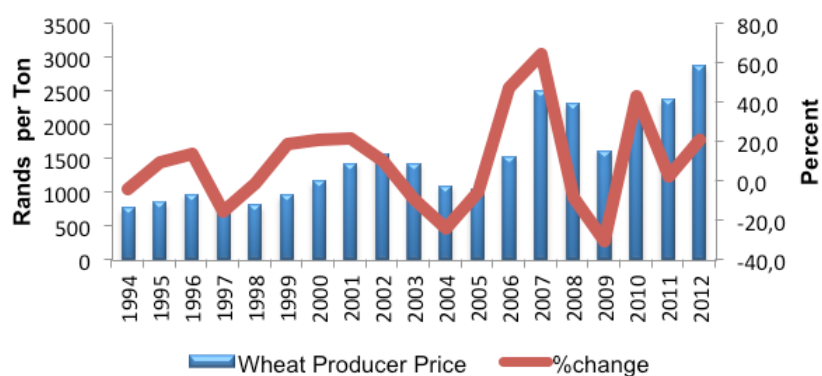
Source: Own Calculations based on Quantec data



8.5.7 Wheat Producer Prices

The wheat producer price has been increasing over the period under review. The lowest producer price has increased fourfold from R770.5 per ton in 1994 to R2 872 per ton in 2012. Although the wheat price was volatile for most of the period under review, it has increased consistently since 2010 and averages R1 493.7 per ton over the period.

Figure 20 : Wheat Producer Price, 1994 to 2012

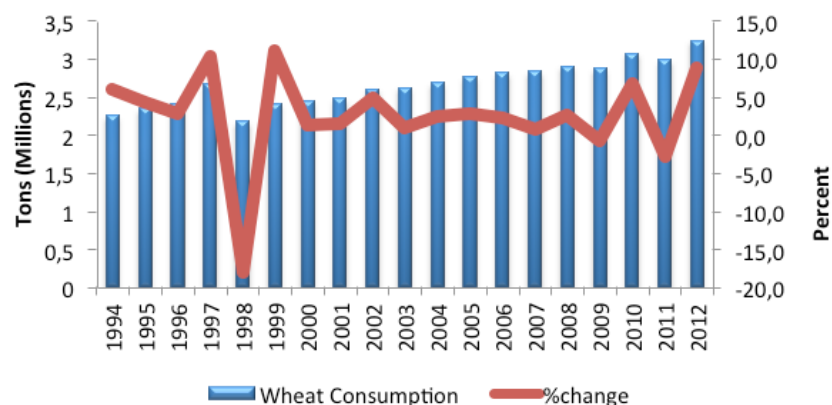


Source: Own Calculations based on Quantec data

8.5.8 Consumption of wheat

Total commercial consumption of wheat has steadily increased between 1994 to 2012, at an average annual production growth rate of 2.03%. Wheat consumption was at its highest in 2012 at 3.2 million tons.

Figure 21: Consumption of Wheat in 1994 to 2012



Source: Own Calculations based on Quantec data



8.5.9 Total Wheat Planted Area, Production and Consumption

Table 32 below shows the total area planted for wheat, total wheat production as well as total wheat consumption over the period 1994 and 2012. Although the number of planted hectares and the total wheat production and consumption increased from 1994 to 1997, the total area planted for wheat decreased after 1998, while wheat production was constant and consumption increased. This could be attributed to better productivity due to the use of modern methods, machinery and other tools aimed at optimising production.

Table 32: Total Planted Area for Wheat, Production and Wheat Consumption, 1994 to 2012

	Total Area Planted for Wheat	Total Wheat Production	Total Wheat Consumption	Total Area Planted Area	Total Wheat Production	Total Wheat Consumption
	Hectares (Ha)	Tons ('000)	%change	%change	Tons	Tons
1994	1048.0	1840.0	2259.0	-2.5	-7.3	6.0
1995	1363.0	1977.0	2353.0	30.1	7.4	4.2
1996	1294.0	2712.0	2419.0	-5.1	37.2	2.8
1997	1382.0	2429.0	2668.0	6.8	-10.4	10.3
1998	745.0	1892.0	2183.0	-46.1	-22.1	-18.2
1999	718.0	1733.0	2421.0	-3.6	-8.4	10.9
2000	934.0	2428.0	2452.0	30.1	40.1	1.3
2001	974.0	2504.0	2488.0	4.3	3.1	1.5
2002	941.0	2438.0	2606.0	-3.4	-2.6	4.7
2003	748.0	1547.0	2626.0	-20.5	-36.5	0.8
2004	830.0	1687.0	2689.0	11.0	9.0	2.4
2005	805.0	1913.0	2761.0	-3.0	13.4	2.7
2006	765.0	2114.0	2819.0	-5.0	10.5	2.1
2007	632.0	1913.0	2837.0	-17.4	-9.5	0.6
2008	748.0	2149.0	2907.0	18.4	12.3	2.5
2009	642.0	1967.0	2883.0	-14.2	-8.5	-0.8
2010	558.0	1436.0	3076.0	-13.1	-27.0	6.7
2011	605.0	1858.0	2987.0	8.4	29.4	-2.9
2012	511.0	1924.0	3249.0	-15.5	3.6	8.8

Source: Own Calculations based on Quantec data

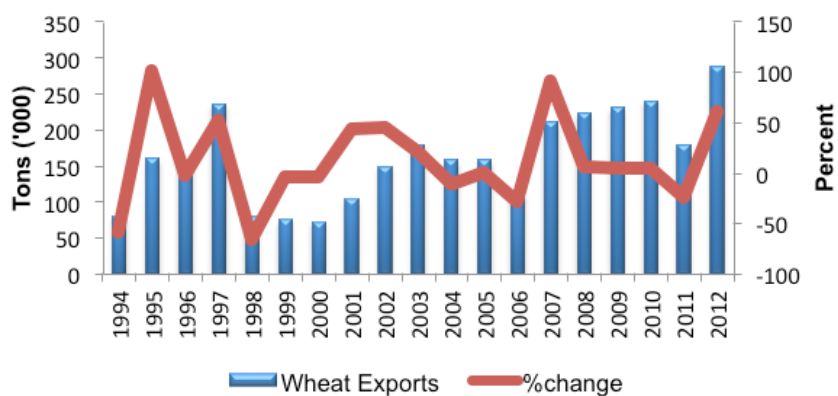
8.5.10 Export of Wheat

The export of wheat has fluctuated throughout the period under review. The largest exported quantity of wheat was in 2012 amounting to 288 000 tons, up from 178 000 tons in 2011. From 1994 to 1997, wheat exports grew



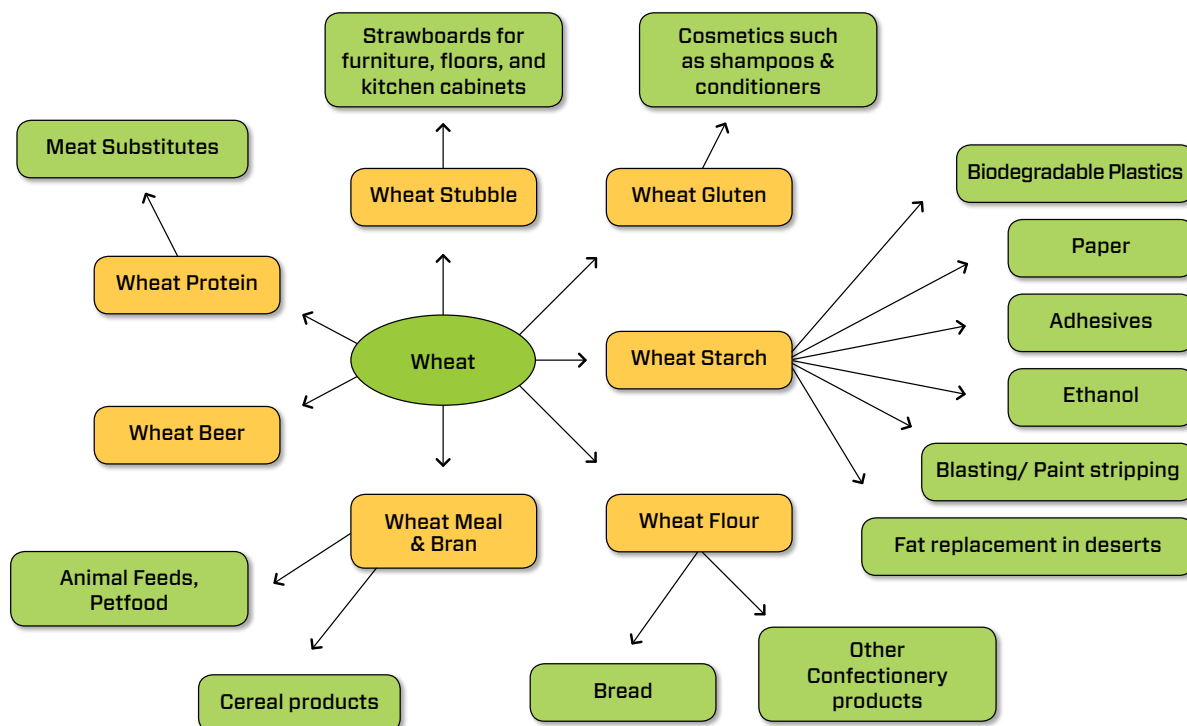
significantly before gradually declining until in 2001. Exports of wheat peaked in 2012 reaching 288 000 tons.

Figure 22: Export of Wheat, 1994 to 2012



Source: Own Calculations based on Quantec data

Figure 23: Wheat Value Chain



Source: DAFF



Table 33: Primary products derived from Wheat

Category	Specific products
Food	Bread
	Biscuits
	Cakes
	Other baked goods
	Cereals
	Pasta
	Couscous
Beverages	Wheat-fermented beverages
Animal feed	Low-quality wheat
	Milling by-products (bran, germ etc.)
	Pellets
Industrial uses	Adhesives
	Coatings
	Plastics
	Resins
	Paper products
Biofuels	Ethanol
Building materials	Roofing
	Insulation
	Wood products

Source: Frost & Sullivan

8.6 BEEF

The beef segment refers to all meat and meat products derived from bovines, typically cattle. Like other meat products, beef is a key source of protein and is often a major contributor to caloric intake.

The value chain for beef products begins with the raising of animals on farms, in which water, feed and various supplements are required as inputs. Beef products are then produced at abattoirs, from which they move on to wholesalers and then retailers, or to butcheries that sell directly to the public. Packaging can occur at any of these points.

The key input in beef production is feed (fodder), the price of which is based on the price for soybean meal and corn, and has increased dramatically in recent years. Other significant input costs include water, transport, especially the refrigeration component, and packaging.



Table 34: Key Beef Statistics, 2012

Global production (volume)	58 million tons
SA production as % of global	1.4%
Is SA a net exporter or importer?	Net importer
Global export potential	High
African export potential	High
Key opportunity in related industries or markets	Leather

Source: Frost & Sullivan

8.6.1 The Global Beef Trade

The global trade in beef products is dependent on effective transportation and storage, and technological improvements in each of these areas have helped accelerate consumption. In 2013, the global production of beef was 58 million tons, an increase of 1.6% from 2012 and the biggest increase in the past five years.

There has been a marginal increase in the total number of cattle in 2013 and the cattle population has recovered somewhat after a sharp drop in 2010. In India, particular cultural beliefs mean that beef is rarely consumed, thus, despite having the largest population of cattle in the world, only a small percentage of these are slaughtered on an annual basis. Beef from these animals in India is often exported.

Table 35: Global Beef Production and Consumption (in thousand tons), 2009 – 2013

Year	Global Production	Global Consumption	Head of Cattle ('000)
2009	57376	56416	1 025172
2010	57567	56417	1 011524
2011	57410	55710	1013431
2012	57558	56017	1 019792
2013	58485	56820	1 027372

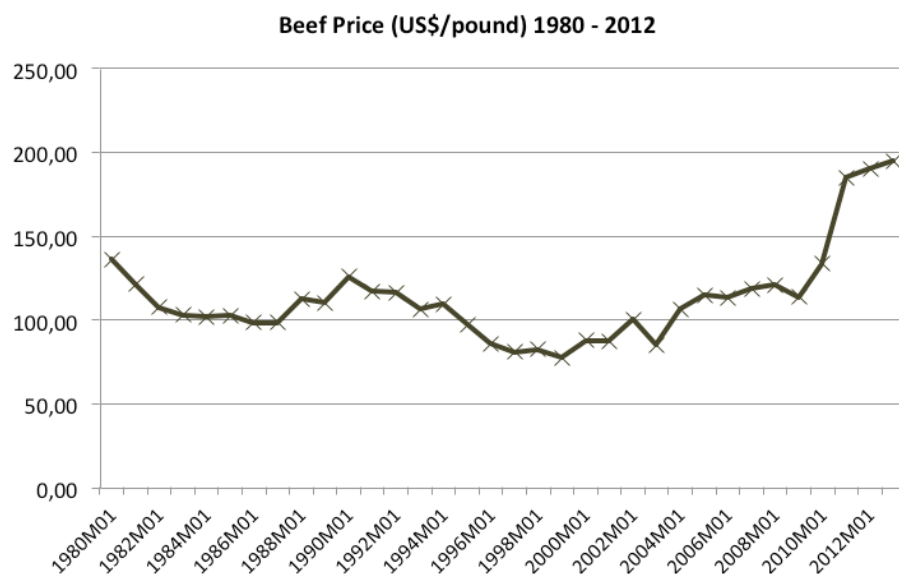
Source: USDA

8.6.2 Global pricing changes

The price of beef has increased dramatically over the past ten years, with a particularly sharp spike in 2009. The price increases are largely a result of increased demand from emerging markets.



Figure 24: Beef Price 1980 – 2012 (US\$/pound)



Source: IMF

8.6.3 Individual Country Production and Consumption

Beef is a key component of diets across the world and this is reflected in the fact that the major countries involved in both production and consumption match the most populous countries in the world. Beef consumption is also related to levels of income, with wealthier populations consuming a far higher proportion of beef.

China, the US, Brazil, and the EU feature as the top 4 on both the production and consumption lists.

Table 36: Top 5 Beef Producing and Consuming Countries, 2012

Total Beef production	% of global production	Total Beef consumption	% of global consumption
USA	20%	USA	20%
Brazil	16%	Brazil	14%
EU	13%	EU	14%
China	10%	China	11%
India	6%	Argentina	5%

Source: USDA



8.6.4 Beef Imports and Exports

Although the US is the top consumer of beef, its significant domestic industry means that it is actually a net exporter. On the other hand, Russia, Japan and China are all dependent on imports. Brazil is the largest exporter of beef, with India, Australia and New Zealand also prominent participants in the global trade.

Table 37: Top Global Beef Import and Export Countries (in thousand tons), 2012

Top Beef importing countries	Volume	Top Beef exporting countries	Volume
USA	1024	Brazil	1800
Russia	1000	India	1650
Japan	767	Australia	1530
Hong Kong	450	USA	1115
China	400	New Zealand	547

Source: USDA

8.6.5 Key global companies

Brazilian giant JBS S.A is the foremost supplier of beef having undertaken an aggressive expansion and acquisition strategy over the past ten years. The US is home to several large producers although they are largely focused on the domestic market. The major players have only limited presence in South Africa.

Table 38: Key Companies in the Global Beef Trade

Company	Headquarters
JBS S.A.	Brazil
Cargill	USA
Tyson Foods	USA
Vion	The Netherlands
Smithfield	USA
Marfrig S.A	Brazil

Sources: Oxfam and Frost & Sullivan

8.6.6 Domestic Market Analysis of Beef

Stock farming takes place in all Provinces in SA. Beef cattle producers differ from highly sophisticated commercial to communal subsistence producers. Of the cattle available in SA, approximately 60% are owned by commercial farmers and the other 40% by developing and communal farmers.

Cattle numbers have increased from 12.5 million in 1994 to 13.9 million in 2012, at average annual rate of 0.6%. The number of calves slaughtered declined over this period, from 95 000 in 1994 to 58 000 in 2012.



Table 39: Cattle numbers, Cattle Slaughtering and Calves Slaughtering, 1994 to 2012

	Cattle Numbers	Cattle Slaughtering	Calves Slaughtering	Cattle Numbers	Cattle Slaughtering	Calves Slaughtering
	Numbers('000)			%change		
1994	12 500.0	2 629.0	95.0	-4.6	-11.2	-14.4
1995	12 600.0	2 112.0	70.0	0.8	-19.7	-26.3
1996	13 000.0	2 171.0	71.0	3.2	2.8	1.4
1997	13 400.0	2 118.0	67.0	3.1	-2.4	-5.6
1998	13 700.0	2 095.0	64.0	2.2	-1.1	-4.5
1999	13 800.0	2 197.0	61.0	0.7	4.9	-4.7
2000	13 600.0	2 666.0	60.0	-1.4	21.3	-1.6
2001	13 500.0	2 247.0	55.0	-0.7	-15.7	-8.3
2002	13 500.0	2 452.0	58.0	0.0	9.1	5.5
2003	13 600.0	2 478.0	57.0	0.7	1.1	-1.7
2004	13 500.0	2 544.0	57.0	-0.7	2.7	0.0
2005	13 500.0	2 616.0	57.0	0.0	2.8	0.0
2006	13 500.0	2 915.0	57.0	0.0	11.4	0.0
2007	13 900.0	3 020.0	57.0	3.0	3.6	0.0
2008	13 900.0	2 644.0	57.0	0.0	-12.5	0.0
2009	13 800.0	2 783.0	58.0	-0.7	5.3	1.8
2010	13 700.0	2 839.0	58.0	-0.7	2.0	0.0
2011	13 700.0	2 831.0	58.0	0.0	-0.3	0.0
2012	13 900.0	2 851.0	58.0	1.5	0.7	0.0

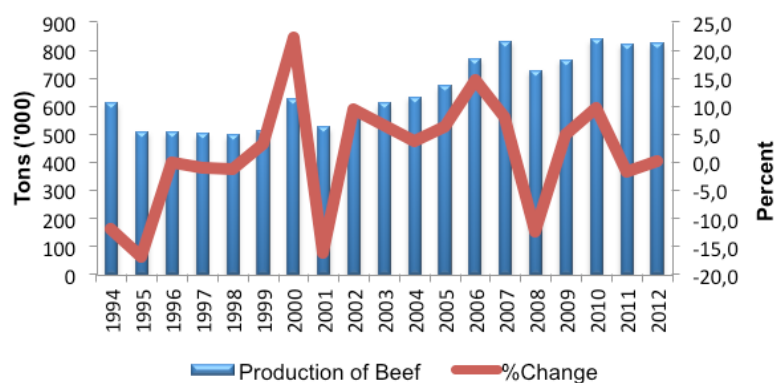
Source: Own calculations based on Quantec data

8.6.7 Production of Beef

Beef production in SA has increased from 611 000 tons in 1994 to 823 000 tons in 2012, at an annual average rate 1.67%. The highest level of production of beef was in 2010 reaching 837 100 tons. This was attributed to an increased demand during the FIFA world cup in 2010.



Figure 25: Production of Beef, 1994 to 2012



Source: Own calculations based on Quantec data

8.6.8 Average Price of Beef

The average price of beef has increased significantly from 599.6 c/kg in 1994 to 2 843 c/kg in 2012. The average price of beef rose by 37.3% from 1994 to 1995; this was the highest increase for the period under study. These price hikes were mainly due to increased consumption caused by the rising living standards of a larger number of consumers.

Figure 26: Average Price of Beef, 1994 to 2012



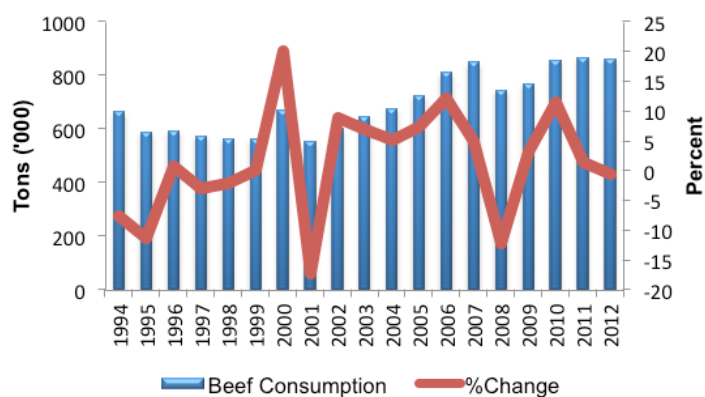
Source: Own calculation based on Quantec data

8.6.9 Consumption of Beef

Consumption of beef in SA has gradually increased from 663 000 tons in 1994 to 859 000 tons in 2012, an average annual rate of increase of 1.45%. Consumption of beef steadily declined to a low of 560 000 tons in 1999 before increasing by 19.8% to 671 000 tons in 2000. Since then, consumption has been on the upward trend and was further buoyed by the FIFA world cup in 2010.

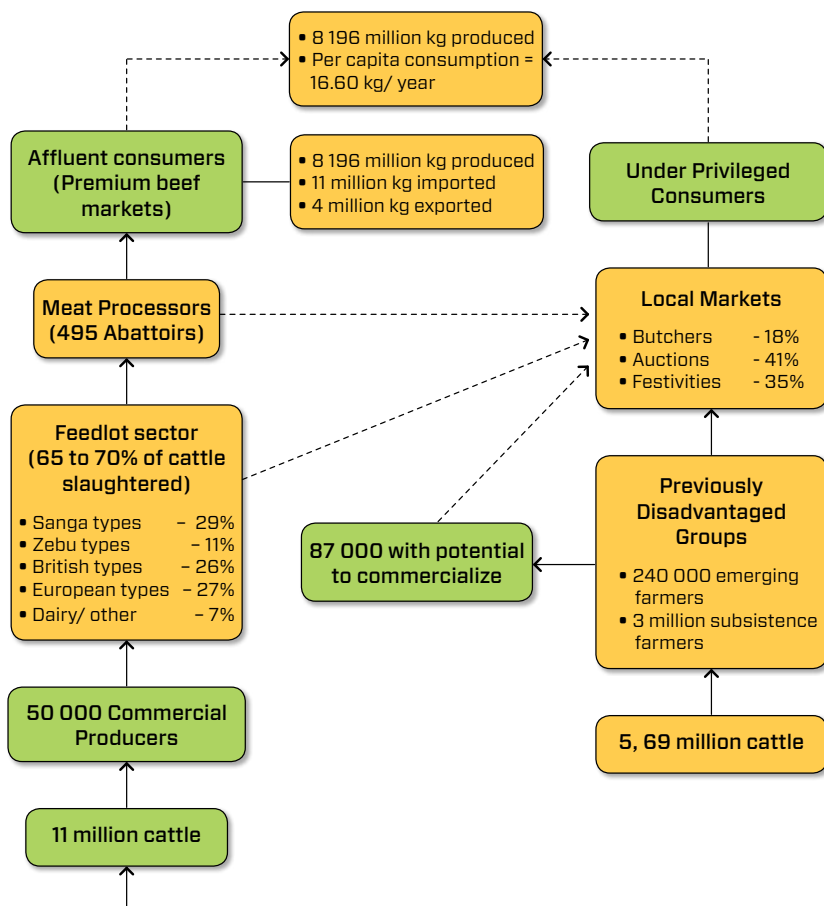


Figure 27: Consumption of Beef, 1994 to 2012



Source: Own Calculation based on Quantec data

Figure 28: Beef Value Chain



Source: DAFF



8.7 MILK

8.7.1 Domestic Market Analysis of Dairy Products

Milk production has fluctuated between 1994 and 2012, from a lowest volume of 2.3 billion litres in 1994 to 2.69 billion litres in 2012. This represents an average annual growth of 0.87% over the period considered.

Table 39 below shows dairy production between 2008 and 2011. Cheese is the largest dairy product with 83 881 tons in 2011, followed by butter at 15 939 tons.

Table 39: Production of Dairy Products, 2008 to 2011

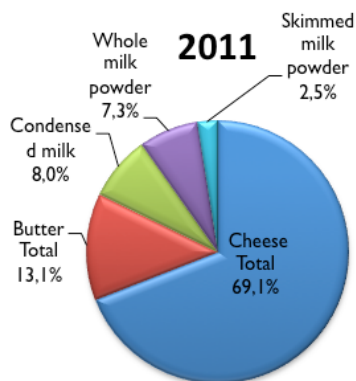
	Butter	Cheese	Condensed milk	Whole milk powder	Skimmed milk powder
	Tons ('000)				
2008	16.5	86.3	12.5	10.3	5.9
2009	17.2	90.5	11.4	7.8	5.2
2010	17.2	88.5	10.7	6.9	2.8
2011	15.9	83.9	9.7	8.9	3.0

Source: Own calculations based on Quantec data

8.7.2 Breakdown of Dairy Products

The cheese share of total dairy products has practically doubled in the last decade, mainly attributed to an economic growth in SAs middle class and a change in their spending patterns. Cheese contributed 69.1% to total dairy production in 2012, significantly higher than 35.4% 2002. Butter was the second largest contributor in 2012 with 13.1% up from 8.6% in 2002. Condensed milk's share of total dairy products declined significantly from 24.2% in 2002 to a mere 8.0% in 2011.

Figure 29: Breakdown of dairy products, 2002 and 2011



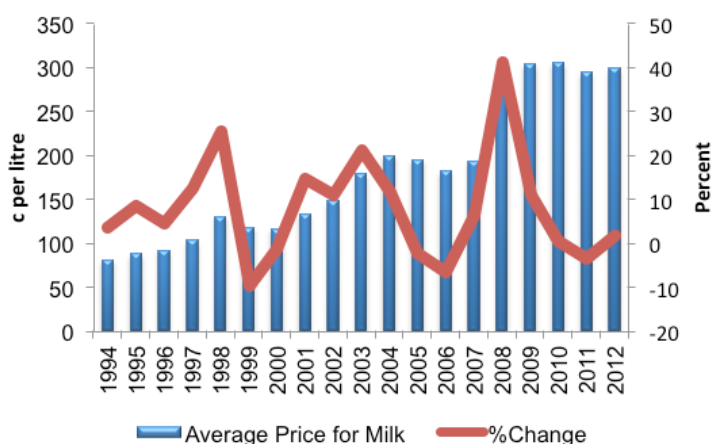
Source: Own calculations based on Quantec data



8.7.3 Price of milk

There has been an upward trend in the average price of milk from 1994 to 2012. The average price has remained above R2.00 per litre since 2007, owing to strong demand. In 2010, the price of milk reached a peak at R3.05 per litre. This was partly attributed by demand driven by the soccer FIFA World Cup in SA. The price slightly declined to R2.99 per litre in 2012.

Figure 30 : Average Price of Milk, 1994 to 2012

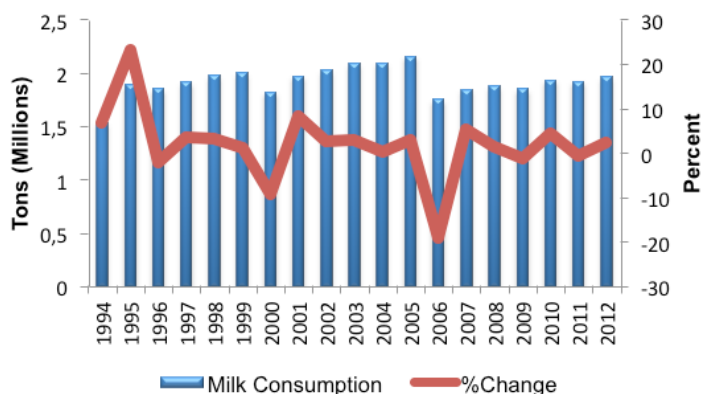


Source: Own calculations based on Quantec data

8.7.4 Consumption of milk

Fresh milk consumption has fluctuated between 1.5 and 2.2 million tons between 1994 and 2012. In 1994, fresh milk consumption was the lowest at 1.5 million tons and reached 2.0 million tons in 2012.

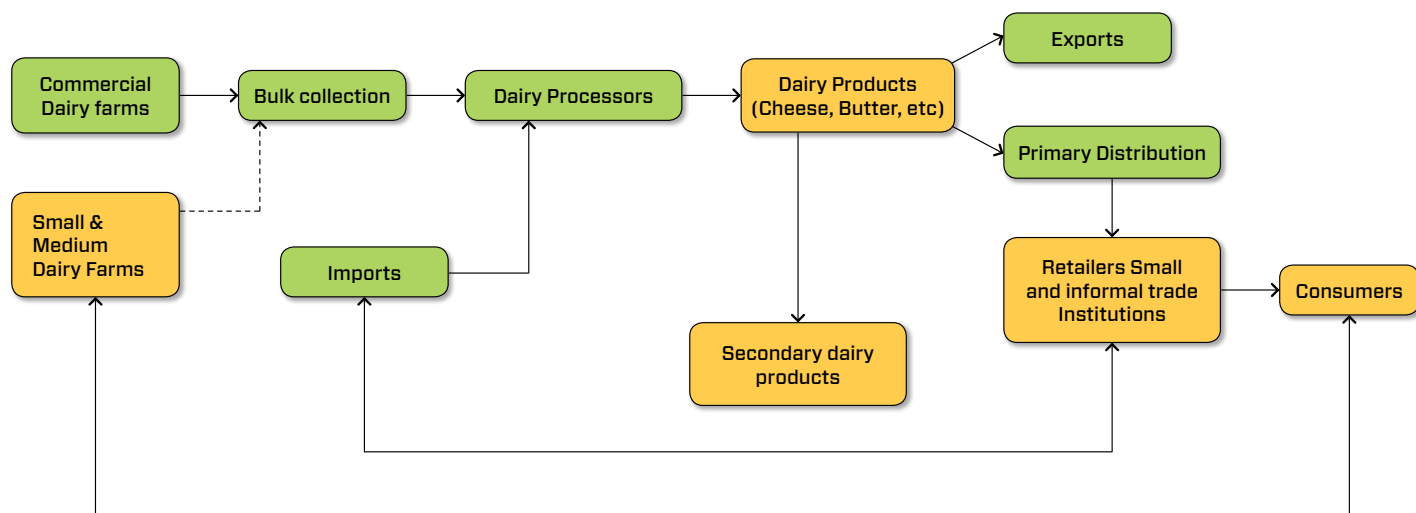
Figure 31: Fresh Milk Consumption, 1994 to 2012



Source: Own Calculations based on Quantec data



Figure 32: Dairy Value Chain



Source: Department of Agriculture, fishing and forestry

Table 40: Primary products derived from Dairy

Category	Specific products
Liquid milk products	Pasteurised and ultra-pasteurised milk
	Long life or ultra-high temperature treated (UHT) milk
	Cream
	Yoghurt
	Fermented milk (e.g. maas)
	Flavoured milk
Processed milk products	Whey and whey products
	Butter
	Cheese
	Condensed milk
	Buttermilk and buttermilk powder
	Milk powder

Source: Frost & Sullivan



8.8 SHEEP

Sheep farming is practiced throughout SA but concentrated in the more arid parts of the country, i.e. Northern Cape, Eastern Cape, Western Cape, Free State and Mpumalanga. There are approximately 8 000 commercial sheep farms throughout the country and about 5 800 communal farmers.

Table 41 below shows the number of sheep and the number of sheep slaughtered from 1994 to 2012. The number of sheep has declined over the years from 25.8 million in 1994 to 21.4 million in 2012. Similarly, sheep slaughtered has declined over the same period, from 7.7 million in 1994 to 6.1 million in 2012.

Table 41 : Sheep Numbers, Sheep Slaughtering, 1994 to 2012

	Sheep Numbers	Sheep Slaughtering⁹	Sheep Numbers	Sheep Slaughtering
	Numbers('000)		%change	
1994	25 851.0	7 694.0	-4.6	-1.2
1995	25 481.0	5 203.0	0.8	-32.4
1996	25 566.0	5 904.0	3.2	13.5
1997	25 010.0	5 655.0	3.1	-4.2
1998	25 079.0	5 536.0	2.2	-2.1
1999	24 463.0	5 905.0	0.7	6.7
2000	23 586.0	6 115.0	-1.4	3.6
2001	22 998.0	5 964.0	-0.7	-2.5
2002	22 614.0	5 964.0	0.0	0.0
2003	22 693.0	6 012.0	0.7	0.8
2004	22 289.0	6 117.0	-0.7	1.7
2005	22 236.0	6 192.0	0.0	1.2
2006	21 945.0	6 279.0	0.0	1.4
2007	21 924.0	6 693.0	3.0	6.6
2008	21 995.0	6 700.0	0.0	0.1
2009	21 917.0	6 865.0	-0.7	2.5
2010	21 493.0	7 018.0	-0.7	2.2
2011	21 325.0	6 331.0	0.0	-9.8
2012	21 427.0	6 158.0	1.5	-2.7

Source: Own Calculations based on Quantec data

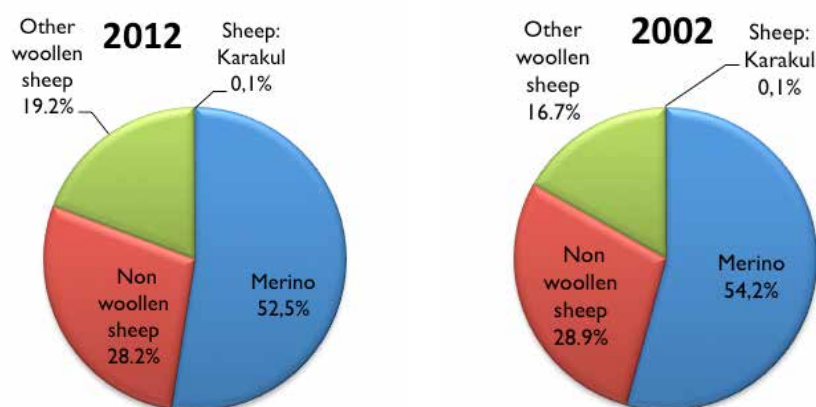
⁹ Slaughtering of sheep also includes lambs and goats.



8.8.1 Sheep by type

The composition of sheep has only changed marginally over the past decade. Merino has the lion's share of the number of sheep available with 52.5% share of available sheep in 2012. Non-wool sheep is the second highest contributor with 28.2% in 2012. The Karakul contribution remained unchanged at 0.1%, refer Figure 33 below.

Figure 33: Sheep type, 2002 and 2012

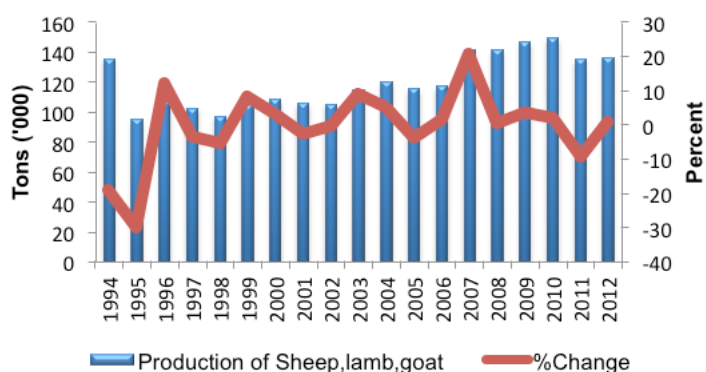


Source: own calculations based on Quantec data

8.8.2 Production of sheep

The production of sheep declined from 135 000 tons in 1994 to 94 800 tons in 1995, a sharp decline of 29.9%. In 2010, production of sheep reached its highest figure to date of 149 000 tons before declining to 136 000 tons in 2012.

Figure 34: The Production of Sheep, 1994 to 2012¹⁰



Source: Own calculation based on Quantec data

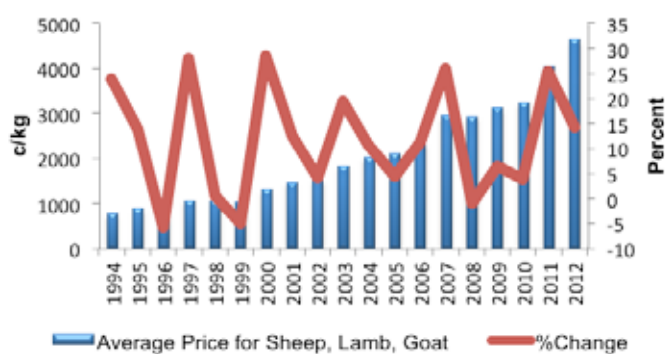
¹⁰ Production of sheep includes lamb and goat.



8.8.3 Average Price of sheep

Figure 35 below shows the average price of sheep between 1994 and 2012 indicating an upward trend. In 2007, the average price of sheep was 2,941.9c per kg and declining marginally by 0.8% to 2917.3c in 2008. In 2011, the average price rose by 25.4% to reach 4,048.3c per kg and further increased in 2012 to reach 4,624c per kg.

Figure 35: The Average Price of Sheep, 1994 to 2012¹¹

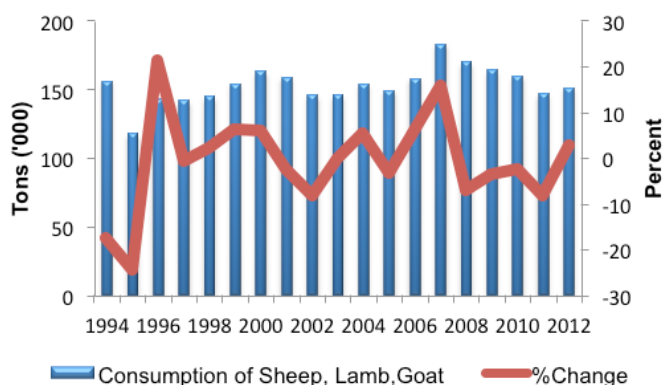


Source: Own calculation based on Quantec data

8.8.4 Consumption of sheep

Consumption of sheep has been fairly constant around 150 000 tons over the period. The highest consumption of 183 000 tons was reported in 2007. Consumption increased modestly in 2012 to 151 000 tons from 147 000 tons in 2011.

Figure 35: The Consumption of Sheep, 1994 to 2012

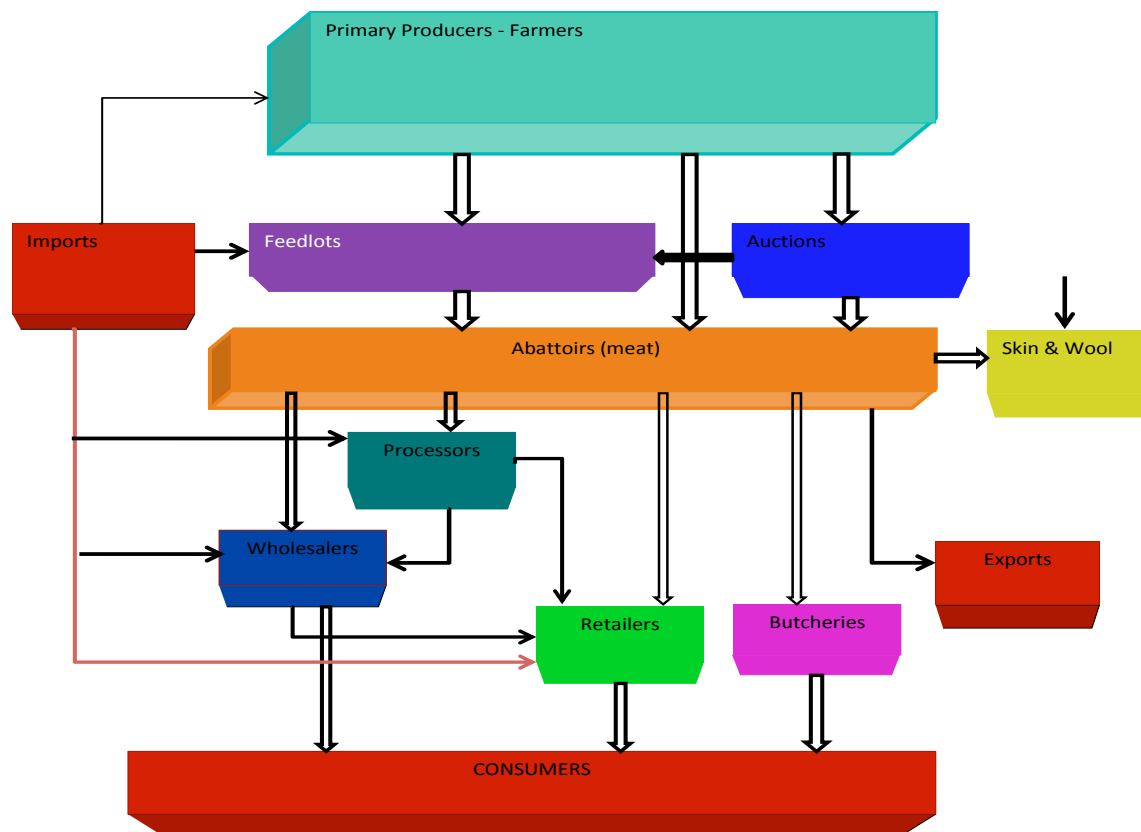


Source: Own calculations based on Quantec data

¹¹ The price includes lamb and goats.



Figure 36: Mutton Value Chain



Source: DAFF

8.9 WOOL

The demand for wool, from mainly sheep, is more sensitive to the changes in consumer incomes compared to other fibres. This sensitivity is related to wool and wool products being generally more expensive compared to other fibres, making wool a luxury item. Consumer incomes in the top wool consuming countries has been volatile and mostly lower in the past few years compared to the growth rate in 2000 - 2008. As a result, the demand for wool remains inconsistent and the major wool exporting countries experienced difficult conditions in 2012.

Global wool production has remained relatively constant since 2009. The global production of wool in 2013 was estimated at 1 087 000 tons, translating into a 2% increase in production compared to 2012. Wool production increased moderately in a number of the major wool producing countries in 2013, including Australia (+2%), China



(+1%), New Zealand (+3%) and South Africa (+6%). However, a 1.5% decrease in production is expected in 2014. In the long term, wool production is not expected to increase due to significant competition for land to meet the growing food demand, particular in developing countries.

It is expected that the consumption of wool in the EU will continue to decrease in the medium term. However, the growth in China's wool consumption for wool processing is expected to grow and will stabilise the global consumption of wool. Furthermore, it is expected that the retail markets for wool, particularly in the US, will gain momentum and boost the demand for wool in 2014. The increased demand can lead to improved price competitiveness for wool compared to other fibres. However, good retail sales would be needed to sustain improved global prices for wool.¹³

Table 42: Global Wool Production and Consumption (in thousand tons), 2008 – 2013

Year	Global Production	Global Consumption
2009	1080	1070
2010	1062	1065
2011	1068	1055
2012	1066	1055
2013	1087	1045

Source: IWTO¹⁴, CIRFS¹⁵

8.9.1 Global price changes

The price for wool is generally high when compared to other fibres and therefore the demand for wool products are predominantly in developed countries. The price and the total income that wool producers receive are mainly dependent on the generic quality of the sheep, the lambing percentage of the sheep, feed quality and the sound management of the production and marketing activities.

Wool prices have witnessed a significant increase from 2010-2012, with declining sheep numbers as one of the main reasons. The demand for wool will continue to drive wool prices and it was expected that wool prices would remain stable in 2013 taking into account the lower demand in conjunction with lower wool production globally. In the short term, the outlook for wool prices is uncertain due to the continued economic uncertainty. In the long term, the recovery of consumer incomes and population growth will likely lead to an increase in the demand and price for wool.

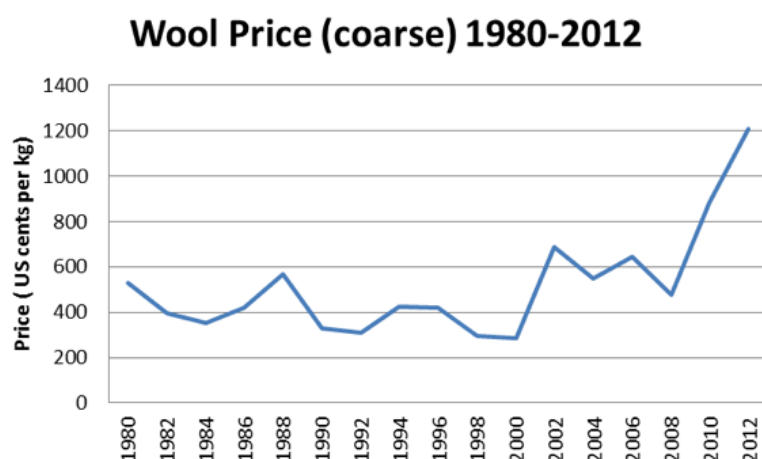
¹³ Wool Statistics, International Wool Textile Organisation (IWTO), 2012.

¹⁴ Wool Statistics, International Wool Textile Organisation (IWTO), 2012.

¹⁵ European Man-Made Fibres Association (Comite International de la Rayonnee des Fibres Synthetiques, (CIRFS)) is the representative body for the European man-made fibres industry.



Figure 37: Wool Price 1980 – 2012



Source: IMF

8.9.2 Individual Country Production and Consumption

Wool is produced in approximately 100 countries throughout the world but the major producers include Australia, China and New Zealand. It is expected that, as the largest wool producer, Australia's wool production will remain stable in the short term. However, in 2012 - 2013 the production of wool in New Zealand fell by 1.5%. Due to the increase in demand for mutton, it is expected that the wool production in New Zealand will further decrease in 2014. China is now the world's largest consumer of wool. The wool processing industry in China invested and upgraded its textile machinery and it is expected that China will continue to import wool in the medium term. Approximately 75% of Australia's apparel wool clip is going to China.

Furthermore, India consumed 82,000 tons of wool in 2011-2012. A combination of factors, including the tax rebates for textile exporters, duty realignments and support for the textile sector to upgrade machinery, wool consumption rose to 84,000 tons in 2012-2013. Wool consumption in India is expected to continue to increase during 2014.

Table 43: Top 5 Wool Producing and Consuming Countries, 2012

Total wool production	% of global production	Total wool consumption	% of global consumption
Australia	22%	China	40%
China	15%	US	N/A
New Zealand	12%	Japan	N/A
Soviet Union	9%	UK	N/A
India	3%	Germany	N/A

Source: IWT¹⁶

¹⁶ Wool Statistics, International Wool Textile Organisation (IWT), 2012.



8.9.3 Wool Imports and Exports

Due to the decrease in demand and reduced production activity for wool, the exports of finished clothing from China decreased in 2012. For example, the exports of wool woven garments and wool knitwear from China decreased by 16% and 15% respectively in 2012.

During the 2012/2013 season, raw wool exports from the US increased. It is expected that, as the business and economic environment continues to improve in 2014, this will also drive up raw wool demand and export volumes.

Table 44: Top Global Wool Import and Export Countries, 2012

Top wool importing countries	World Share (%)	Value (million US\$)	Top wool exporting countries	World Share (%)	Value (million US\$)
China	41.5%	2839.3	Australia	41.5%	2613.4
Italy	13.8%	944.9	China	13.8%	904.3
Germany	6.6%	453.2	New Zealand	6.6%	586.7
India	5.2%	357.8	South Africa	5.2%	367.1
Czech Republic	3.9%	264.3	Germany	3.9%	349.9

Source: UN Comtrade

8.9.4 Key global companies

SA is a net exporter of wool and the major buyers of wool include Standard Wool SA, Modiano SA, Lempriere SA and Stucken & Co. The majority of SAs clip is marketed overseas through the South African Wool and Mohair Buyers Association (SAWAMBA).

8.9.5 Domestic Market Analysis of Wool

Wool is produced throughout SA. Most of SAs wool originates from dry, low-rainfall areas such as the Karoo than from the high rainfall areas along the coast and the Highveld. In most parts of the country, wool is produced under either extensive, semi extensive or intensive environmental conditions. In SA, over 50% of wool is produce in the EC and the Free State Provinces.¹⁷

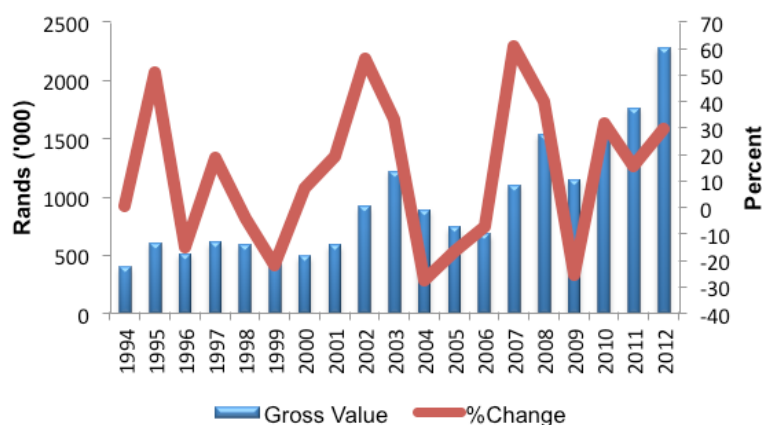
8.9.6 Gross Value of Wool

The gross value of wool production in SA has increased considerable from 1994 to 2012; the value increased from R343.6 million to R2.3 billion. In 2007, the gross value of wool production increased by 60.7% to approximately R1.10 million, increasing even further in 2008 by 40.2% to R1.54 million.

¹⁷ Department of Agriculture, Forestry and Fishery: Wool Market Value Chain Profile 2012.



Figure 38: Gross value of Wool, 1994 to 2012

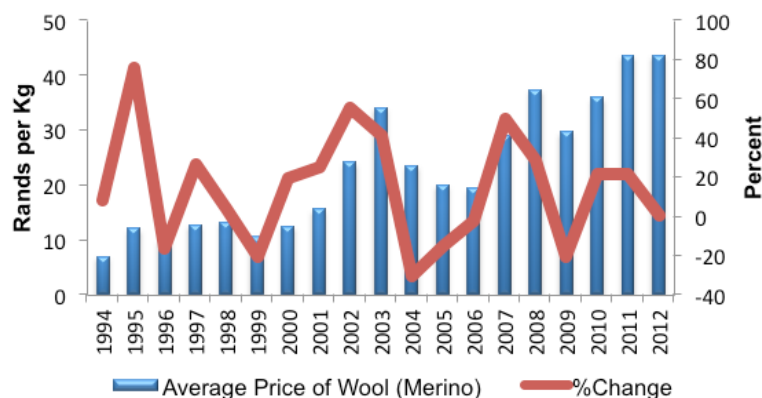


Source: Own calculation based own calculation

8.9.7 Prices of Wool

Merino Prices: Despite being volatile, the price of Merino wool increased from R6.83/kg in 1994 to over R40/kg, an average annual increase of 10.76% over the period considered. The trend of other wool follows that of Merino prices and has been highly volatile.

Figure 39: Average Price of Merino Wool, 1994 to 2012



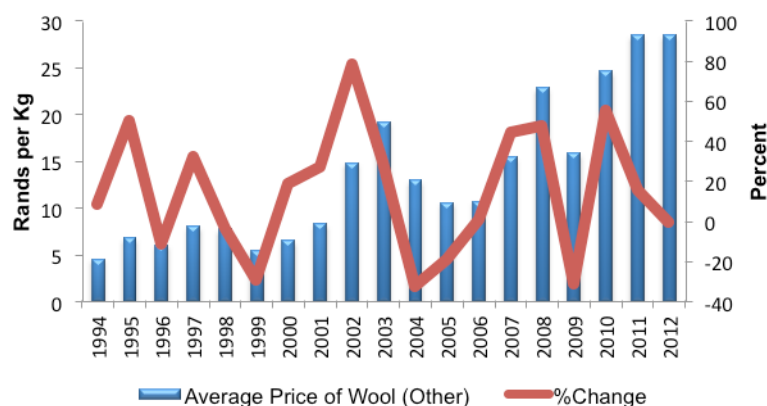
Source: Own calculations based on Quantec data

8.9.8 Other Wool Prices

The price of other wool increased from R4.52/kg in 1994 to R28.46/kg in 2012.



Figure 40: Average Price of other wool, 1994 to 2012

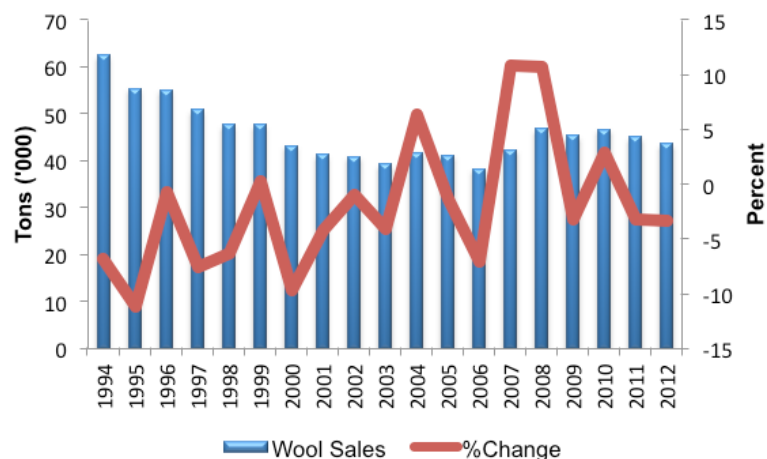


Source: Own calculations based on Quantec data

8.9.9 Sales of Wool

The sale of wool in SA has been on a downward slope. The sales of wool moved from 62 400 tons in 1994 to 43 600 tons in 2012, an average annual decrease of 2%. In 2006, the country experienced the lowest sales amount at 38 200 tons and only managed to reach 43 600 tons in 2012, refer to Figure 41.

Figure 41: Sales of Wool, 1994 to 2012

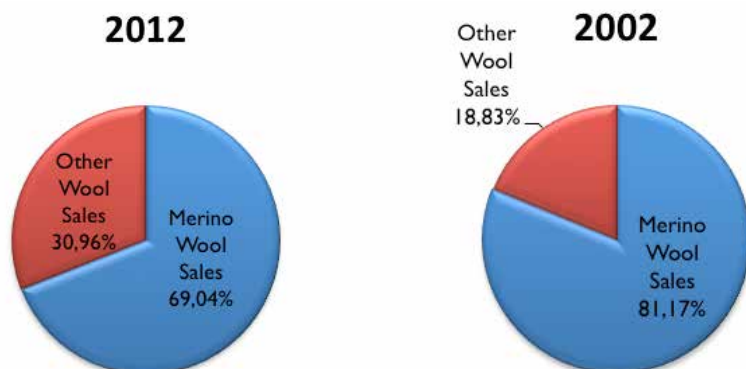


Source: Own calculations based on Quantec data

Sales of Merino have had the lion's share of total sales amounting to 69.0% in 2012; this is however lower than the 81.2% enjoyed in 2002. Shares of other wool grew substantially from 18.8% in 2002 to 30.96% in 2012.

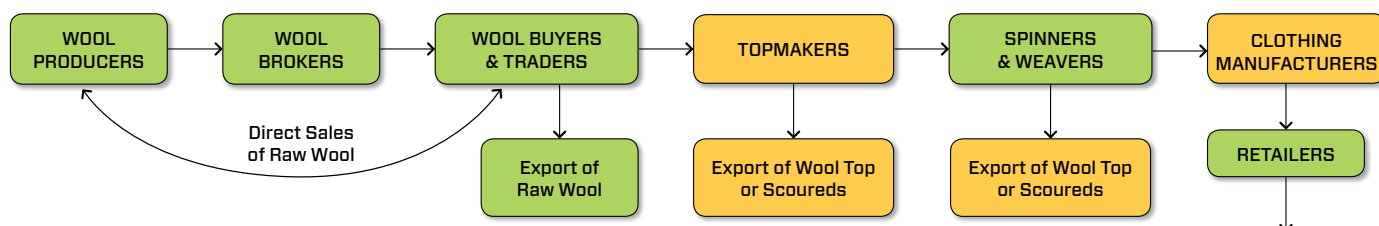


Figure 41: Sales of wool by type, 1994 to 2012



Source: Own calculations based on Quantec data

Figure 42: Wool Value Chain



Source: DAFF

Table 45: Primary products derived from Wool

Category	Specific products
Material	Garments
	Carpets
	Upholstery
Industrial	Rugs
	Reinforcing bricks
	Insulation

Source: Frost & Sullivan, 2013



8.10 MOHAIR

SA is the leading mohair producer globally with 54% of the world's total production and it is recognized as the most reliable source of mohair in the world. The world production of mohair has declined since 1990, however the rate of decline has slowed since 2000.

The global mohair market can be divided into three segments; namely, the elite market, the fashion market and the non-fashion market. The elite market is the most consistent but also the smallest segment of the three. The elite market mainly includes Kids mohair utilised for the production of sophisticated men's and ladies' clothing. Competition in this market segment mainly comes from other fibres like Angora rabbit and fine wool.

The fashion market's demand for mohair is dependent on fashion trends that are unpredictable and ever changing. This leads to a relatively unstable demand for this market segment. The consumer demand is dictated by fashion trends and only last for a relatively short period of time. Furthermore, prices usually follow demand trends and will increase as the demand increases. In the fashion market, the main competitor for mohair is the acrylic yarns that are being developed to imitate mohair. The trend of blending fibres is increasing to maintain retail prices in the fashion market.

The non-fashion market is an unstable market as it is dictated by the price of mohair driven by fashion industry. This market segment is most affected when a strong fashion demand develops which will lead to increasing prices and in return, decreasing demand.

Table 46: Global Mohair Production, 2008 – 2013

Year	Global Production (million kg)
2008	4.5
2009	6
2010	4.9
2011	4.8
2012	4.7
2013	4.6

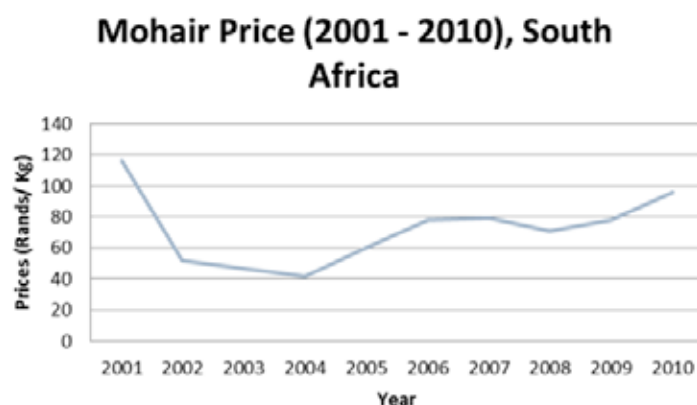
Source: FAO, USDA

8.10.1 Global pricing changes

The demand for mohair is closely related to the fashion industry and, therefore, the demand and price for mohair experiences significant fluctuations. The prices are determined by the demand and supply at one of the 3 auction ports in SA.



Figure 43: Mohair Price 2001 – 2010



Source: IMF

It is very difficult to obtain future market prices for mohair as price movements are directly related to demand. However, there has been a steady increase in prices since 2008. Other factors that determine mohair prices include the uniqueness of the mohair market globally, the fluctuation of the exchange rate and the availability and price of substitute fibres.

8.10.2 Individual Country Production and Consumption

Mohair is grown in several countries around the world, predominantly in arid areas including the Western USA (Texas, Arizona and New Mexico), in Lesotho and also in Australia. Furthermore, small quantities are grown in Great Britain and New Zealand. As mentioned, SA produces up to 54% of the total world's mohair production.

Table 47: Top 5 Mohair Producing Countries, 2012

Total mohair production	% of global production
South Africa	54%
Lesotho	17%
Argentina	13%
USA	5%
Australia	3%

Source: IWTO

8.10.3 Mohair Imports and Exports

SA is the world's leading mohair country and it exports and imports most of the world's mohair production. The mohair that SA imports is processed and thereafter mainly exported to Europe and Asia. Processing includes washing, combing, spinning and dyeing.



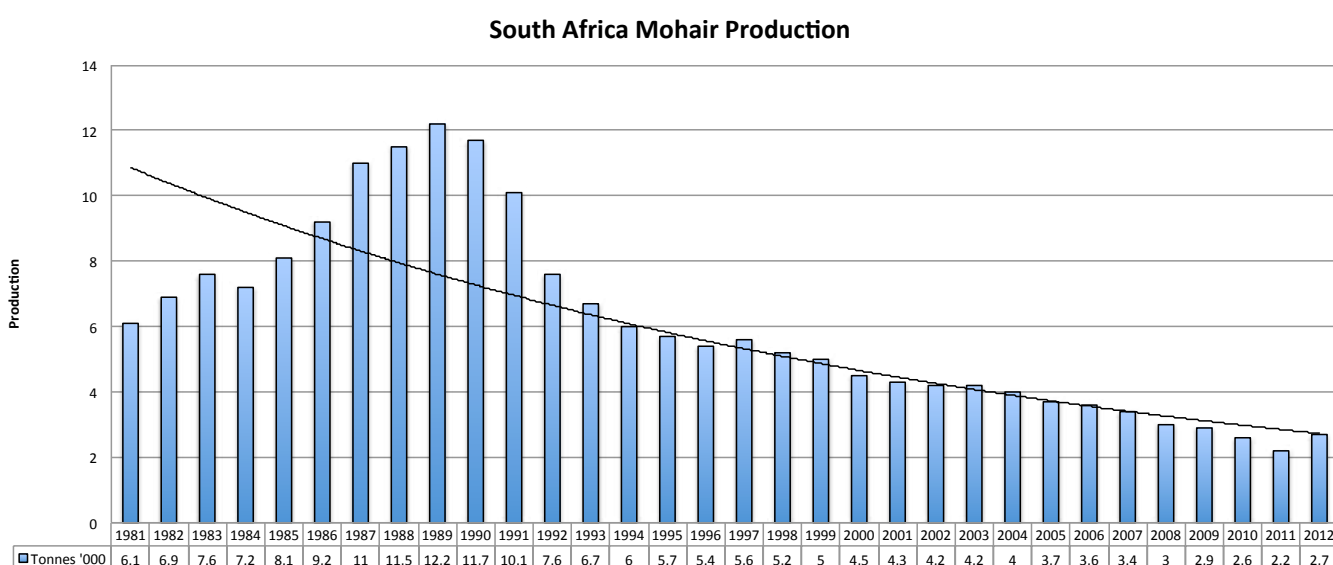
8.10.4 Global trends and pricing

In 2012, the clip composition consisted of 50% strong adult goats, 20% young goats, 18% kids and 12% fine adults. Furthermore, the clip income in 2012 was comprised 34% strong adults, 31% kids, 25% young goats and 10% fine adults. In 2011, uncertainty in the consumer market in the East led to a lower than expected performance in the mohair market. However, prices have since stabilised at an average of R123/kg across all types in 2012.¹⁸

The importance of focused support, as a matter of urgency, to establish a wide-ranging mohair farming community should be a priority. The benefit of doing this is evident by the fact that mohair reflects an international gap between demand and supply. It is well known that, as the Chinese middle class expands, the demand for this product will increase exponentially. Mohair is considered a luxury product in that country, particularly since mohair originated in Tibet and, historically, demand always exceeded supply. This is an opportunity that cannot be missed, since it will not only increase the GINI coefficient for SA but will simultaneously improve the balance of payments position between the two countries. The urgency is palpable since, to lose the global advantage SA has with this product, would be reckless in the extreme. The knowledge base available in the industry should be utilised to find ways and means to increase production to the level where the demand gap is fulfilled.

FDI should be actively and aggressively canvassed to re-establish this industry. Notwithstanding the low production, SA still supplies the world with 50% of global output. This is already an established market but since 1994 there has been a steady decline in production which must be reversed.

Figure 44: Showing SA mohair production, 1981 - 2012



Source: DAFF

¹⁸ Mohair Review, Mohair South Africa, 2012.



Current world output of mohair is around 5,000 tonnes, whereas in the 1990s output was around 25,000 tonnes with the fibre ranked second only to wool.¹⁹

The reason for the sharp decline in output has many underlying components and is discussed in section 8.10.5 below.

8.10.5 South African Mohair

Most of the world's quality mohair is produced in SA and Lesotho and most of SAs clip is produced in the EC. In SA, angora goats grow their fleeces all year round, which enable farmers to auction their produce twice in a year.

In 2012, SA had approximately 644 000 goats and produced 2.32 million kg of mohair at a value of R245.9 million. The 2012 output represents a 3% increase in production compared to 2011.

Based on the production trends in SA, the industry peaked in 1989 with the production of 12.2 million kg of mohair. This translates into a production decrease of 56.3% from 1969 to 2011. However, during the same period, the value of the industry increased by just over 3,000%. The industry expects production increases of between 4-5% in 2013, 2014 and 2015²⁰.

The mohair industry in SA is estimated to provide approximately 6,000 jobs which include 1,000 commercial farmers and approximately 100 emerging farmers. The sector of smallholder emerging farmers is developing and increasing.

Table 48: Key South African Import and Export Partners for Mohair, 2012

Import	% of Total SA Imports (by value)	Export	% of Total SA Exports (by value)
USA	54.4%	Italy	38%
Australia	25.6%	China	31%
Argentina	7.9%	UK	16%
New Zealand	6.6%	Taiwan	7%
Germany	4.5%	Japan	4%

Source: DAFF²¹

Europe is the major world market for SA mohair. Other major destinations of mohair from SA include Italy and China. The import and export of mohair occurs in every stage of the value chain, from the raw wool right through to the processed fabric. The mohair that is imported is mainly processed and then exported.

¹⁹ Trade and Markets Division Food and Agriculture Organization United Nations : Viale delle Terme di Caracalla 00153 Rome Italy.

²⁰ The South African Mohair Industry: Processes and role players – challenges and opportunities, National Agricultural Marketing Council (NAMC), 2012.

²¹ A Profile of the South African Mohair Market Value Chain, Department of Agriculture, Forestry and Fisheries, 2012.



There was a significant increase in the demand for mohair from China in 2013 compared to 2012. It is expected that the demand in the Chinese market will increase and there are positive prospects for the market in the medium term. Exports to Japan also began to increase in 2013 after going through a period of low demand.

8.10.6 Key players in Mohair

In 1994, the mohair industry in SA changed to a free market. Prior to 1994, producers focused predominantly on production but now they have been advised and have learned to also take marketing and the global industry into consideration. In 1997, the statutory Mohair Scheme, under which the industry was regulated by the Mohair Board, was abolished. Currently, the industry is serviced by Mohair South Africa, an inclusive body established to operate in the best interests of all the affected groups in the industry.

The Mohair market in SA is very concentrated, with 6 main buyers, 3 auction ports, 2 brokers and 26 manufacturers. The South African Mohair Grower's Association and the Angora Goat Stud Breeders' Society of SA are both located in Jansenville in the EC.

Approximately 32 large auctions take place in Port Elizabeth, EC every year and marketing brokers also hold smaller auctions throughout the year. Up to 90% of the whole clip produced in SA is sold through the auction system, while the remainder of the clip is bought directly from the producer. Buyers include both local and international consumers and transactions occur during any season on a contract basis.



Table 49 : Key Participants in the Mohair Value Chain

Auction Ports	Brokers	Buyers	Processors	Manufacturers	Grower Mohair Associations
Port Elizabeth Durban Cape Town	BKB Cape Mohair & Wool Blue Crane Wool & Mohair	A Dewavrin Freres (Pty) Ltd Cape Produce Wool Company Mosenthals Wool & Mohair SA (Pty) Ltd Samil (Pty) Ltd Seal South Africa Stucken & Company (Pty) Ltd New England Wool SA Standard Wool	Border Combing Company Gubb & Inggs Mohair Spinners South Africa (Pty) Ltd	Abafazi Annette Oelofse Mohair Products Adele's Mohair Ali-Jean Fibre Design Cape Mohair Limited Coral Stephens Elsa Barnard Mohair Carpets Hinterveld Jan Paul Barnard Loubear Mohair Mohair Weavers Momento's of Africa Peta-Lee Shuttleworth Weaving The Scarf Initiative Umsobomvu textiles Wolskuur Spinners CC	Camdeboo Mohair South African Mohair Growers Association Emerging Mohair Growers Association

Source: DAFF

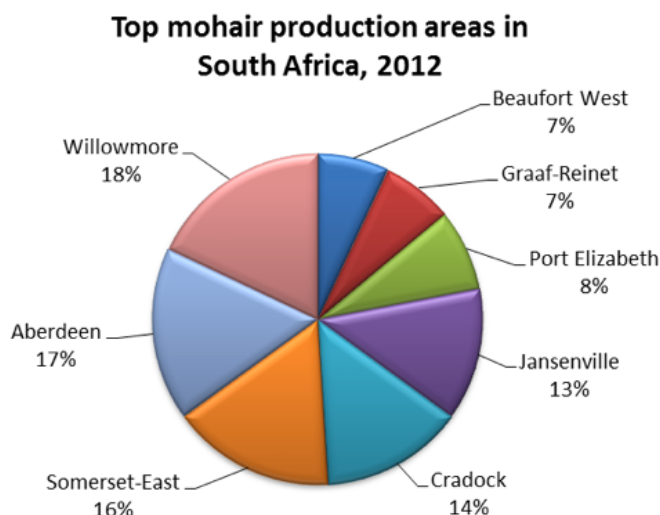
In SA, auctions are held every Wednesday during the production seasons. This leads to approximately 32 auctions throughout a year. The main buyers act on behalf of the local as well as the international processors. Direct sales only happen on a small scale.

8.10.7 Breakdown of production areas

The main mohair producing areas in SA include Willowmore (18%), Aberdeen (17%) and Somerset East (16%). In Port Elizabeth, Beaufort West and Graaf-Reinet, mohair is also produced in smaller volumes.



Figure 45: Top Mohair Production Areas in South Africa, 2012



Source: DAFF

9 SPATIAL DEVELOPMENT

9.1 Spatial Planning

The purpose of this section of the report is to assess if CHDM is a suitable location for the establishment of an SEZ. SEZs are defined as a geographically limited area administered by a single body offering certain incentives and benefits to industrial businesses physically located within the zone.

The government of SA seeks to transform the country's economy into a globally competitive industrial economy, built on the full potential of all citizens and regions. The government's industrial agenda is presented in the NDP, NGP and the IPAP. It calls for job creation, prioritization of industrial sectors and a range of interventions to accelerate economic growth and fight poverty, inequality and unemployment. The SA government uses SEZ as economic development instruments. There are several categories of SEZs and these include:

- a free port;
- a free trade zone;
- an industrial development zone; and
- a sector development zone.



The intended economic benefits of SEZs for regions can be summarized as follows:

- Increase foreign and domestic private sector investment, with the aim of generating both direct (within the zone) and indirect employment and income, through backwards and forwards linkages with businesses outside the Zone;
- Export growth and diversification, as well as an increase in foreign exchange earnings;
- Development of industries/sectors requiring serviced and specialized infrastructure;
- Skills upgrades and technological transfers;
- Pilots for new policies and reforms (Zones can act as experimental laboratories for the application of new economic policies and approaches); and
- Improved effective tax rates through enhanced tax collection within the Zone.

9.2 SEZ land selection criteria

In order to establish a SEZ, a feasibility study is required to confirm that the applicant has sufficient financial resources and expertise to develop the Zone. The CDC conducted an initial feasibility study to select the most appropriate location for establishing a SEZ in CHDM. The criteria for selecting a suitable location for the SEZ was based on characteristics required for the development of a node. SEZ's are a type of sectoral node. The main characteristics required are as follows:

1. Proximity to residential areas, being an industrial development node a radius of five to ten kilometers was used;
2. Demographics should favour a skilled to semi-skilled and employable age population of between 18 and 55 years old;
3. Access to various modes of transport, especially rail and road for the transportation of raw materials and finished goods to markets;
4. Quality bulk infrastructure to support the identified of Agro-processing economic cluster. Bulk infrastructure includes High Voltage (HV) electricity, water, sewerage, roads and storm water management and ICT;
5. Favourable environmental conditions;
6. Economic opportunities;
7. A physical land requirement of approximately 300-500 hectares for industrial use, preferably Municipal owned; and
8. Alignment to current development strategies.

The proposed size of the SEZ is based on comparative assessments with the current SA IDZs, such as Coega IDZ, East London IDZ, Richards Bay IDZ and Saldanha IDZ. Sites for agro-processing facilities are typically between two and ten hectares each. The SEZ layout must include roads and road reserves, storm water collection and



retention areas, open spaces and service areas.

9.3 Methodology for assessing suitable location for CHDM SEZ

In order to assess the suitability of a location, a two phased approach was adopted which included an initial desktop study using geospatial information received from the District and LM offices. This information was uploaded onto a Geographic Information System (GIS) and potential sites were determined using the criteria set out in section 9.2 above. Municipal Spatial Development Frameworks, Integrated Development Plans and Corridor Development documents were assessed in order to align current development strategies and compare the documented information to the spatial data.

On completion of the spatial analysis and document review, a preferred site was selected and an onsite analysis of infrastructure, the environment and economic sectors was conducted to verify the feasibility of the selection.

9.4 Findings

The initial spatial analysis identified two possible sites, namely Queenstown and Craddock. On further review of the spatial data and taking into account the current development strategies, the preferred location was identified as Queenstown. In Figure 46 below, the centrality of Queenstown can be clearly seen.

Craddock has strong connectivity by road and rail to the surrounding regions, however connectivity to the LMs of CHDM is weak. Proximity and connectivity to LMs is essential for the development of the SEZ. Raw materials/products will be supplied to the manufacturers and reduced transportation costs will strengthen investor business cases for locating in the SEZ.

Figure 46: Map of CHDM



Having identified the most strategically suited vicinity for the establishment of the SEZ to be located in Queenstown, an assessment to determine the land availability within the spatial planning context of the area is required.

9.5 Spatial Planning Context

CHDM is committed to a corridor development approach as stated in the Spatial Development Framework (SDF). A Development Corridor consists of a narrow zone along important connecting routes between different nodes. Economic activities within such corridors are less concentrated but have the capacity to expand and develop to such an extent that they can catalyse the development of the area (Friemann, 1966). Four major corridors have been identified, illustrated in Map 1 below, and are defined as follows:

- The **east corridor (Corridor 1)** that runs along the R61 and links Ngcobo, Cofimvaba and Tsomo to Queenstown;

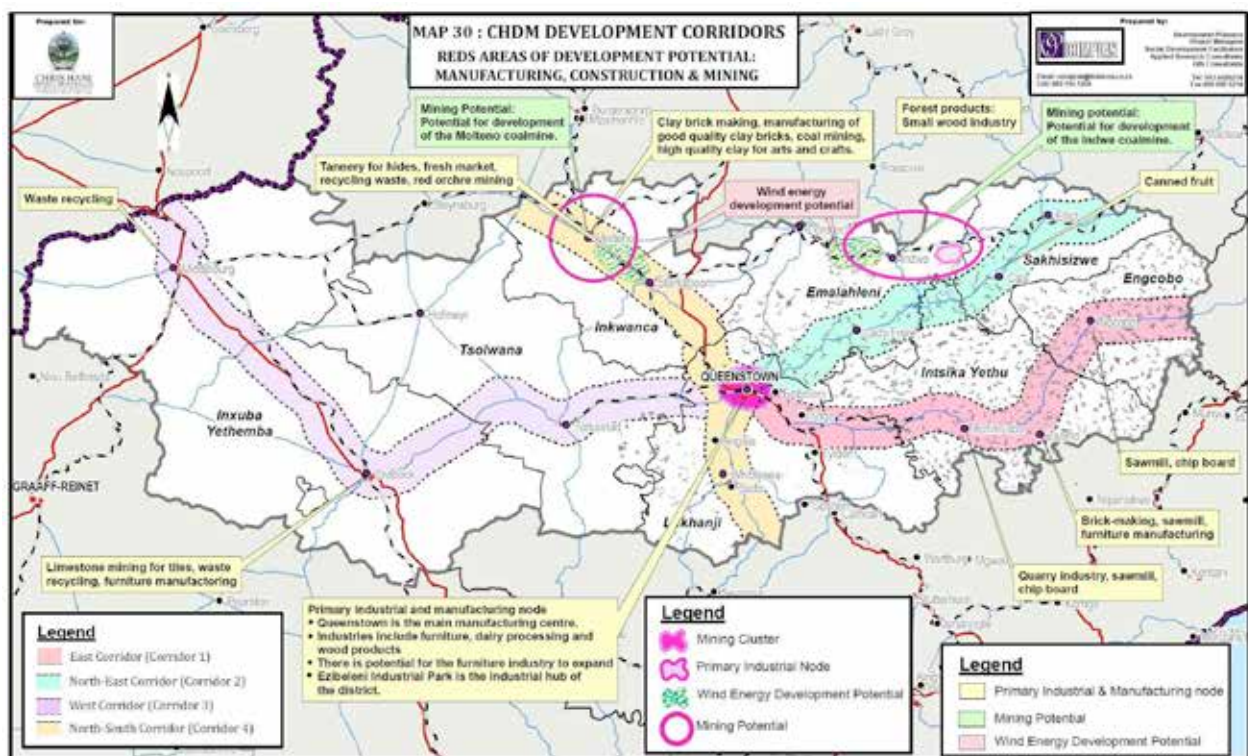


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- The **north-east corridor (Corridor 2)** links Elliot, Cala and Lady Frere to Queenstown along the R394;
- The **west corridor (Corridor 3)** links Middelburg to Cradock along the N10 and then Cradock and Tarkastad to Queenstown along the R61; and
- The **north-south corridor (Corridor 4)** links Sada/Whittlesea through Queenstown to Molteno.

Each of the above corridors traverses Queenstown, strengthening the establishment of the SEZ in Lukhanji LM, the LM having a strong existing business and support service base. Currently, CHDM contributes only 0.42% of the GDP of SA, as it has no major natural resources or large scale economic sectors. With the proposed establishment of a SEZ, the District would expect to increase its contribution to the GDP through improvements in the Agro-processing sector. The District's Spatial Development Framework identifies Queenstown as a major industrial hub in CHDM, with potential for value- adding processes and locally based manufacturing. To develop this major industrial hub adequately, infrastructure and services are required to support the SEZ.

Map 1: CHDM Corridor Development (CHDM, 2011).

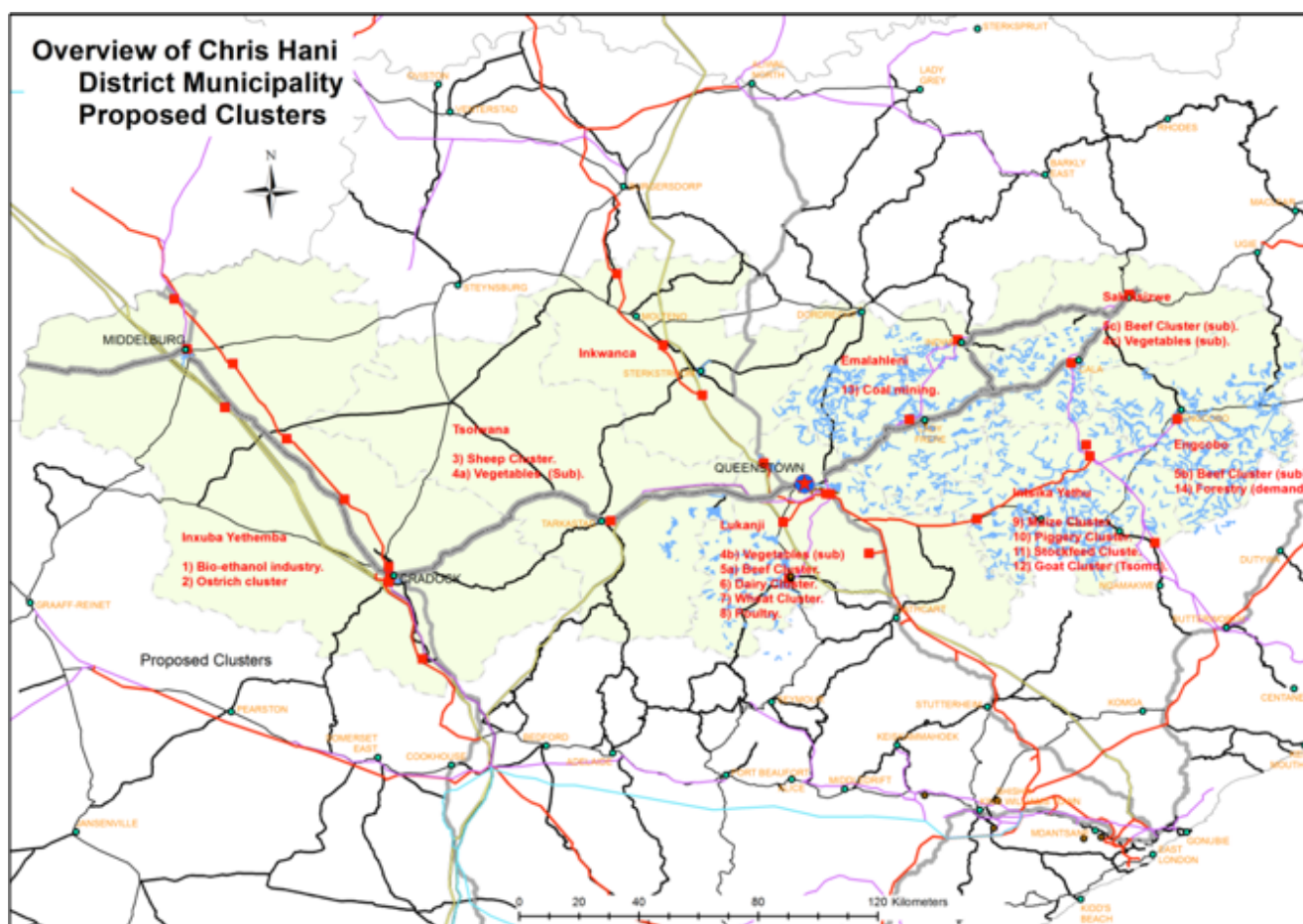




As noted previously there are various types of SEZ's each with its own benefit and incentives. There are several categories of SEZs including a sector development zone.

Map 2 below gives an illustration of the agricultural products per LM which was assessed using a CDC developed Agricultural Produce Selection Tool. The results indicate that the feasibility of processing Maize, Potatoes and Sugar beet could all potentially serve as feedstock for processing plants and sheep and goats should be considered first when processing livestock in the SEZ. It must be noted that the results are not final and need to be discussed with all stakeholders. Products will be transported via the four corridors, previously described, to the SEZ located in Queenstown.

Map 2: Commodities per local municipality (Author, 2013).





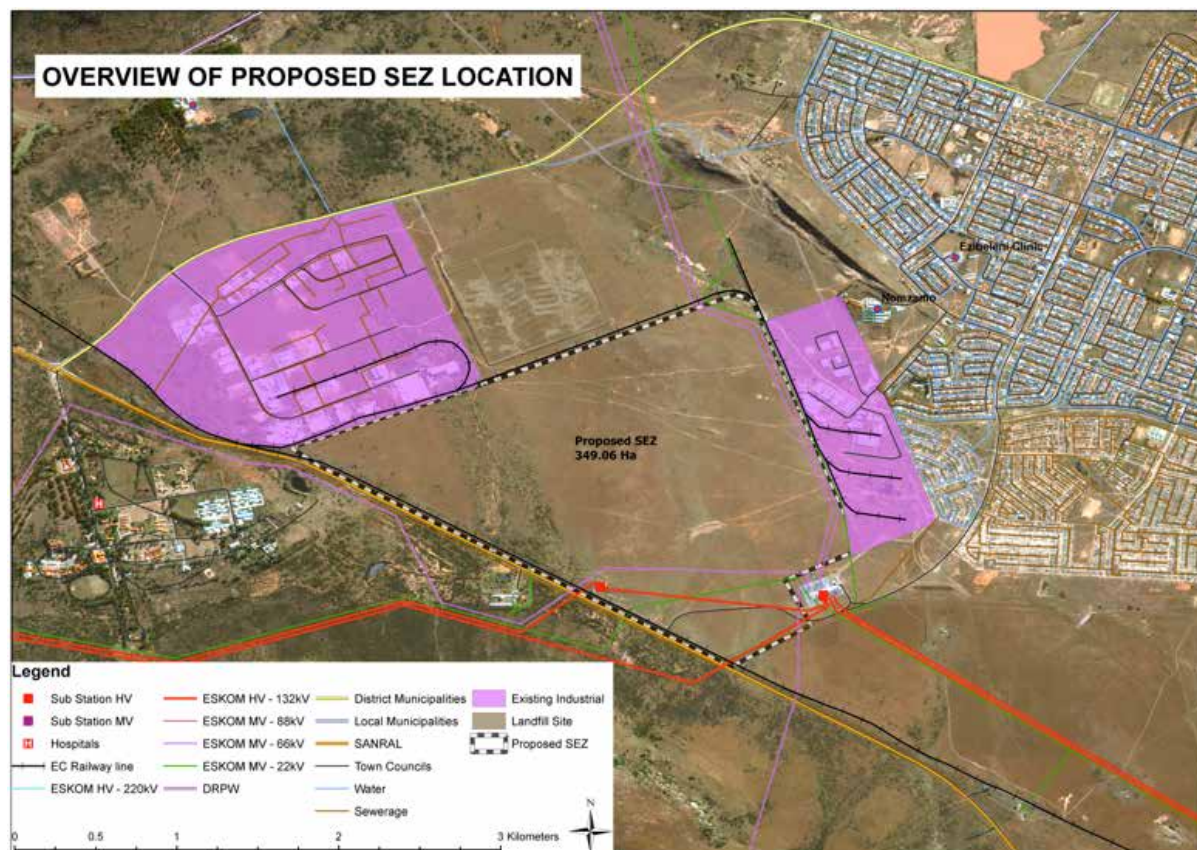
9.6 Locational attributes

A vacant site of approximately three hundred and fifty (350) hectares, adjacent to Queendustria and Ezibeleni Industrial Park, has been identified as a suitable location for the establishment of the SEZ. The site is wholly located on a portion of Farm 163, Queens Park.

The proposed site aligns with the latest Lukhanji SDF proposal for an industrial area. The site is bounded by National Road N6 to the South West, an existing rail line to the north and east and electrical infrastructure to the South. Map 3 below illustrates the proposed site and surrounding area.

An existing fifty (50) hectare landfill site is situated north of the proposed site and, based on recommendations from the Lukhanji SDF, adjacent development is not allowed due to environmental and health considerations. A cautious approach must therefore be taken with adjacent developments, especially with regards to the Agro-processing industry. The impact of this landfill site on the establishment of the proposed SEZ has not been considered.

Map 3: SEZ Locality Plan of SEZ Proposal (CDC, 2013).



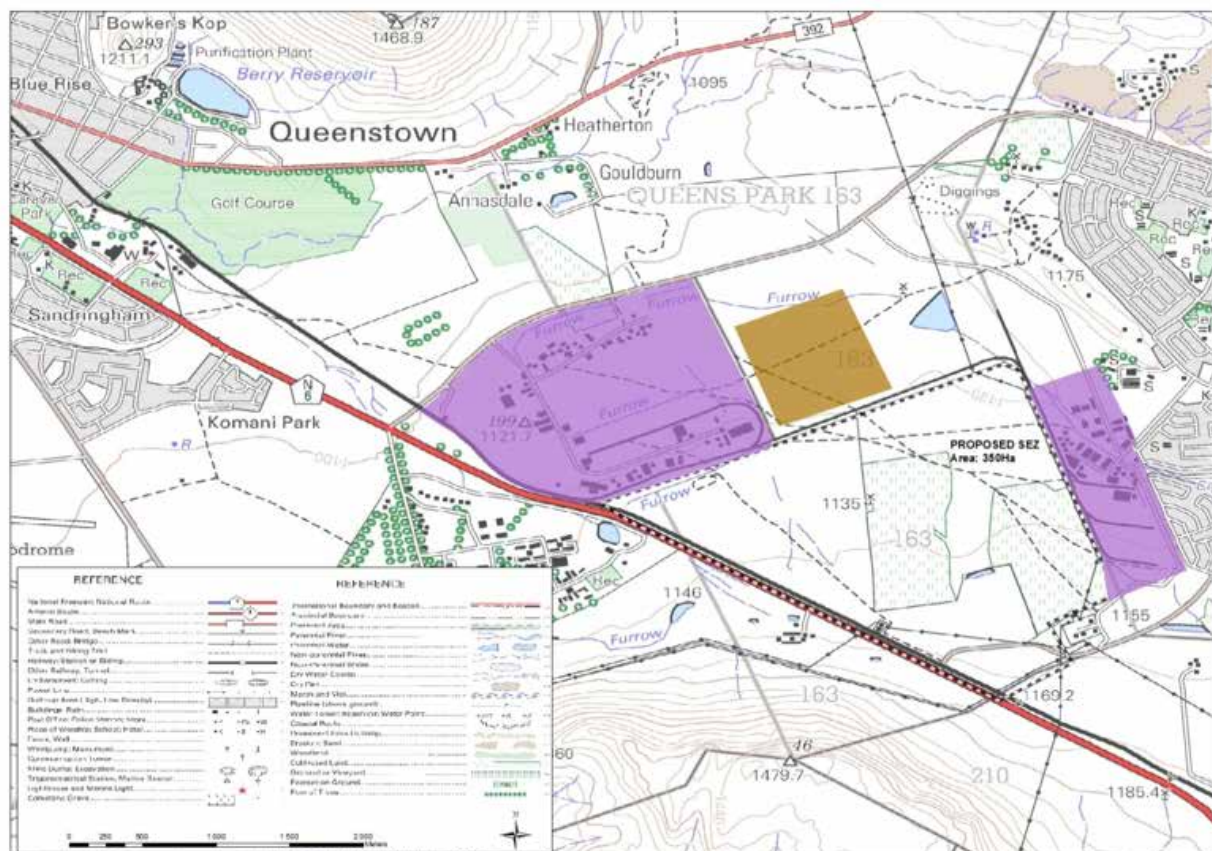


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The recommendation is to apply for the entire area to be designated a SEZ and to develop the site in a phased approach.

The topography of the site is relatively flat with a slope gradient of 1:50 and a contour elevation between 1120 and 1160 over a two kilometer interval. The topographical map below illustrates the elevation. No areas of critical biodiversity have been identified, however a full Environmental Impact Assessment (EIA) is required as part of the rezoning application and due to the proposed site being in excess of ten hectares.

Map 4: Topographical Map (CDC, 2013).



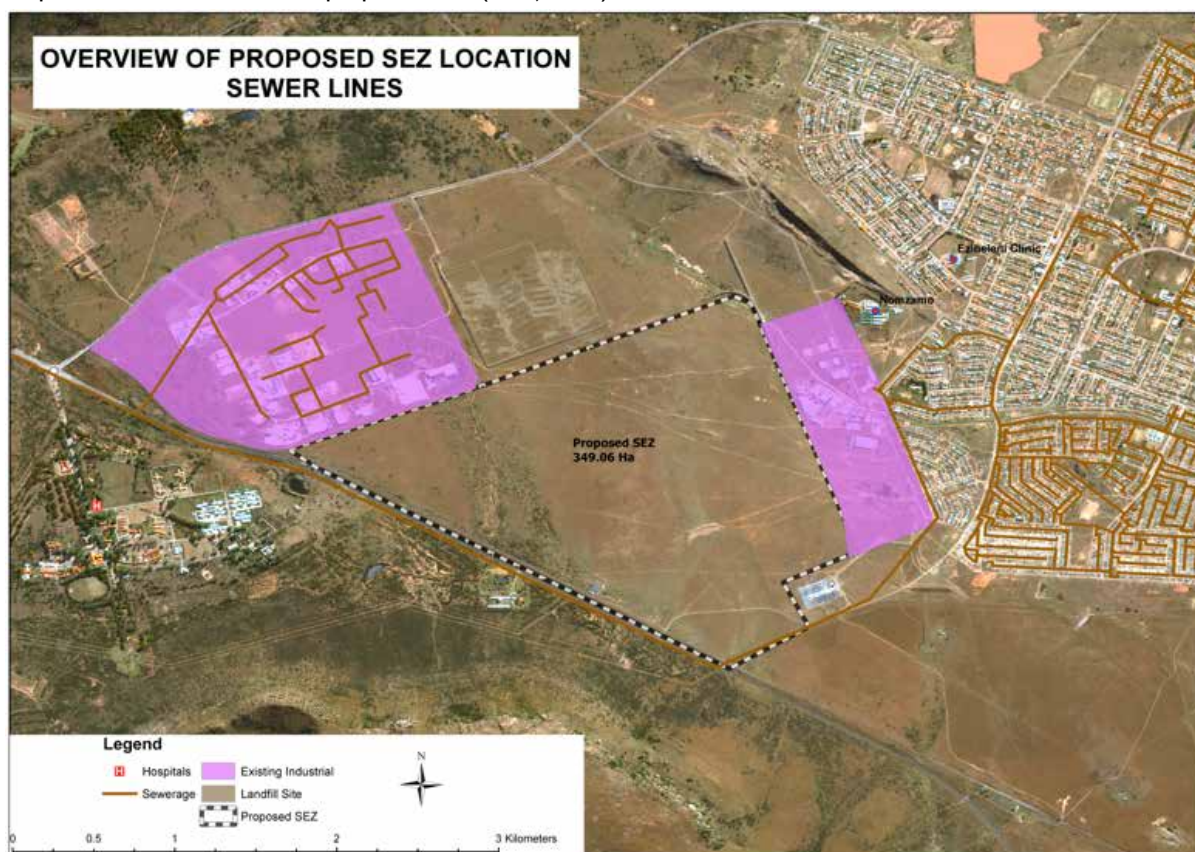
Land ownership is predominantly commonage under the control of Lukhanji LM. The land is zoned Agriculture and a rezoning application to Lukhanji LM is required according to the Land Use Planning Ordinance Act of 1985.



9.7 Existing Infrastructure

There are existing sewer services to Queensdustria, however the condition and extent of the reticulation is unknown. Currently, Queensdustria is connected to the Water Waster Treatment Works (WWTW) for wastewater disposal. Similar reticulation can easily be extended to the proposed SEZ site.

Map 5: Sewer Reticulation for proposed SEZ (CDC, 2013).



CHDM SEZ will be supplied through Queenstown's water reticulation system currently being fed from the Bonkolo and Waterdown Dams. These sources have varying problems that result in the diminishing capacity of the system to adequately provide for the needs of major water users. The implementation of the Xonxa Dam Transfer Scheme will augment the supply of Queenstown by an estimated 6700MI/a.

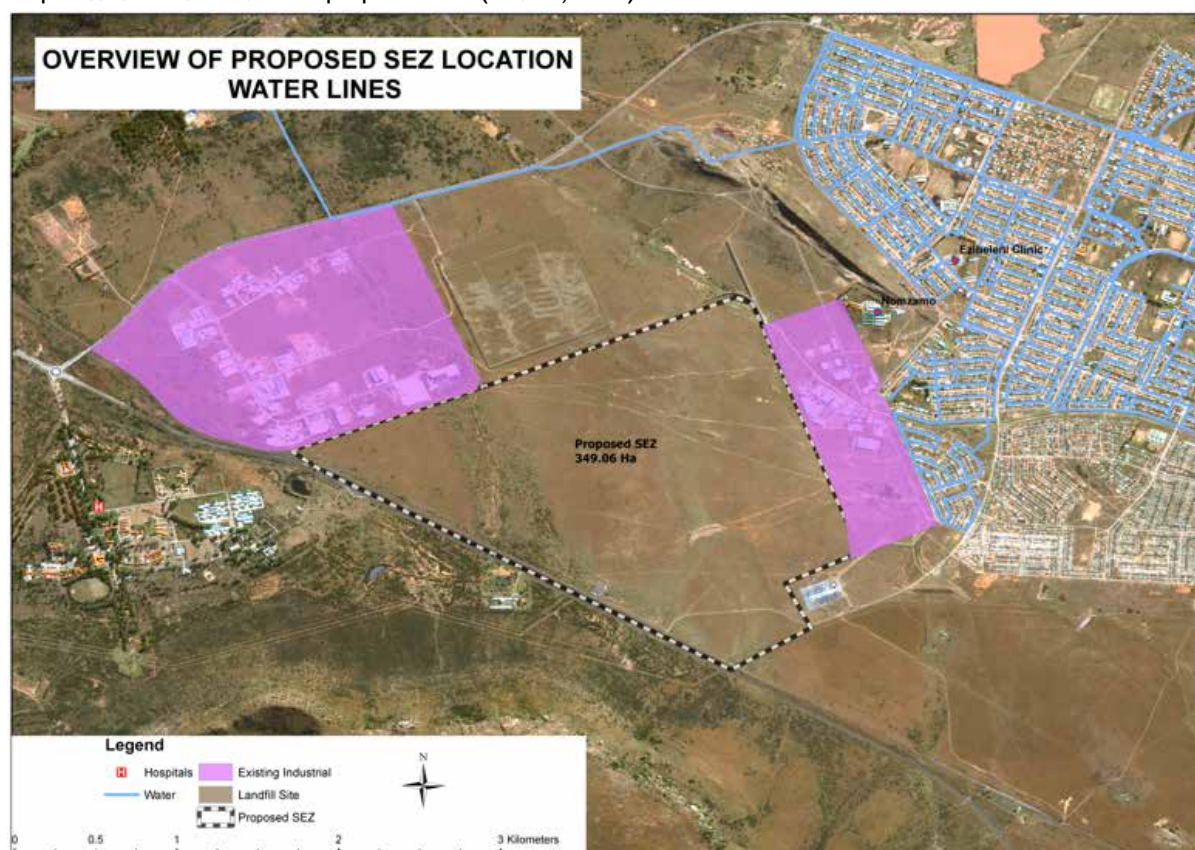
The agricultural sector, industry and domestic water supplies in CHDM come from ground water, springs and surface water resources. To service the SEZ, a bulk water installation is required as there are no pipelines close to



the site. The map below, Map 4, illustrates Queenstown's current water reticulation.

There need to be pipelines that are connected to the SEZ site. Currently, the connection is parallel to the N6 road. Thus, a water connection of 500 meters will be required for the SEZ. The amount for connecting water is reflected in Table 49 below.

Map 6: Water Reticulation for proposed SEZ (Author, 2013).



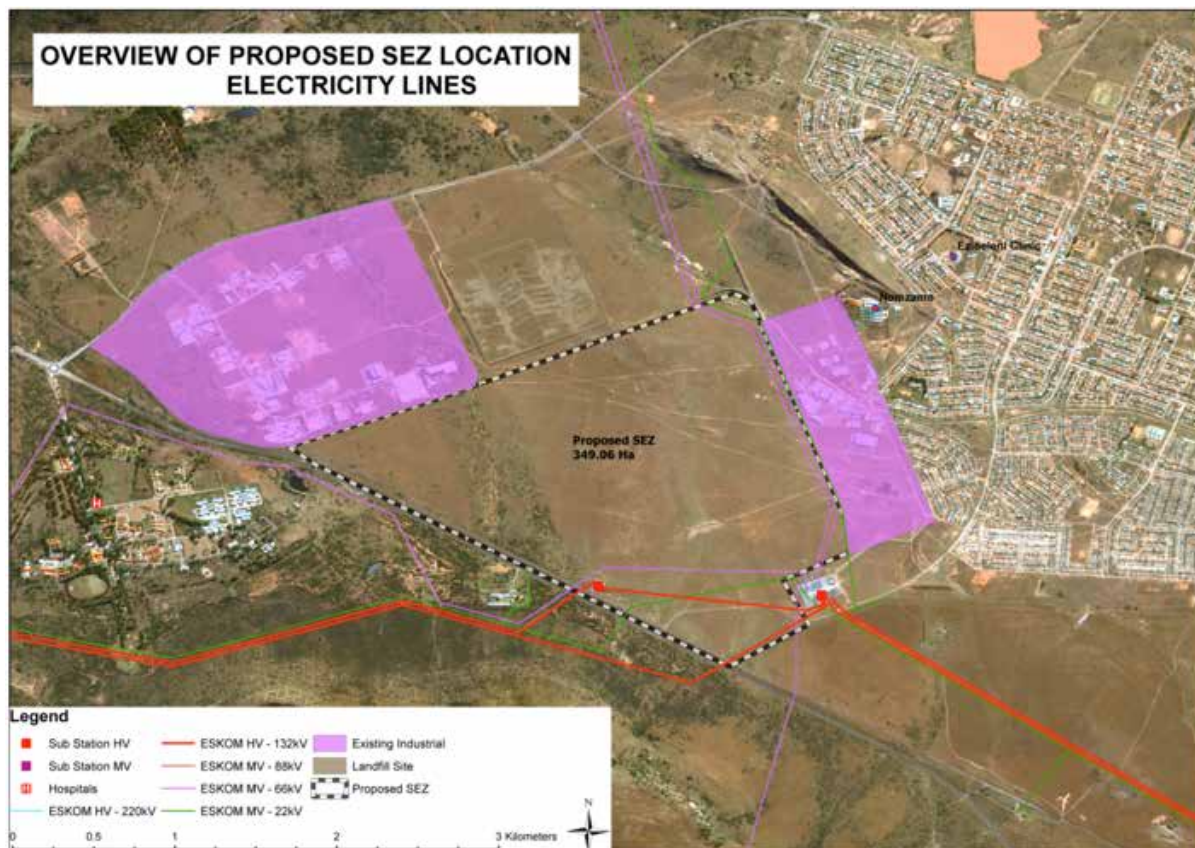
There is an existing 132kV Eskom power line supply and 132kV substation in the proposed SEZ area. Electricity is stepped down to 66kV and 22kV in areas around the site.

All the mobile networks have good coverage in most of the major centres. New national fibre networks tend to have an inland fibre leg running past Queenstown. Map 8 below illustrates the CHDM Fibre network.

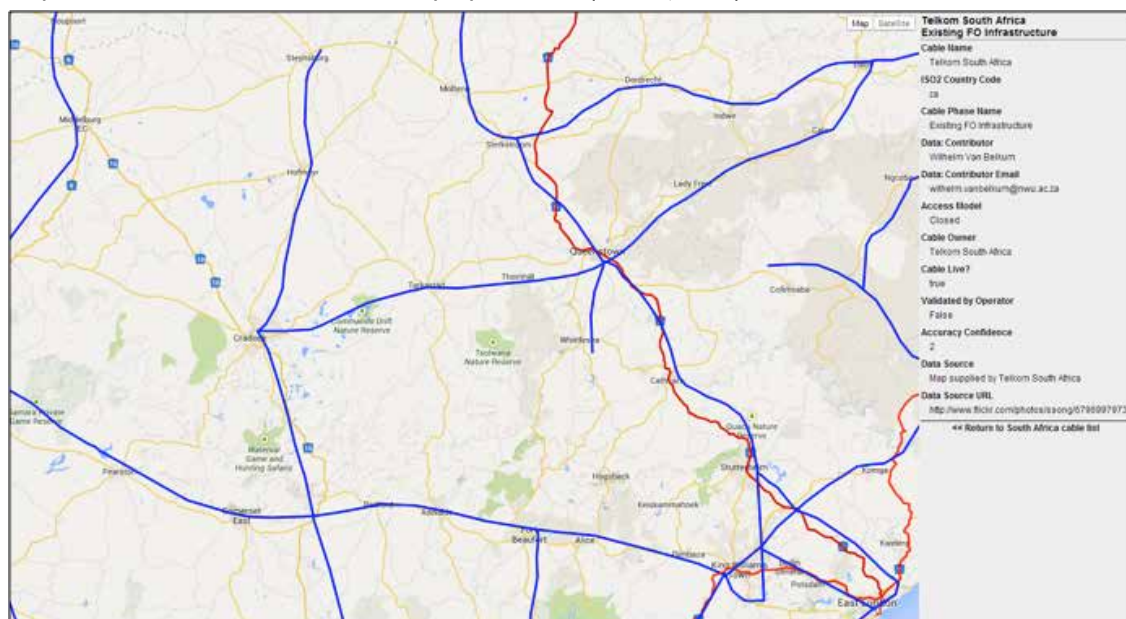


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Map 7: Electricity Reticulation for proposed SEZ (Author, 2013).



Map 8: Telecommunication Network for proposed SEZ (Author, 2013).





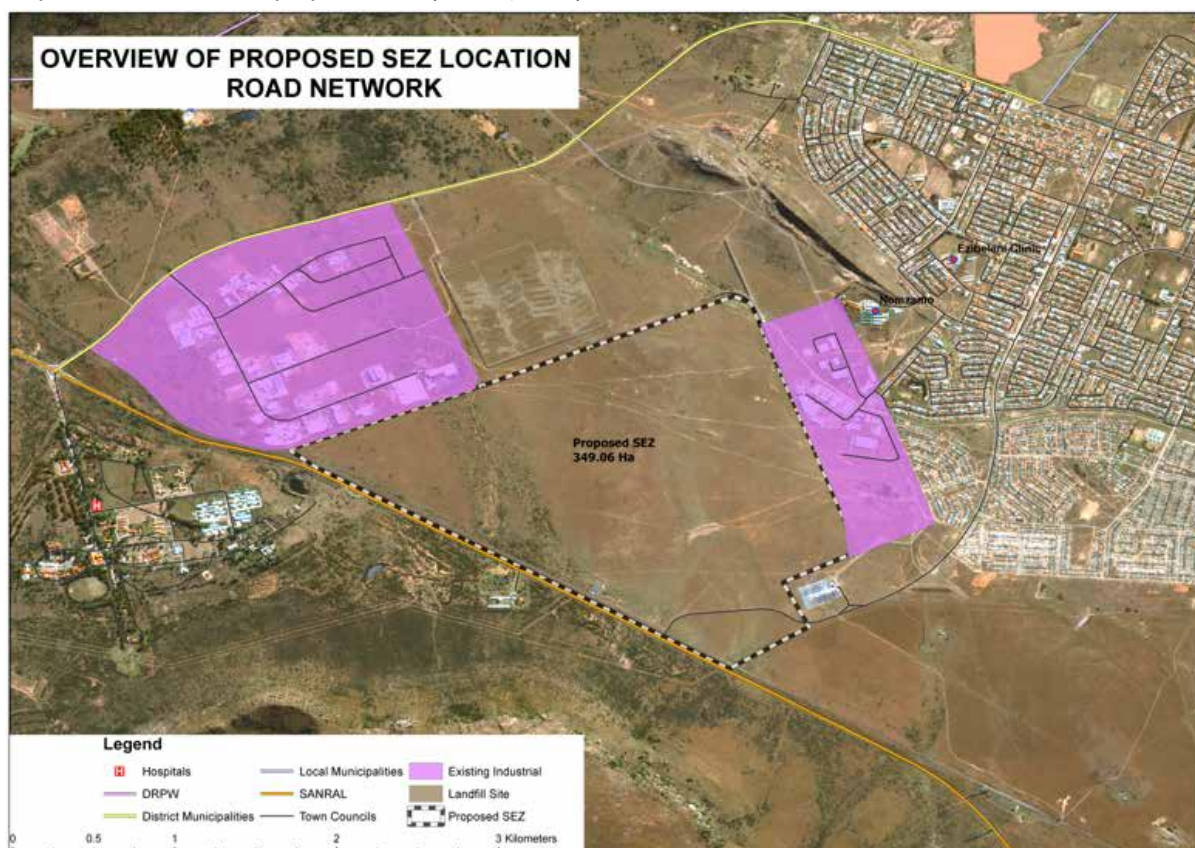
9.8 Transportation

The road network in the Chris Hani District Municipality consists of national, provincial and municipal roads. Two national routes traverse Chris Hani District in a north-south direction. The N10 passes through Cradock and Middleburg, linking to Port Elizabeth and the N6 passes through Queenstown linking to East London. The following main roads provide access to the proposed CHDM SEZ:

- a) National Route - N6
- b) Whittlesea Road - R67
- c) Lady Frere Road - R359
- d) Dordrecht Road - R392
- e) Cradock-Engcobo Road - R61
(currently being upgraded between Queenstown and Tarkastad)

CHDM SEZ is mainly accessed via the N6 along the South Western boundary of SEZ. The N6 section through Queenstown was reconstructed recently. Well-developed regional road links exist between CHDM SEZ and the rest of the country. Local road links are considered sufficient to serve the proposed SEZ development.

Map 9: Road Network for proposed SEZ (Author, 2013).





9.9 Planning context

A DFP for the SEZ should be developed including the following aspects:

- Site analysis and assessment of physical and natural resources;
- Broad spatial plan showing land use patterns, roads and other infrastructure;
- Nodes for the location of industrial, commercial and service activities. Each of these nodes can have a different SEZ category providing benefits for the types of activities;
- Sectoral infrastructure plan, including fast track and efficient linkages/provision of transportation with the urban centres of the CHDM and Province;
- Development Plan for SEZ to be prepared with a perspective of 20-25 years and divided into short term Action Plans of five years each to align with the IDP; and
- Environmental aspects such as planned green areas, discharging areas and disaster mitigation aspects.

There are other restricting guidelines to be considered. Due to Queenstown being developed within the Komani river valley, all development proposals are subject to the illustration of the 1:100 year floodline and development is prohibited on slopes with a gradient steeper than 1 in 5. A noise restriction for industrial areas of 70 decibels exists.

The SEZ Development Framework Zone should be phased with clustering of similar activities. An Agro-processing and timber manufacturing area should be identified and registered as an Enterprise Zone to qualify for benefits for local development efforts.

Further investigations must be conducted on the potential utilisation of the landfill site for future phases of the SEZ.

10 INFRASTRUCTURE DEVELOPMENT

The purpose of this section is to summarise all the high level infrastructural information obtained that will be used in the initial planning and design stages of the proposed CHDM SEZ. Any restrictive conditions identified in the information are highlighted. The infrastructure analysis is based in the proposed site (location) in Lukhanji LM of about 350 hectares which will be developed into an industrial area with a focus on the Agro-processing sector. The proposed site includes the old industrial area “Queendustria” and the Ezibeleni Industrial Park.

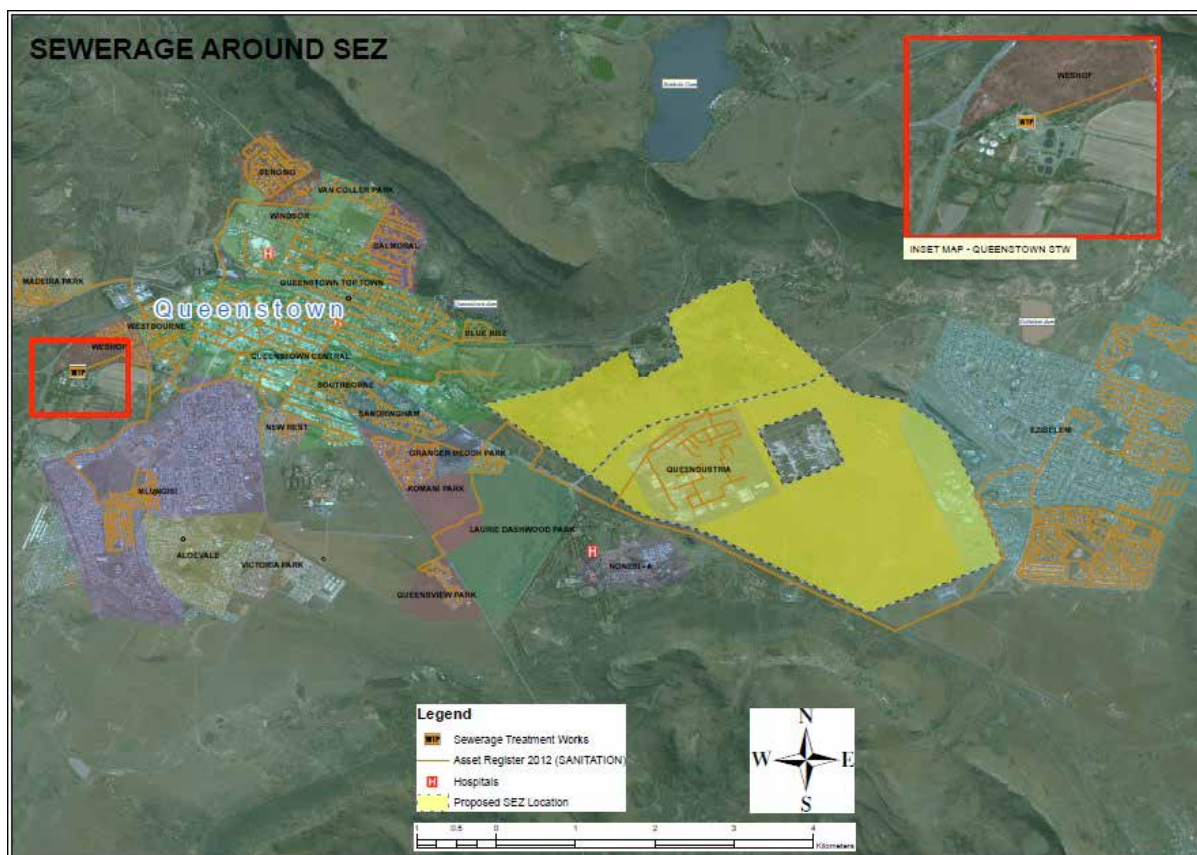


10.1 Existing Services

There are existing services that serviced the old industrial area “Queendustria” and the Ezibeleni Industrial Park however, their extent and condition is not known at this time. Currently, there are existing tenants in Queendustria and the Ezibeleni Industrial Park, some of which are already engaged in agro-processing and are presumed to be connected to the Waste Water Treatment Works (WWTW) for wastewater disposal. Accordingly, it might be worth considering incorporating the existing tenants of Queendustria and/or Ezibeleni Industrial Park into the proposed CHDM SEZ.

It is proposed that further treatment of the effluent and possible re-use of water will form part of the systems development for the different industries, in line with the Department of Water Affairs (DWA) policy. Investor specific wastewater treatment facilities could therefore be planned and implemented based on this assumption.

Figure 47: Sewerage lines around the proposed SEZ site



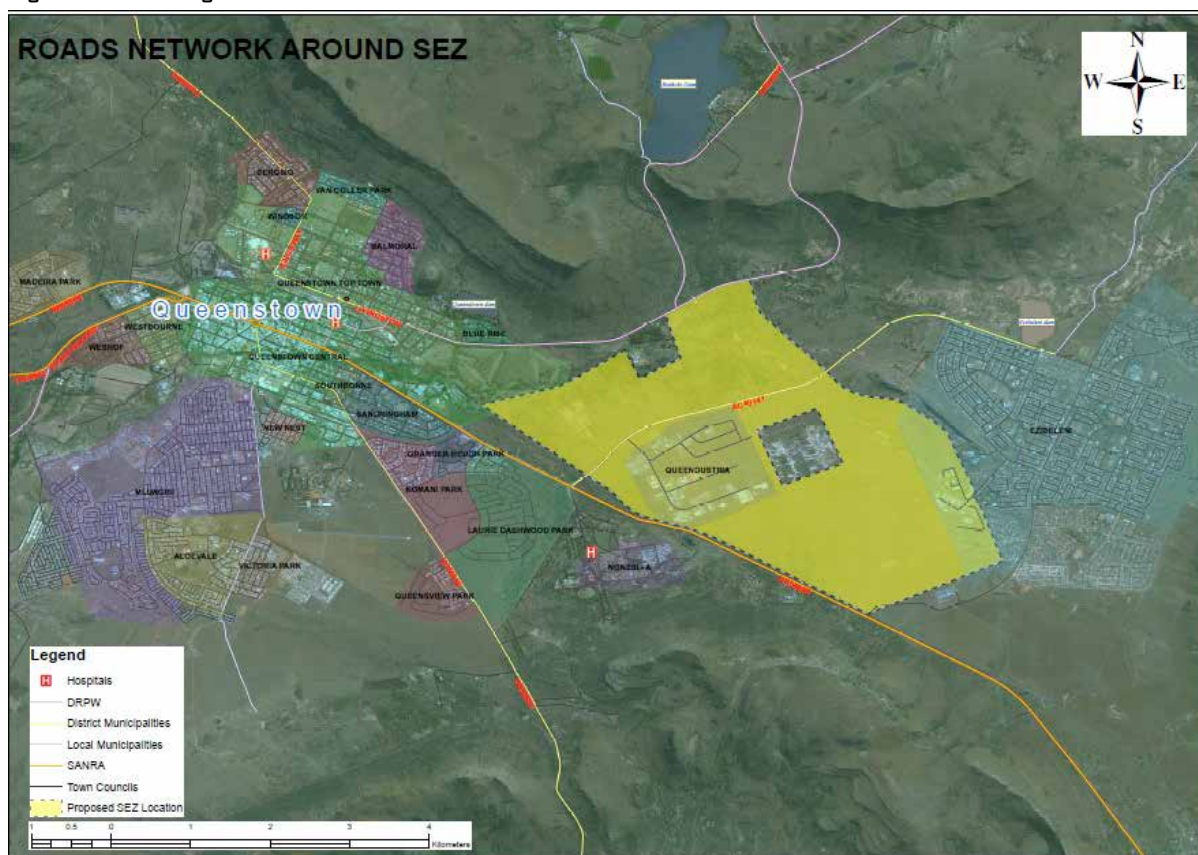


10.2 Roads

The road network in CHDM consists of national, provincial and municipal roads. Two national routes traverse the District in a north-south direction. The N10 passes through Cradock and Middleburg, linking to Port Elizabeth and the N6 passes through Queenstown linking to East London. The following main roads provide access to the proposed CHDM SEZ:

- National Route - N6
- Whittlesea Road - R67
- Lady Frere Road - R359
- Dordrecht Road - R392
- Cradock-Engcobo Road - R61
(currently being upgraded between Queenstown and Tarkastad)

Figure 48: Showing Road Network Around the SEZ site





CHDM SEZ is mainly accessed via the N6 along the south western boundary of the Zone site. The N6 section through Queenstown was reconstructed recently and would appear to be in a relatively good condition. Local road links are considered sufficient to serve the proposed SEZ development.

The SEZ development will have an impact on some roads and planning needs to be done around this. This will include upgrading of pavement structures to accommodate the increase in load to carry heavy axle loads and the timely maintenance thereof.

Table 49: Condition of road network in CHDM (%)

CLASS	SURFACED ROADS	GRAVEL ROADS
Very good	10%	3%
Good	15%	20%
Fair	25%	20%
Poor	30%	32%
Very poor	20%	25%
TOTAL	100%	100%

Source: 2008 Integrated Roads and Transport Infrastructure Masterplan

The road infrastructure in the District is well covered and maintained, in view of connecting sector clusters from LMs into proposed Special Economic Zone (SEZ). Connection and infill roads will be required to serve the SEZ and costs for these are reflected in section 10.2.1 below.

10.2.1 Key Findings and Restrictive Road Conditions

- The infrastructure analysis is necessary in order to determine the anticipated design traffic (E80's) of the pavement structure's design life.
- The design traffic will determine the most viable options for geometric layout and alignment of the road network. The hierarchy of the roads will be as follow:
 - 60m Servitude: Double carriageway, double lanes (4 x 3.7m wide) for UA traffic class, as primary arterial road;
 - 41m Servitude: Single Carriageway, two lanes in each direction (4 x 3.7m wide) for UB traffic class, as secondary arterial road. No access to adjacent properties;
 - 35m Servitude: Single Carriageway, two lanes in each direction (4 x 3.5m wide) for UB traffic class, as primary collector road. Conditional access to adjacent properties;
 - 21m Servitude: Single Carriageway, one lane in each direction (2 x 3.7m wide) for UC traffic class, as access road;
 - 15m Servitude: Single Carriageway, one lane in each direction (2 x 3.5m wide) for UC traffic class, as access road.



10.3 Railway network

There is existing rail infrastructure adjacent to the proposed CHDM SEZ site and there are two primary railway lines passing through CHDM in a north-south direction. The rail tracks in other parts of CHDM have either been lifted or discontinued. The regional rail links to and from the CHDM SEZ are sufficient, however capital expansion is considered necessary to connect the proposed clusters and support the proposed SEZ. The Sterkstroom-Maclear branch line could be a priority for timber and coal industrial transportation.

Table 50: Freight rail lines related to CHDM

SECTION	LENGTH (KM)	STATUS	FREQ/DAY	TYPE	TRACTION	COMMODITIES
Port Elizabeth - Carlton	390	In use	8	Main	Electric	Manganese ore, containers, coal
East London - Bethulie	432	In use	4	Main	Electric/Diesel	Cement, Maize, coal, general, fuel
Broker's Park - Tarkastad	52	Lifted		Branch		
Molteno - Jamestown	68	Lifted		Branch		
Graaff Reinet - Rosmead	146	Closed		Trunk		
Sterkstroom - Maclear	278	Closed		Branch	Diesel	
Scoombee - Hofmeyr	50	Closed		Branch		

Source: CHDM District Integrated Transport Plan, July 2008

10.3.1 Summary of Rail and Road Infrastructure

Based on the information available with regard to transportation in CHDM, the following must be taken into account during the next stages of the project:

- The poor condition and/or lack of maintenance of roads in the District, especially in the smaller towns, needs urgent attention;
- A Traffic Impact Assessment (TIA) for CHDM SEZ is required to finalise road categories, numbers of lanes and traffic loads on the respective roads;
- Rail infrastructure for CHDM SEZ will only be taken into account with regards to allocating rail servitudes, as appropriate for future development depending on the requirements of the investors. For CHDM, the rail network requires urgent attention to render it a viable option to road transportation; and
- The general road reserve cross sections for the whole of the SEZ may need to be optimised to



accommodate narrower carriageways with a view to increasing the developable land area.

10.4 Water

The proposed CHDM SEZ will be supplied by Queenstown's water reticulation system currently being fed from the Bonkolo and Waterdown Dams. These sources have varying problems that result in the diminishing capacity of the system to adequately provide for the needs of major water users. The implementation of the Xonxa Dam Transfer Scheme will augment the supply to Queenstown by an estimated 6700MI/a during implementation stage of the SEZ.

Water resources are used in various ways including direct consumption, agricultural irrigation, fresh water fisheries, hydropower, industrial production, recreation, navigation, environmental protection, and the disposal and treatment of sewage and industrial effluents. Water resources refer to the supply of groundwater and surface water in a given area. The maximum rate at which water is potentially available for human use and management is often considered the best measure of the total water resources of a given region.

CHDM falls within four river systems:

- The Great Fish River draining the central/western area southwards;
- The Kei River draining the central/eastern area southwards;
- The Mbashe River draining the eastern area southwards; and
- The Orange River draining to the north.

The Fish and Kei Rivers are the most significant rivers in terms of the catchment areas in CHDM. The total surface water available in the District has been estimated from the Eastern Cape Water Resources Assessment as follows:

- Potential maximum yield (including dams and transfers) = 1013.5 Mm³ / per annum;
- Probable total consumption and losses = 775.8 Mm³ / per annum; and
- Available surface water resource = 237.7 Mm³ / per annum.

Dams, Wetlands and Springs

Wetlands provide important hydrological functions such as groundwater recharge, water quality improvement and flood alleviation. The health of wetlands depends on the quality and quantity of water that reaches them. Wetlands are key water resources which need to be conserved by preventing pollution and unsuitable development, and most of all by stopping drainage schemes.

SA has limited water resources, hence government, communities, business, industry and mining sectors have no choice but to conserve water resources such as rivers, dams, wetlands, springs and underground water.



CHDM is characterized by a number of major dams, which serve the towns and the various irrigation schemes. Failure to continue to responsibly utilise this resource will retard development. People will not have access to water, there will be food insecurity, as farmers will not be able to produce food, ecosystems will be severely damaged and tourism will also be affected.

Most **wetlands** occur in Inxuba Yethemba LM followed by the Emalahleni and Tsolwana LMs. Engcobo, Inkwana and Lukhanji LMs each have one listed wetland. A number of wetlands are also located upstream of the dams immediately west of Dordrecht. All the riparian wetlands are located within Eastern Mixed Nama Karoo vegetation, with the exception of three wetlands found within the Moist Upland Grassland (Lemoenfontein, Qumanco and Snowdale-Succession) and four wetlands within South-eastern Mountain Grassland (Clarke's Siding, Dordrecht Town, Driefontein 188 and Geluksvlei).

Artificial Wetlands in the form of dams, excavations, solar salt extraction works and WWTW occur to varying extents throughout the District. Solar salt extraction works have the most restricted distribution, being limited to an area west of Hofmeyr. They are all therefore located within the Tsolwana LM. All of these salt works are located within Eastern Mixed Nama Karoo. Although they have been classified here as artificial wetlands, they are largely based on existing features, namely Landpan, Middelpaan and Soutpan.

Springs are an important source of water in the District. They are also used for recreational purposes. A number of pan wetlands occur in the District, two of them are found in Inkwana ILM (Coldstream pan, Die Pan wetland complex), Inxuba Yethemba LM (Helderwater pan, Rooikop) and Tsolwana LM (Rotterdam wetland complex).

The agricultural sector, industry and domestic water supplies in CHDM come from ground water, springs and surface water resources. The following abstraction positions and dams supply water in CHDM region:

Table 51: Main Water Supply Infrastructure in CHDM

Dam	Supply Type	Area	Storage (Mm3)	Yield (Mm3/a)	Owner
Tsojana	Domestic	Cofimvaba	9.35	3.16	DWAF
Cradock abstraction	Domestic and Irrigation	Cradock, and Great Fish River Irrigation Scheme	0.023		Inxuba Yethemba
Waterdown	Domestic and Irrigation	Queenstown and nearby irrigation schemes and farms	38.6	16.5	DWAF
Bonkolo	Domestic and Industrial	Queenstown	6.95	0.65	Lukhanji
Machubeni	Domestic	Lady Frere	1.85	1.54	DWAF



Molteno	Domestic and Industrial	Molteno	2.0	0.73	Inkwanca
Bushmanskrantz	Domestic and Irrigation	Zweledinga Irrigation	4.62	2.07	DWAF
Oxkraal	Irrigation	Oxkraal Irrigation	17.8	6.18	DWAF
Shiloh	Irrigation	Ntabethemba Irrigation	0.52	0.34	DWAF
Thrift	Irrigation	Ntabethemba Irrigation	2.6	0.58	DWAF
Limietskloof	Irrigation	Ntabethemba Irrigation	0.78	0.13	DWAF
Tentergate	Irrigation	Ntabethemba Irrigation	1.72	0.26	DWAF
Mitford	Irrigation	Ntabethemba Irrigation	0.89	0.05	DWAF
Glenbrock	Irrigation	Ntabethemba Irrigation	0.41	0.12	DWAF
Lubisi	Irrigation	Qamata Irrigation	135	28.5	DWAF
Xonxa	Domestic and Irrigation	Queenstown and Xonxa Irrigation	126	27.6	DWAF
Ncora	Domestic and Irrigation	Ncora Irrigation	120	20.85	DWAF

Cognisance must be taken of the storm water design which might affect the layout of the sewer reticulation.

10.4.1 Water Supply Restrictive Conditions for SEZ Site

- The installation of a water reticulation system is unlikely to be restricted by the topography of the site and no pumping stations should be necessary.
- The capacity, state of repair and age of infrastructure (pumps) may hinder the abstraction and purification of raw water.
- Storage capacity in some instances may require augmentation.
- Some WWTWs are in need of substantial refurbishment.

10.4.2 Summary of Water Resources

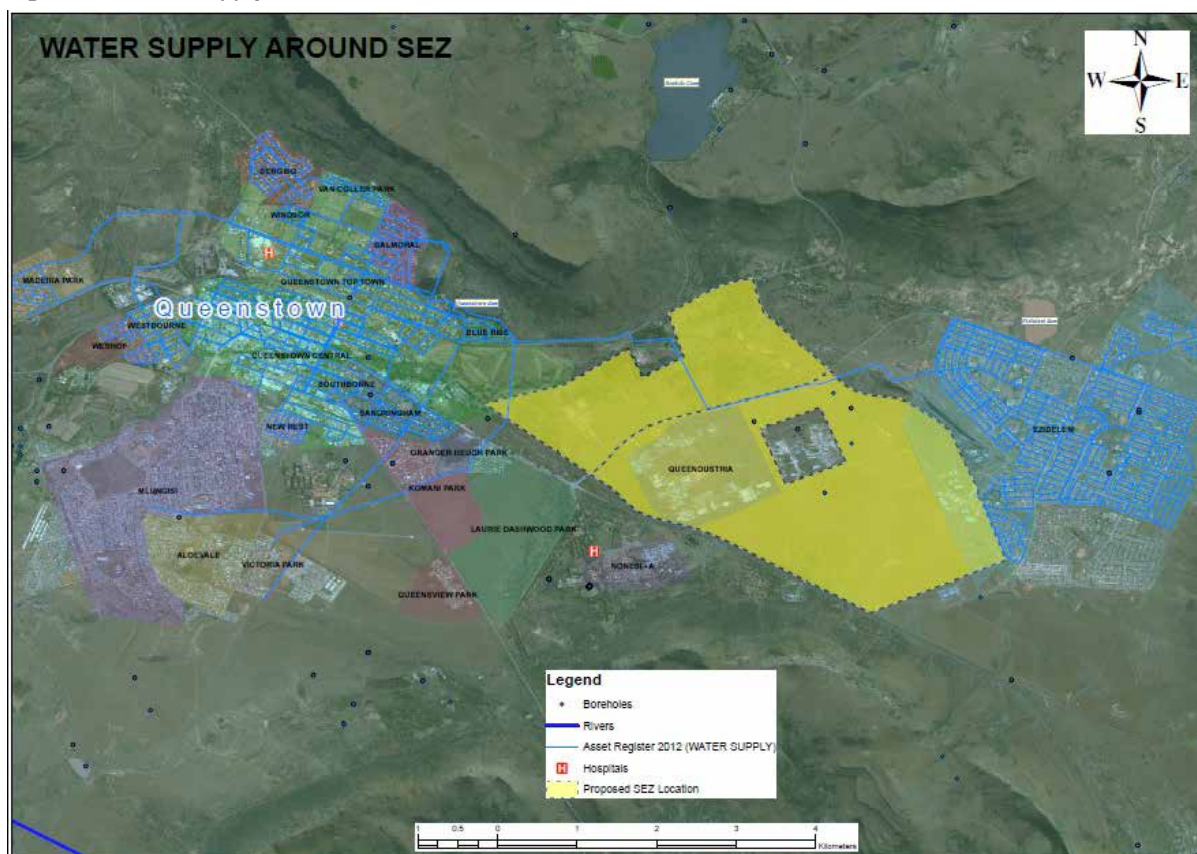
The following should be considered for the water supply networks to CHDM SEZ:

- Provide for Return Effluent network for future use;
- All systems pertaining to the potable water reticulation system within the SEZ are to be included under the contract;



- Infrastructure replacement programme is deemed necessary to support the farms and primary industries that supply raw materials; and
- To support potential Agro-processing industries in the SEZ, a peak factor of 2,4 is recommended; this will result in a domestic demand of approximately 24,000 l/ha/day (8 400kL/day). All other design parameters, such as minimum and maximum hydrostatic pressures, can be factored into the preliminary design. This will include a medium risk fire category allowing two hydrants to discharge at any specific time with a design flow of 25 l/s per hydrant.

Figure 49: Water Supply Around SEZ Site



10.5 Electricity Supply

It is likely that the supply to the old industrial area will need augmenting to ensure the reliability of supply to the SEZ. It is suggested that, as a minimum, it will be necessary to install a new 132 kV 40MVA substation with an option to increase the capacity as the need arises.



The proposed CHDM SEZ represents a substantial increase in energy demand to what is currently being provided. Electricity supply has been identified as a key limitation to the successful development of the SEZ.

Eskom's currently available capacity to support the SEZ has not yet been established. However, it is anticipated that extensive capital investment in electrical infrastructure will be required to accommodate the expected electrical energy demand. This will undoubtedly require a substantial expansion to the regional electricity supply system.

The scope of the electrical services is likely to include 132kV overhead lines and underground cables, 132kV substations, 11kV substations and cabling, SCADA systems and street lighting, including such transformation and LV distribution as required.

All equipment, cables, street lighting designs and 11kV substation layouts will comply with the above specifications and will generally be the same as installed in the existing developed in Queendustria and Ezibeleni industrial area.

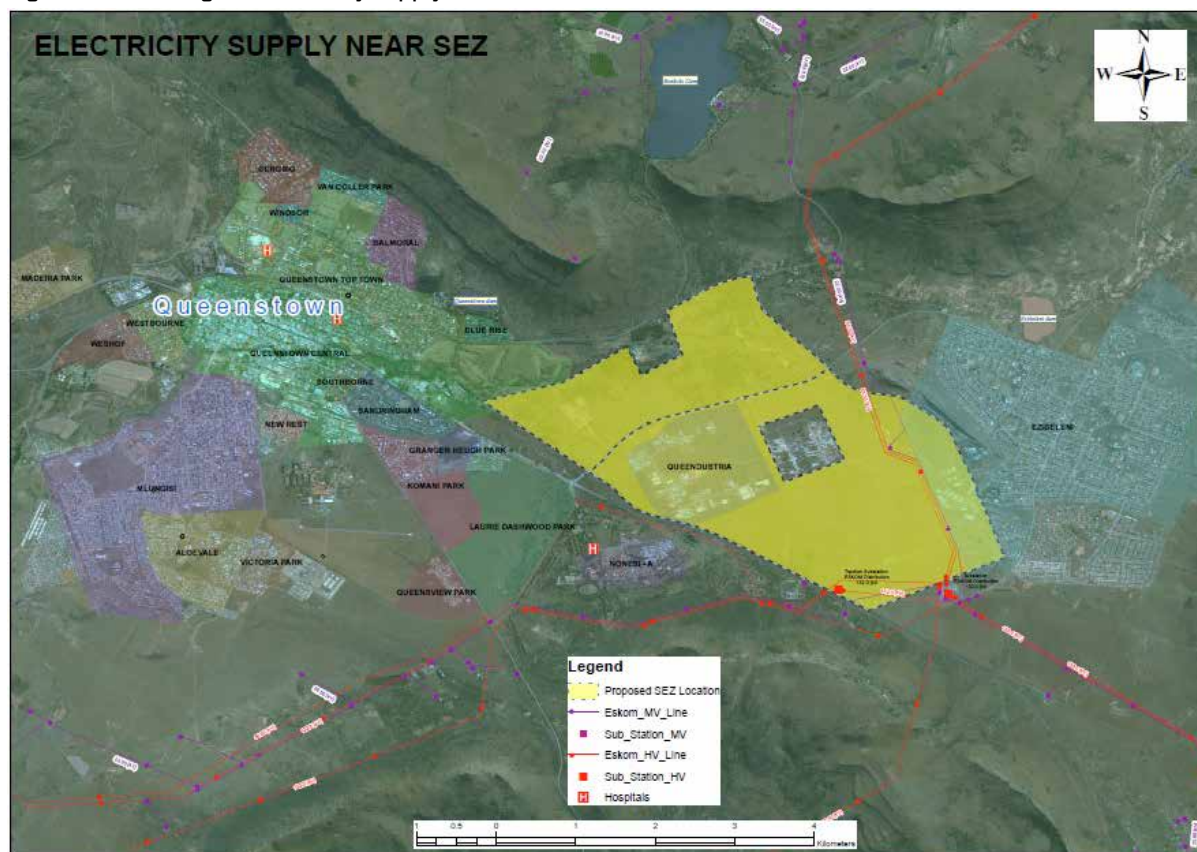
10.5.1 Summary of Electricity Infrastructure

The following should be considered for the power supply networks to CHDM SEZ:

- As a minimum, it will be necessary to install a 132 kV 40MVA substation with an option to increase as the need arises;
- It will be necessary to also install several step-down 11kV sub-stations to supply the various tenants/ investors;
- On average, it is estimated that most Agro-processing factories may require a supply of up to 5MW; and
- The ultimate CHDM SEZ requirements are therefore estimated to be between 100 MW for a planned area of 350ha.



Figure 50: Showing the electricity supply in the SEZ site



10.6 ICT Infrastructure

An analysis has been done to determine the areas within CHDM where existing ICT infrastructure and services are available to support the proposed SEZ. This assessment was compiled by integrating information available in the public domain with data obtained from several national service providers. A detailed ICT study will be required at a later stage of the SEZ establishment, where the ICT infrastructure and services' requirements of target companies will be profiled.

10.6.1 ICT Definitions

- a) ADSL: is a type of Digital Subscriber Line (DSL) technology, a data communications technology that enables faster data transmission over copper telephone lines than a conventional modem can provide. It does this by utilizing frequencies that are not used by a voice telephone call. A splitter, or DSL filter, allows a single telephone connection to be used for both ADSL services and voice calls at the same time. ADSL can generally only be distributed over short distances from the telephone exchange (the last mile), typically less



than 4 kilometres. At the telephone exchange, the line generally terminates at a DSL access multiplexer (DSLAM) where a frequency splitter separates the voice band signal for the conventional phone network. Data carried by ADSL are typically routed over the telephone company's data network and eventually reaches a conventional Internet Protocol network.

- b) PRI: Primary Rate Interface (PRI) is a standardized telecommunications service level within the Integrated Services Digital Network (ISDN) specification for carrying multiple voice and data transmissions between a network and a user. The PRI channels are typically used by medium to large enterprises with digital PBXs to provide them with digital access to the Public Switched Telephone Network (PSTN). The 30 B-channels can be used flexibly and reassigned when necessary to meet special needs such as video conferences. The PRI user is hooked up directly to the telephone company's central office. An E1 PRI user would have access to a 1.920 Mbit/s data service. Larger connections are possible using PRI pairing.
- c) BRI: Basic Rate Interface (BRI) is an Integrated Services Digital Network (ISDN) configuration intended primarily for use in subscriber lines similar to those that have long been used for a voice-grade telephone service. The BRI configuration provides 2 bearer channels (B channels) at 64 kbit/s each and 1 data channel (D channel) at 16 kbit/s. The B channels are used for voice or user data, and the D channel is used for any combination of data, control/signalling, and packet networking. The 2 B channels can be aggregated by channel bonding providing a total data rate of 128 kbit/s. The BRI ISDN service is commonly installed for residential or small business service (ISDN PABX) in many countries.
- d) 3G: 3G telecommunication networks support services that provide an information transfer rate of at least 200 kbit/s. Later 3G releases, often denoted 3.5G and 3.75G, also provide mobile broadband access of several Mbit/s to smartphones and mobile modems in laptop computers. 3G finds application in wireless voice telephony, mobile Internet access, fixed wireless Internet access, video calls and mobile TV.
- e) 2G: Second generation 2G cellular telecommunications networks were commercially launched on the Global System for Mobile (GSM) standard 1991. Three primary benefits of 2G networks over their predecessors were that phone conversations were digitally encrypted; 2G systems were significantly more efficient on the spectrum allowing for far greater mobile phone penetration levels; 2G introduced data services for mobile phones. 2G technologies enabled the various mobile phone networks to provide other services such as text messages, picture messages and MMS (multi media messages). All text messages sent over 2G are digitally encrypted, allowing for the transfer of data in such a way that only the intended receiver can receive and read it. After 2G was launched, the previous mobile telephone systems were retrospectively dubbed 1G. While radio signals on 1G networks are analog, radio signals on 2G networks are digital. 2G has been superseded by newer technologies such as 2.5G, 2.75G, 3G, and 4G; however, 2G networks are still used in many parts of the world.



- f) **Dark Fibre:** The term dark fibre was originally used when referring to the potential network capacity of telecommunications infrastructure, but now also refers to the increasingly common practice of leasing fibre optic cables from a network service provider, or, generally, to the fibre installations not owned or controlled by traditional carriers.

10.6.2 ICT Service requirements for business

The ICT experience of existing IDZs (Coega IDZ and East London IDZ) indicates the basic infrastructure and services required for prospective companies to grow and include basic telephony and internet access. The two main methods for delivering these services are the so called fixed line and mobile services. This ICT analysis evaluates each option, on the basis of the proposed location for the SEZ.

Some companies could have further requirements, such as point to point links to other offices or facilities located elsewhere. These requirements are relatively easy to provide once the basic services are available.

10.6.3 Overview of Services available in CHDM area

Basic telephony services (BRI and PRI), ADSL up to 4 mbit/s and diginet up to 2 mbit/s are available in the main towns. In remote areas, satellite services could provide an alternative. Furthermore, from a mobile service point of view, the main towns have 3G coverage but most rural areas tend to have 2G coverage only.

These services are sufficient to attract most agriculturally focused, logistics and basic manufacturing type enterprises. High tech industries which rely heavily on information type workers might find it difficult to operate with only these types of services available.

10.6.4 Geographic distribution of services in CHDM area

The geographic distribution of ICT infrastructure and services in CHDM is shown in the following sections. Mobile coverage has been considered for the main service providers (Telkom, Cell C, Vodacom and MTN). Major fibre backbone routes have also been taken into consideration. The service providers mentioned are not the only possible providers in the area; many smaller players and larger ICT companies are also active in the ICT arena. These companies can provide their services over the infrastructure of the national operators or in some cases also provide their own infrastructure. In general, the availability of ICT services follows demand. If a high demand for services can be generated by the potential investors in a SEZ, it becomes feasible to convince the service providers to invest in infrastructure in the area.

10.6.5 Mobile Coverage

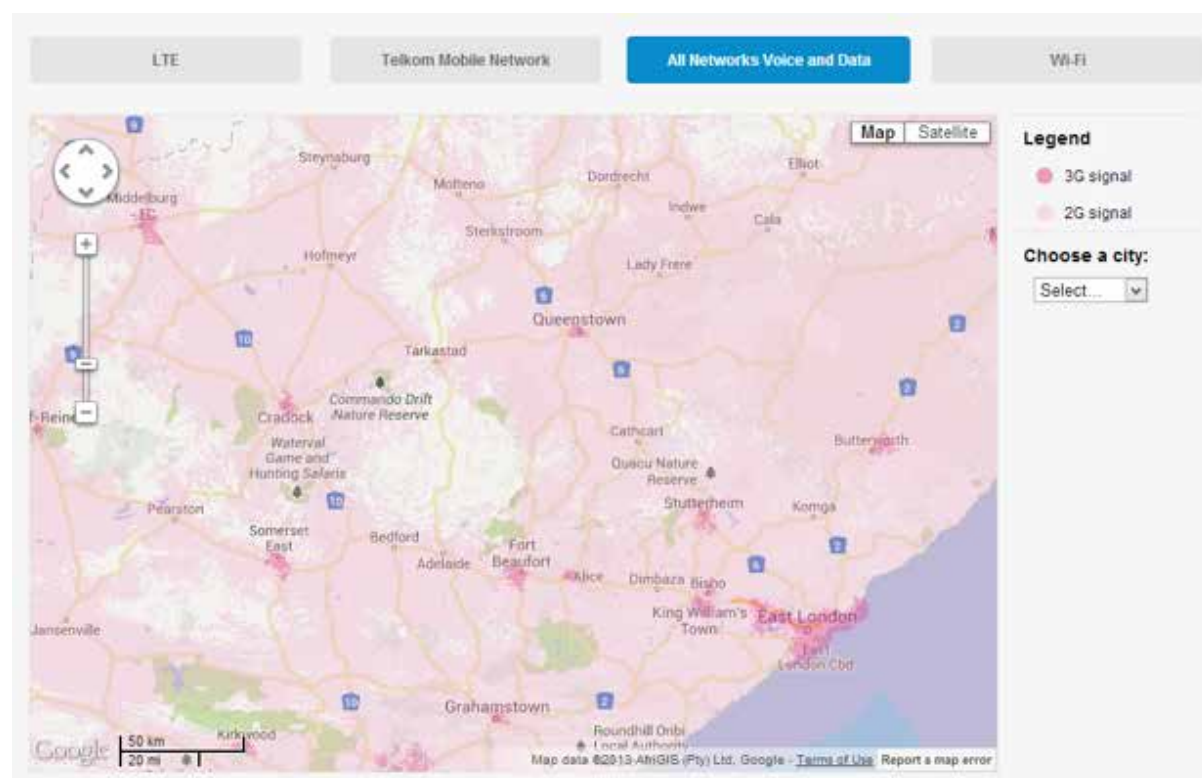
Mobile service coverage is seen as a critical business enabler in most sectors, as it promotes the mobility of key staff members and removes the limitations that staff can only be productive when at the office. There is a growing portion of the workforce who requires the ability to be mobile and demand the ability to access and process when



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and where they prefer. This has given rise to use of smart phones and tablets in the enterprise domain. Without adequate coverage and reliable services, it would be very difficult to attract this portion of the workforce to an area. In general, coverage around the major centres of CHDM seems adequate and has 3G coverage according to the coverage maps available from the service providers.

Figure 51: Telkom Network Connectivity



Source: Accessed from <http://www.telkommobile.co.za/coverage/October 2013>

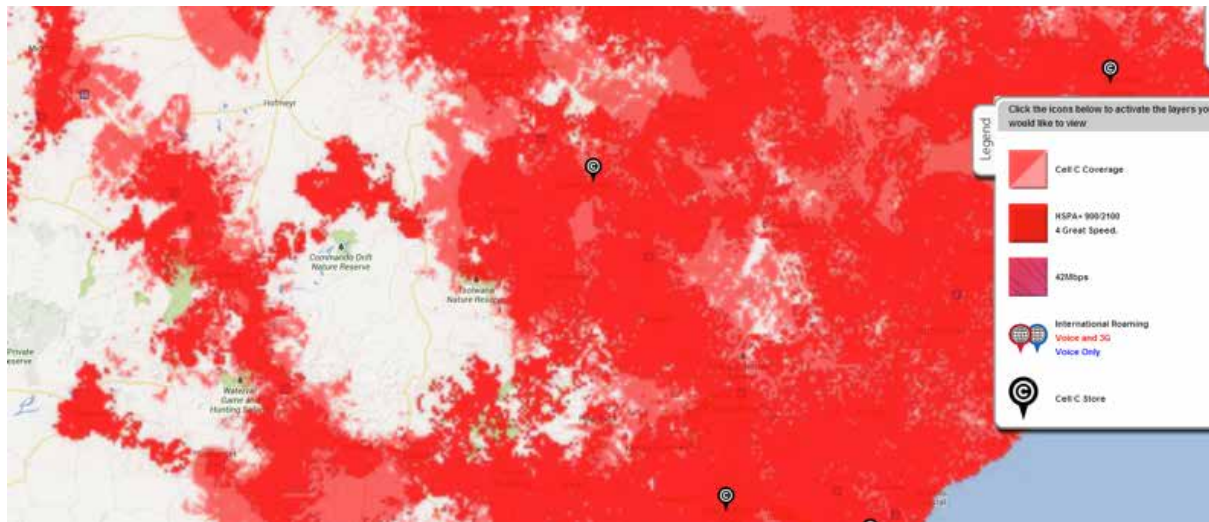
Telkom is a late entrant into the mobile space; traditionally they were focused of fixed line services. They have launched their own mobile network and are rolling out their infrastructure across SA. In area where they do not have infrastructure, their subscribers roam on the MTN network and the map above is a consolidation of coverage provided by their own network and their roaming partner.

The darker red/pink on the map indicates 3G and is only available in the bigger towns, the lighter shade indicates 2G coverage and is distributed fairly well over the whole CHDM.



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Figure 52: Cell C Network Connectivity



Source: Accessed from <http://www.cellc.co.za/cellccoveragemap/index.php> October 2013

Cell C was the 3rd mobile operator to enter the SA market; they have rolled out their own infrastructure across the country and provide good coverage in most areas. From the map, it can be seen that areas around the main centres are well covered.

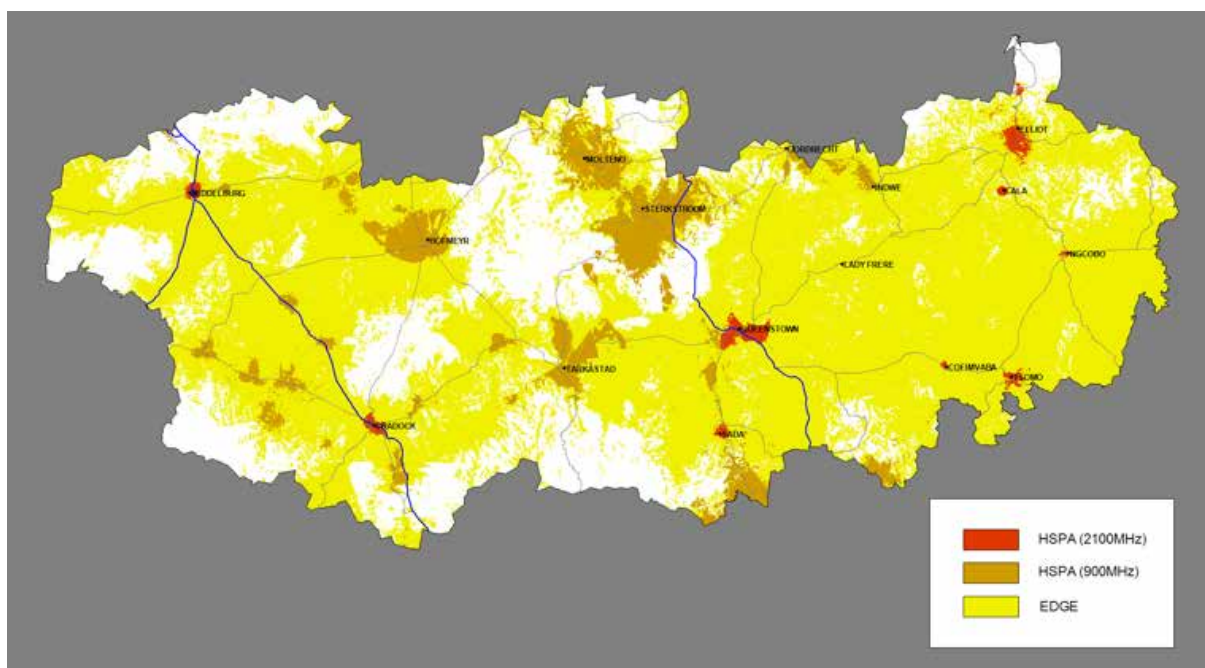
Figure 53: Vodacom Network Connectivity



Source: Accessed from <http://www.vodacom.co.za/personal/internet/coveragemaps> October 2013

Vodacom is one of the so called big 2 mobile operators in SA. Between Vodacom and MTN, they own the most mobile infrastructure and the indication from the coverage map is that higher speed coverage can be expected around the main towns with a reduction to 2G coverage across most of CHDM area. The reddish areas in Figure 54 indicate 3G coverage with the green areas being 2G.

Figure 54: MTN network coverage



Source: MTN, 2013

MTN is the other of the so called big 2 mobile operators in SA. Between MTN and Vodacom, they own the most mobile infrastructure and the indication from the coverage map is that higher speed coverage can be expected around the main towns with a reduction to 2G coverage across most of CHDM area.

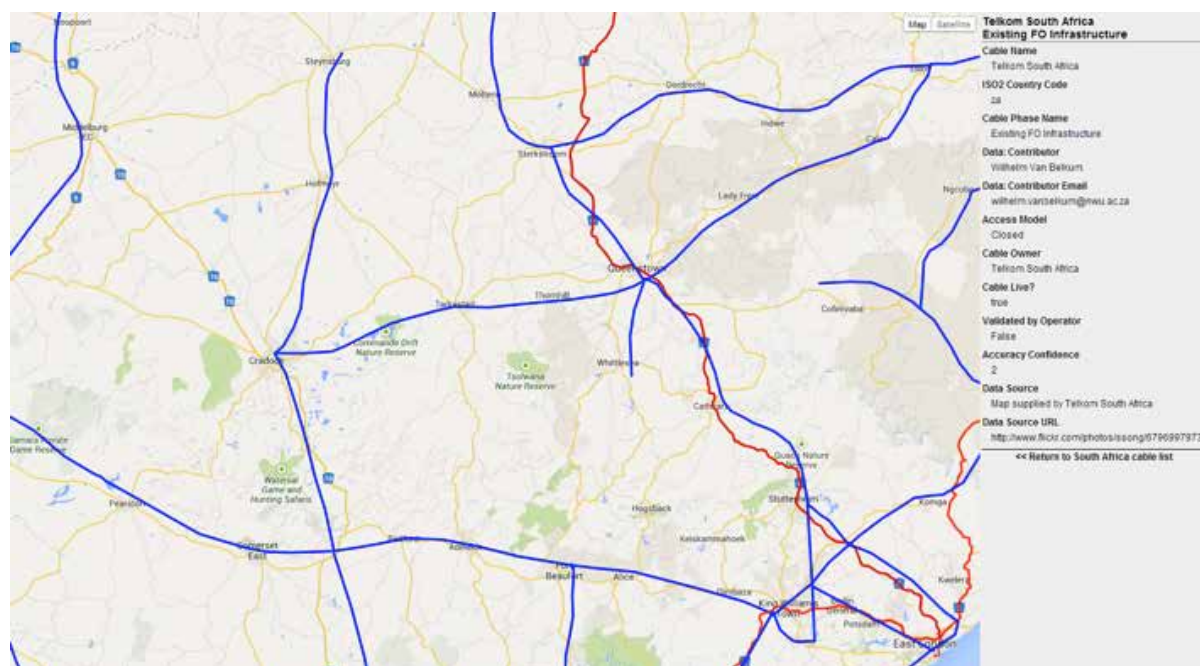
10.6.6 Fibre Networks

Long haul backbone connectivity is provided by fibre optic networks. These backbones are usually built and operated by national service providers and companies who specialise in the provisioning of so called dark fibre. To provide high bandwidth and low latency long distance backbones, fibre is most reliable and cost effective solution over the long term. In CHDM area, the indication is that most of the backhaul networks run past Queenstown for their inland route. This would make Queenstown a natural candidate for further development, as access to the national backhaul networks would be potentially easier and economically more feasible.



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Figure 55: Telkom Fibre Networks



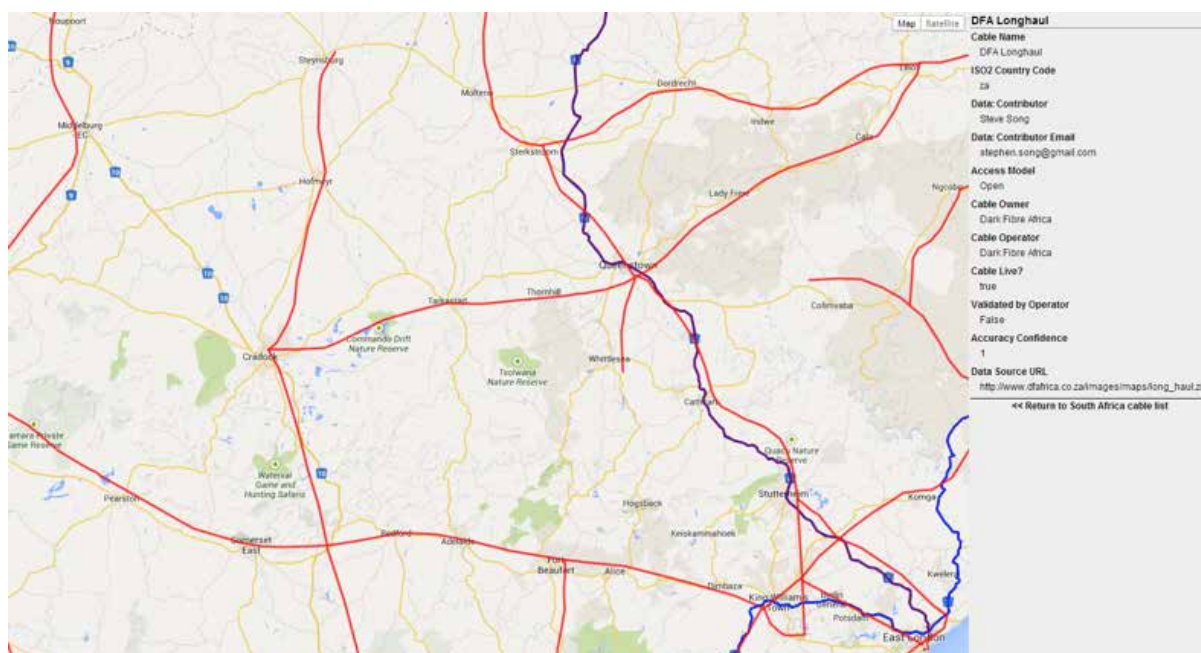
Source: Accessed from <http://afterfibre.net/> October 2013

Telkom has the biggest fibre optic backbone network in SA currently. From the map, it can be seen that they have fibre running to most of the bigger towns and they are currently the biggest provider of fixed line services to customers. In recent years, other service providers have also started investing in their own fibre infrastructure but it will take a significant amount of time before they can reach the same level of penetration. It is for this reason that most other service providers are willing to use Telkom infrastructure to deliver their services to customers.



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Figure 56: Dark Fibre Africa



Source: Accessed from <http://afterfibre.net/> October 2013

Dark Fibre Africa is investing in a fibre backhaul network around SA and capacity on this network is then leased to other interested parties. They currently have a fibre link running through the Queenstown area.

10.6.7 Recommended location for SEZ

From the geographic distribution of services, the best location to develop the SEZ seems to be in the Queenstown area. While all the mobile networks have good coverage in most of the major centres, new national fibre networks tend to have an inland fibre leg running past Queenstown. For accessibility to future services, it would make sense to develop the SEZ close to these fibre routes, to ensure access to newer faster services in the future.

10.6.8 ICT options and considerations going forward

It will be important to profile the enterprises which will be targeted for investment in the proposed SEZ. This data can then be used to approach the national Internet Service Providers (ISP) to request them to include provision of the required services in the general area of the proposed SEZ. It will be important to generate interest and commitment from potential investors. This information can then be used as a bargaining chip with ISPs to invest in infrastructure in the area which would then further increase the marketability of the SEZ.

Another key requirement will be access to suitable skills to install, support and maintain any infrastructure in the



area, also skills which the businesses will need to support their internal ICT environment. This is a very compelling area for SMME's to grow in and development of ICT focused SMMEs in the area would be recommended.

10.6.9 ICT Limitations

There are limitations with the ICT infrastructure and connectivity needed for the SEZ to improve its attractiveness. The areas of improvement are listed below:

- 1) A data centre to store and process information/data for the investors and SEZ Company. A data centre is a facility used to house computer systems and associated components, such as telecommunications and storage systems.
- 2) A wireless tower is a device that acts as a wireless access point. It is commonly used to provide access to the Internet.
- 3) Fibre Ring around the SEZ is a privately operated optical fibre network that is run directly by its operator over dark fibre leased or purchased from another supplier, rather than by purchasing bandwidth or leased line capacity. Dark fibre networks may be used for private networking, or as Internet access or Internet infrastructure networking. It is commonly used to provide access to the telephony.
- 4) Fibre distribution point is a redistribution point or a communication endpoint (some terminal equipment). The definition of a node depends on the network and protocol layer referred to.

10.6.10 ICT Conclusions

Queenstown seems to be the logical choice for a SEZ based on the fact that fibre routes from more than one company run past the town. Basic services required for most enterprises should be available in the general area. Skills development in ICT should be a focus area to improve the attractiveness of the area for enterprises.

Table 51: Main Water Supply Infrastructure in CHDM

Data Centre	R 34,395,000.00
Core Networking	R 12,000,000.00
Supporting Infrastructure	R 22,395,000.00
Floor	R 1,400,000.00
Fire Suppression	R 2,250,000.00
Electrical	R 6,300,000.00
Generator	R 4,500,000.00
10 Racks and structured cabling	R 2,000,000.00
UPS	R 4,000,000.00
CCTV	R 250,000.00
Environmental Monitoring	R 320,000.00
Admin Area (Office furniture and network reticulation)	R 125,000.00



Professional Fees	R 750,000.00
Misc building work	R 500,000.00
Wireless tower (Similar to high site)	R 1,700,000.00
Fibre Ring around the SEZ (estimated at roughly 42 km along the boundaries of the SEZ)	R 11,000,000.00
Fibre distribution point	R 550,000.00
Tenant Connection costs (15 tenants)	R 9,300,000.00
Per tenant cost	R 620,000.00
Tenant Fibre Costs	R 250,000.00
Tenant Network Devices Costs	R 120,000.00
Wireless redundant link	R 250,000.00
Total for basic IP network connectivity and data centre	R 56,945,000.00

10.7 Infrastructure Costs

The table below presents the estimated capital costs of all the infrastructure requirements, to be implemented in phases over a period of 15-25 years, for the development of CHDM SEZ.

Table 53: SEZ Infrastructure Costs

Item	Infrastructure Sector	(R 'million)
1	Earthworks	55
2	Internal Roads and Storm Water Systems	195
3	Water Treatment and Reticulation Networks	68
4	Sewage Treatment and Reticulation Networks	111
5	Major Road Arterials	274
6	Electrical Reticulation and Substations	140
	Sub-Total	843
7	Escalation (approx.) 12%	182
	Sub-Total	1 024
8	Contingency (approx.) 10%	170
	Sub-Total	1 194
9	Professional fees (approx.) 5%	93
10	ICT Infrastructure	57
	Grand Total (excluding VAT)	1 287



11 ENVIRONMENTAL

This section serves to contextualise the environmental aspects of the proposed CHDM SEZ. In order for the proposed SEZ to function properly, there must be suitable environmental management tools, which include an environmental management system and an environmental management plan. This section gives possible answers to Environmental Impact Assessment (EIA) questions that are likely to be asked.

This section also covers relevant legislations and permits that need to be considered for EIA application compliance and operation of the proposed SEZ.

11.1 Environment Impact Assessment (EIA)

An EIA is intended to identify the impacts of proposed public and private physical development activities. Often, the focus is dominantly biophysical, but good practice also addresses social and economic aspects. EIAs are used at the level of specific developments and projects such as dams, industrial zones, transport infrastructure (e.g. airport runways and roads) and agricultural practises. A Strategic Environmental Assessment (SEA) is a complementary tool and is more valuable when applied early in the planning processes for a project as input to decision-making. It identifies environmentally suitable options at an early stage and possible alternatives to and variations of the proposed project. SEAs help to avoid or minimise potentially damaging and costly negative impacts, and maximise positive impacts at the level of policies, plans and programmes.

11.2 Environmental Legislative Requirements for the SEZ

This section highlights key legislation, by identifying environmental authorisations, permits or licenses that may be required for the SEZ itself and future investment projects.

i. NEMA EIA regulations

These Regulations apply to activities that are listed under section 24 of the National Environmental Management Act (Act 107 of 1998) – NEMA. Activities that are listed in the Regulations are subject to environmental authorisation. Depending on the Listing Notice in which an activity is listed, a Basic Assessment or Scoping and EIA process will be required. Environmental authorisation usually takes 12 months for a Scoping and EIA process and 6 months for a Basic Assessment. It is illegal to commence a Listed Activity without environmental authorisation.

ii. NEMWA

The purpose of the National Environmental Management Waste Act (Act 59 of 2008) (NEMWA) is to regulate waste management. Certain activities listed under the Act are subject to an integrated waste license. These activities are available in Government Notice 718 published on 3 July 2009.



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iii. **NEMAQA**

The National Environmental Management Air Quality Act (Act 39 of 2004) regulates aspects of air quality. Activities listed under the Act will require an Atmospheric Emission Licence (AEL). The listed activities are in Government Notice 248 published on 31 March 2010. Minimum emission standards for each activity are provided in Government Notice 248.

Ambient air quality standards are regulated by the National Ambient Air Quality Standards (NAAQS).

iv. **NHRA**

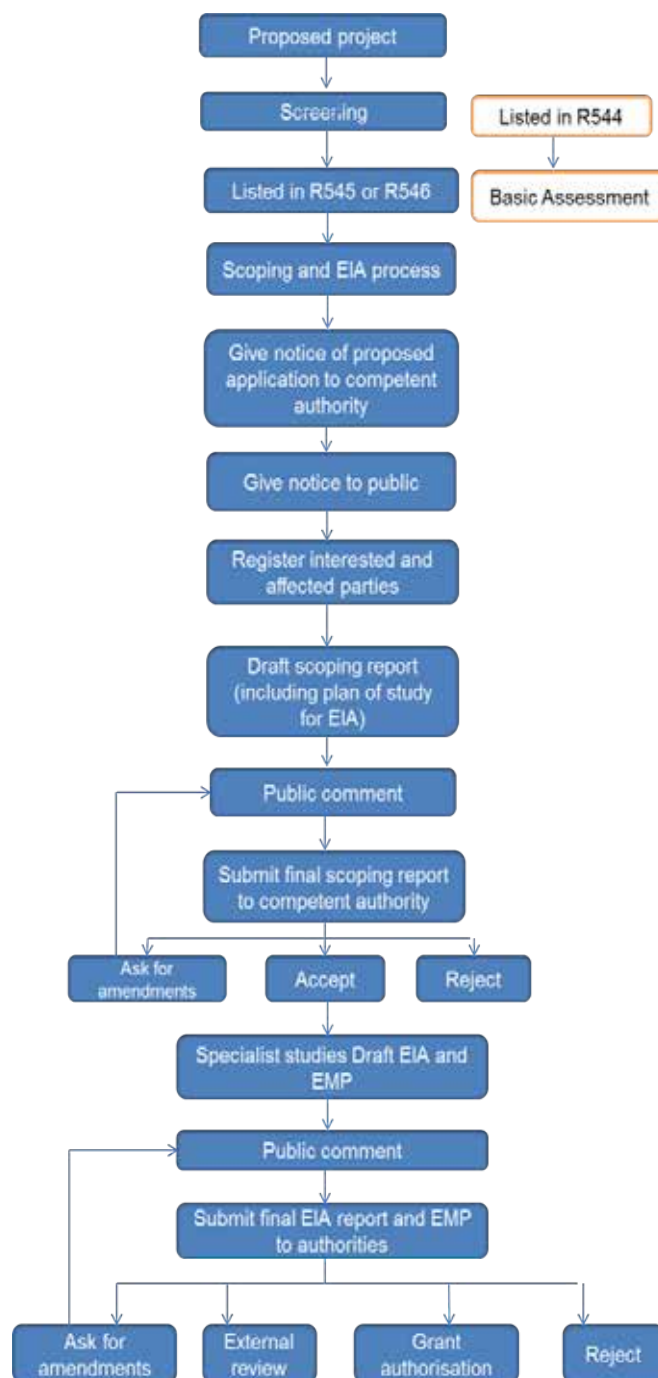
The National Heritage Resources Act (Act 15 of 1999) requires the identification and protection of cultural and heritage resources. The Act stipulates various permitting requirements, as well as a Heritage Impact Assessment (HIA). For activities listed in section 38 of the Act, a Notice of Intent to develop is required by the relevant heritage authority. An HIA is usually undertaken concurrently with a Basic Assessment or Scoping and EIA process.

v. **NWA**

The National Water Act (Act 36 of 1998) (NWA) is the management of water resources in SA. It regulates water use, but is also concerned with pollution of water resources.



Figure 57: EIA process and timeframes





11.3 Basic Assessment

A number of important steps are required during the Basic Assessment process, as set out in sections 21–25 of the EIA Regulations in NEMA. If a Basic Assessment is required for an application, the environmental assessment practitioner managing the application must, before submitting it to the competent authority:

- Check whether activities in Listing 1 of the EIA regulations trigger a basic assessment;
- Conduct a public participation process;
- Open and maintain a register of interested and affected parties;
- Consider all objections and representations received from interested and affected parties during the public participation process. The practitioner must assess potential impacts of the activity on the environment and determine whether or not those impacts can be mitigated and to what extent. He/she must also identify any significant issues and impacts that require further investigation;
- Prepare a Basic Assessment Report (BAR) in accordance with Regulation 22;
- Give all registered interested and affected parties an opportunity to comment on the BAR in accordance with Regulations 54–57;

Depending on the complexity, authorisation for a Basic Assessment may take up to six (6) months.

Table 51: Main Water Supply Infrastructure in CHDM

Clusters	Amount
Maize	R 250 000.00
Wheat	R 250 000.00
Cattle/Beef	R 250 000.00
Sheep	R 250 000.00
Goat	R 250 000.00
Dairy	R 250 000.00
Wool	R 250 000.00
Mohair	R 250 000.00
Total	R2 000 000.00

11.4 Scoping and Environmental Impact Report

Activities in Listing 2 of the EIA regulations trigger a Scoping EIA. The applicant must follow the full EIA process, which comprises a scoping phase, an EIA report, specialist studies, public participation and an Environmental Management Plan (EMP).

If scoping is required for an application, the environmental assessment practitioner managing the application must complete the application form for Environmental Authorisation and submit it to the competent authority



(Regulation 26). This must be submitted together with a declaration of interest, the prescribed application fee and any other documents required by the competent authority.

If a competent authority accepts a scoping report, the environmental assessment practitioner will be requested to proceed with the tasks anticipated in the plan of study for the EIA. The practitioner must then proceed with those tasks, including the required public participation process, and prepare an EIA report for the proposed activity (Regulation 31).

To obtain authorisation for a Scoping EIA may take 12-14 months, refer to Environmental Legislation Handbook page 334-345. The estimated costs for undertaking a Scoping EIA is R2 million.

11.5 Geology

Geology gives insight into the history of the Earth. Geology is commercially important for mineral and hydrocarbon exploration and for evaluating water resources. It is important for the prediction and understanding of natural hazards, the remediation of environmental problems and for providing insights into past climate changes.

The District consists mainly of Beaufort sediments intruded by Dolerite. These comprise Shale, Mudstone and Sandstone.

Soil

Many environmental factors, including amount of rainfall, vegetation type, and temperature, can affect soil. In general, areas with heavy rainfall have moderately acid soils. Soils in regions with light rainfall tend to be near neutral while drought prevalent areas tend to have alkaline soils. However, the pH of cultivated and developed soils often differs from that of native soil, because during the construction of homes and other buildings, topsoil is frequently removed and may be replaced by a different type of soil.

The soil in the District forms part of the Beaufort and Molteno series. As a result, the soils are poorly developed, shallow and rocky and are therefore mostly not suitable for crop production. In the valleys, deeper and more productive soils do occur. Soil salinity is, however, a major problem in the Cradock, Hofmeyr and Tarkastad areas.

Topography and drainage

Topography is controlled by geologic structures and rock types. A drainage system is the pattern formed by the streams, rivers and lakes in a particular drainage basin. Drainage basins are governed by the topography of the land and whether a particular region is dominated by hard or soft rocks. The number, size and shape of the drainage basins found in an area vary.

The District is part of what is described as gradual “step” topography. The “steps” are formed by the Winterberg mountain range in the south and the Stormberg range north of Sterkstroom.



The Stormberg Mountain range runs from east to west dividing the area into the high lying Stormberg plateau in the north and the generally lower altitude area in the south. The Winterberg range has an altitude of 2370m above sea level and extends into the southernmost section of the area. Compassberg has an altitude of 2502 m, whereas the Stormberg plateau is ± 1800 m above sea level. The altitude of the lower lying area in the Cofimvaba District is ± 600 m above sea level. The greater part of the area, however, lies between 500 m and 1000 m above sea level.

The main drainage systems are the tributaries of the Great Fish, Great Kei and Mbashe Rivers, which drain into the Indian Ocean. The western section of CHDM consists mostly of mixed nama Karoo veld whilst the eastern section consists mostly of moist upland grassland. What is important from a conservation aspect is the valley thicket occurring along the Kei and Mbashe River systems and the pockets of afromontane forest occurring north of Ngcobo.

11.6 Conservation Areas within CHDM

A conservation area is a tract of land that has been awarded protected status in order to ensure that natural features, cultural heritage or biota are safeguarded. The tourism sector currently contributes only 10% to the District's GDP. However, CHDM has a number of attractions, indicating that tourism could hold considerable potential for future growth, and these are:

- Game reserves (Tsolwana, Mountain Zebra National Park, Lawrence de Lange);
- Water-based activities, e.g. fishing, canoeing, river rafting;
- Xhosa heritage;
- Battle sites;
- Rock art;
- Cradock Spa; and
- Sufficient basic infrastructure, including roads and electricity.

Only Lawrence de Lange and Long-hill (Lukhanji) are under the direct control of CHDM. The Mountain Zebra National Park (National Park), a number of private nature reserves and three natural heritage areas (Benghoil & Bushy Park, Carnarvon and Mhoge) are located within the District.

All indigenous forests in CHDM were handed over to the Directorate of Nature Conservation of the Eastern Cape Province authorities in 1996 and management plans for all forests are still in preparation. Formally protected water sources include a number of large water catchments, including dams at Grassridge, Lake-Arthur, Commando, Drift, Xonxa, Lubisi and Ncora.

Heritage Sites: One hundred and two (102) heritage sites were identified in CHDM, categorized according to their nature and whether the structures were generated by humans or are natural artefacts.



Human Generated Artefacts include: Historical buildings (25), Monuments and memorials (6), Museums (9), Graves (5), Rock Art (6), Living Heritage (7) and Open Land (7).

11.7 Waste Management

The Department of Environmental Affairs is working with CHDM in assisting LMs with waste management programmes in order to comply with the new Waste Act, which strongly promotes recycling, reuse and recovery of waste to minimize the volumes of wastes going to landfill sites.

These initiatives are currently being rolled out at Ngcobo, Sakhisizwe, Inxuba Yethemba Emalahleni, Lukhanji and Intsika Yethu and by 2014/2015 they will be extended to the other LMs. CHDM has 16 small communal land fill sites, 3 of those sites are permitted and 13 of those sites are unpermitted. This indicates a need for the establishment of a hazardous (H:H) and non-hazardous (H:h) land fill site that will be able to support the proposed SEZ and LMs.

11.8 Environmental Challenges

Natural ecosystems have begun to show the effects of climate change. Areas like CHDM that are currently primarily grasslands could see an increase in bush encroachment and an increase in aridity.

Environmental mismanagement of agricultural grasslands and activities such as sand mining all contribute to the soil erosion problem. Such activities reduce the productivity of agricultural land, silt up dams and rivers, remove topsoil and indirectly contribute to increasing poverty.

Tsolwana LM (Thornhill area) has challenges with adequate clean water. The Emalahleni, Intsika Yethu, Sakhisizwe, Engcobo, Lukhanji, Inkwanca and Inxuba Yethemba LMs suffer from a lack guaranteed clean water supplies.

The greatest challenge facing government and local government in particular is how to minimise harmful environmental practises that contribute to global warming and, ultimately, climate change especially in Lukhanji LM. CHDM has abundant fertile soil but this resource must be properly managed. Furthermore, three LMs have high grazing potential and there are irrigation schemes with potential for expansion. However, disadvantages include high soil erosion rates, fluctuating temperatures and uneven precipitation, and the uneven distribution of skills and infrastructure. Potential environmental disasters can be avoided by enforcing environmental policies and promoting public communication.



12 COST BENEFIT ANALYSIS

An economic impact analysis using inter-industry models provides a method to evaluate the effects of a project or proposed policy change on an economy. A Social Accounting Matrix (SAM) of the national and provincial economies was used to represent all transactions and transfers between different production activities, factors of production and institutions (like households, firms and government) within the economy and with respect to the rest of the world.

- **Direct impacts** are the initial, immediate economic activities (spending, jobs and income) generated by a project or development. Direct impacts associated with developments coincide with the first round of spending in the economy. For example, if the payroll of a company based in the SEZ is R1000 and it purchases R1000 from suppliers in EC and pays taxes of R300, the direct contribution to the local economy would be R2300.
- **Indirect impacts** are the production, employment and income changes occurring in other businesses / industries in the local economy that supply inputs to the SEZ. Indirect impacts are a result of the increase in economic output as new businesses establish in the SEZ. These businesses will require inputs from local businesses, therefore bringing about an increase in demand for the products of these supporting industries both during the construction and operational processes.
- **Induced impacts** are the effects of spending by the households in the regional economy as the result of the direct and indirect effects from the added economic activities in the SEZ during the construction or operational phases.
- **The total economy-wide impact** is the sum total of the direct, indirect and induced impacts.

The following assumptions were made in respect of the proposed SEZ:

- Total Capex required from government of R2bn over the SEZ's life was expected to attract R1.1bn worth of investment from the private sector. This Capex covers bulk infrastructure and building costs for investors that require top structures;
- The average Capex over 25yrs was estimated at R195m , assuming the SEZ reaches its full capacity of 15 tenants;
- Construction starts in 2016 and ends in 2031; and
- 80% of the materials needed for the construction will be bought locally. i.e. in EC.

The spending related to the construction of the SEZ will result in direct and indirect output of R3.3bn in EC. When



adding the induced effect of the wage income, the impact of the economy-wide effect is estimated at R4.5bn for EC Province.

The estimate regarding the economy-wide GDP impact of such spending in EC Province is R1.2bn. This represents about 0.98% of EC's contribution to SA's GDP, at constant 2005 prices.

6 679 direct and indirect formal jobs are expected to be created in EC Province due to the output generated by the capital expenditure and the associated operational expenditure. When the induced effect is included, the number of formal jobs increases to 8 198 in EC²². Additionally, 8 126 economy-wide informal job opportunities will be created during the construction of the SEZ. Most of these jobs would benefit CHDM as semi and unskilled labourers as well as jobs created in the informal sector represent more than 75% of the total jobs. Due to this increase in employment, the economy-wide impact on labour remuneration is expected to increase by R590.5m in EC Province during the construction period. As a consequence of the increase in labour remuneration, an overall increase in the income of households is expected in CHDM. The estimates show that the change in employment will benefit the lower to middle income groups more, as they receive a larger portion of their income from informal, semi-skilled and unskilled, and skilled labour.

The following table summarises the macro-economic impact during the construction phase of the SEZ.

Table 55: Socio-economic impact of the SEZ Capex spend on EC

Eastern Cape	Direct & indirect impact	Induced impact	Economy-wide impact
GDP multiplier (Rm)	965.80	284.01	1249.81
Percentage Share of Eastern Cape GDP (%)	0.75	0.22	0.98
Percentage Share of South Africa GDP (%)	0.06	0.02	0.08
Capital requirement (Stock)(Rm)	3598.16	1272.76	4870.92
Gross Operating Surplus (Rm)	479.29	157.69	636.97
Labour Income (Rm)	469.75	120.81	590.56
Indirect taxes (Average)	184.94	54.52	239.46
Direct taxes: Corporate (Average)	101.74	29.65	131.39
Direct taxes: Households (Average)	77.09	21.04	98.14
Household income Quintile 5 (Rm)	129.49	38.60	168.09

²² These jobs may not be all permanent jobs. Also, the number of jobs created may not be new jobs and may overstate the impact of the project. Some of the jobs may be a result of a reallocation of labour across the economy or the more efficient utilisation of existing labour supply.



Employment by skill (number)			
High-skilled	724	153	877
Skilled	2388	614	3002
Semi- and Unskilled	3567	752	4319
Employment in formal Sector	6679	1519	8198
Employment in informal Sector	7125	1001	8126
Total employment	13804	2520	16324

Source: Quantec & Own Calculations

During operations, the following assumptions were made:

- Total Opex of R13.5bn over the SEZ's life assuming that at least 15 companies are operating;
- The average Opex over 25yrs was estimated at R540m;
- Operations start in 2018;
- The annual operating expenditures by companies established in the SEZ or supplying the SEZ is forecast to be around R864.2m when fully operational.

During the operational phase, the economy-wide output is expected to be around R3bn while the GDP impact in EC Province is estimated at R1.0bn on average per year. This represents about 0.8% of EC's GDP, at constant 2005 price. Additional economy-wide labour remuneration is estimated at R473.4m per year. The more marginalised households in the region will see an increase in their incomes of about R165.3m.

14 102 direct and indirect formal operational job opportunities (of which close to 10 681 are semi- and unskilled jobs) are expected to be created during operations by established companies as well as the agro-processing upstream and downstream industries. Additionally, 11 870 job opportunities on average will come from the informal sector per year²³. The following table summarises the macro-economic impact during the operational phase of the SEZ.

Table 56: Average annual socio-economic impact of the Opex spend in the SEZ on EC

Eastern Cape	Direct & indirect impact	Induced impact	Economy-wide impact
GDP multiplier (Rm)	789.5	227.7	1017.1
Percentage Share of Eastern Cape GDP (%)	0.6	0.2	0.8
Percentage Share of South Africa GDP (%)	0.0	0.0	0.1
Capital requirement (Stock)(Rm)	3 521.4	1 020.2	4 541.6
Labour Income (Rm)	376.5	96.8	473.4
Indirect taxes (Average)	140.7	43.7	184.4
Direct taxes: Corporate (Average)	71.7	23.8	95.4

²³ Jobs may not be new or all permanent jobs, and may overstate the impact of the project.



Household income Quintile 5 (Rm)	134.4	30.9	165.3
Employment by skill (number)			
High-skilled	646	114	760
Skilled	2 775	458	3 233
Semi- and Unskilled	10 681	602	11 283
Employment in formal Sector	14 102	1 174	15 276
Employment in informal Sector	11 870	802	12 672
Total employment	25 972	1 976	27 948
Employment in informal Sector	7125	1001	8126
Total employment	13804	2520	16324

Source: Quantec & Own Calculations

13 CHDM LABOUR MARKET ANALYSIS

This section seeks to establish the likely work force requirements arising from the establishment of an SEZ focused on agro-processing in CHDM. The study is informed by the viability study prepared for CHDM SEZ, and the brief was to specifically focus on agro-processing opportunities arising from grain production (primarily maize and wheat) and meat production (sheep, beef and goat processing opportunities.)

While agricultural sub-sectors were identified as indicated above, planning for CHDM SEZ is still at conceptual stage; therefore the following section is generic in that it outlines possible labour market impacts arising from the pursuit of selected sub-sectors.

This section seeks to determine the work force requirements of new industries to be established for the proposed CHDM SEZ. It also seeks to determine the level of skills available in the region and whether the output of the training providers can satisfy the needs of the future industries.

Using an Industrial Engineering approach, it estimates the skills and numbers required to construct and then operate each industrial unit. The study estimates the numbers of managers, engineers, maintenance technicians, trade drivers and semiskilled workers required each year over a fifteen (15) year period.

Skilled labour will be required to service the Agro-processing sector for the proposed SEZ, on a 350 ha site in Queenstown. The labour report investigates the training facilities within CHDM with respect to their ability to train the required numbers to sustain the SEZ operations.



The study concludes that:

1. The construction numbers oscillate in all three scenarios, which means that there is no continuity of employment and workers will be hired and then discharged as projects start and end;
2. In the operational stage, there is an initial requirement for the various types of worker and then a gradual build up as the projects come on stream;
3. Whichever scenario occurs, it is clear that the local population and training providers cannot provide the numbers of the various skills required, in the initial phases of the development;
4. It will therefore be necessary for industries developing within the SEZ to bring in specialised personnel or in-contract people at the beginning;
5. Over time, as the skills are developed in the area and the population is trained to be able to undertake the allotted tasks, the employment of local people will increase; and
6. A large number of these skills are not available in the local population and there is no training capability to produce these skills in the short term.

The Work Force study for the proposed SEZ has the following objectives:

1. To consider the skills available in CHDM;
2. To estimate the work force requirements for the industries which may set up in the SEZ;
3. To record the skills and trades that will be required, their numbers, skills and training requirements;
4. To estimate the time scales of requirements;
5. To investigate and record the training facilities available; and
6. To determine the implications of the available work force on the development of the SEZ.

Tables 57 and 58 show the status of employment in EC as well as in CHDM and the various LMs across population groups in 2011. In EC, 47.0% of African respondents are reported to be employed, compared to 34.8% who indicated that they are unemployed and 18.2% who reported that they are discouraged²⁴. Table 57 further shows that 64.9% of Coloured respondents reported that they are employed compared to 27% and 8.1% who indicated that they are unemployed and discouraged respectively. 85.7% of Indians or Asians are reported to be employed, while 11% and 3.3% are reported as being unemployed and discouraged, respectively. 92.1% of White respondents reported that they are employed, compared to 6.3% and 1.3% who reported that they are unemployed and discouraged, respectively.

In CHDM, 44.9% of African respondents (lower than the Province) are reported to be employed, compared to 33.2% who indicated that they are unemployed and 21.9% (3.7% more than the Province's 18.2%) who reported that they are discouraged. Further, 68.7% of Coloured respondents reported that they are employed compared to 21.5% and 9.8% who indicated that they are unemployed and discouraged respectively. 89.3% of Indians or

²⁴ Discouraged job seeker refers to: "A person who was not employed during the reference period, wanted to work, was available to work/start a business but did not take active steps to find work during the last four weeks, provided that the main reason given for not seeking work was any of the following: no jobs available in the area; unable to find work requiring his/her skills; lost hope of finding any kind of work". Statistics South Africa.



Asians are reported to be employed, while 7% and 3.7% are reported as being unemployed and discouraged, respectively. 93.7% of White respondents reported that they are employed, compared to 4.3% and 1.9% who reported that they are unemployed and discouraged, respectively. Africans were the only population group to have a lower percentage of employed people in the District compared to the Province.

Inxuba Yethemba, Inkwanca, Lunkaji and Sakhisizwe have the highest percentage of employed people across the different population groups. Engcobo had the highest percentage of unemployed people across the different population groups (except for Africans where Inkwanca had the highest percentage). Emalahleni and Intsika Yethu had relatively more discouraged people in all the population groups compared to the other LMs.

Table 57: Status of Employment by Population Group, 2011

	Black African			Coloured			Indian or Asian			White		
	E	U	D	E	U	D	E	U	D	E	U	D
	Share (%)											
Eastern Cape	47	34.8	18.2	64.9	27	8.1	85.7	11.1	3.3	92.1	6.3	1.6
Chris Hani	44.9	33.2	21.9	68.7	21.5	9.8	89.3	7	3.7	93.7	4.3	1.9
Inxuba Yethemba	57.6	30.2	12.2	69.7	18.6	11.6	83.3	13.1	3.6	94.5	4.3	1.2
Tsolwana	45.6	31.9	22.6	56.9	34.2	8.9	87.9	12.1	0	91.7	4.2	4.2
Inkwanca	47.4	36.5	16.1	60	30.9	9.1	100	0	0	89.3	6.6	4.1
Lukhanji	49.6	33.1	17.4	72.6	22.7	4.7	91.2	6.4	2.5	95.1	3.5	1.3
Intsika Yethu	37.5	33.4	29.2	53.5	39.5	7	88.4	6.3	5.3	69.6	10.9	19.6
Emalahleni	37.2	33.9	28.9	52.1	33	14.9	84.7	2	13.3	91.2	5.2	3.6
Engcobo	39.5	33.6	26.9	42.9	51.4	5.7	80	16.4	3.6	67.7	25.8	6.5
Sakhisizwe	49.9	33.4	16.7	58.3	32.1	9.6	97.4	2.6	0	94.4	3.4	2.3

Source: Own Calculations based on Census 2011 data. *Please note: E=Employed, U=Unemployed and D=Discouraged*

13.1 Type of Employment Sector by population group

The type of employment varies across the population groups and regions. In EC, 69.3% of employed African's reported that they work in the formal sector, compared to 15.7% and 12.8% who reported that they work in the informal sector and private households, respectively. About 76.7% of employed Coloured respondents reported that they work in the formal sector, while 13.1% and 8.2% reported that they work in the informal and private household sectors, respectively. In the Indian or Asian population group, 75.3% of employed respondents reported that they work in the formal sector, compared to 12.5% and 9.9% who reported that they work in the informal sector and private households, respectively. 79.8% of employed White respondents reported that they work in the formal sector, while 8.3% and 9.4% reported that they work in the informal sector and private households, respectively.



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In CHDM, 69.3% of employed African's reported that they work in the formal sector, compared to 16.0% and 12.4% who reported that they work in the informal sector and private households, respectively. Over the same period, 76.1% of employed Coloured respondents reported that they work in the formal sector, while 13.0% and 9.4% worked in the informal and private household sectors, respectively. In the Indian or Asian community, 57.3% that were employed were working in the formal sector, while 24.7% and 15.7% worked in the informal sector and private households, respectively. Around, 74.9% of employed White respondents reported that they work in the formal sector, compared to 10.1% and 12.8% respondents are reported to work in the informal sector and private households, respectively.

In the LMs, as with the Province and the District, employment in the formal sector was more prominent than the other sectors. Inxuba Yethemba, Lukhanji, Inkwanca and Engcobo had the highest percentage across all the population groups that reported that they work in the formal sector compared to other LMs, refer to Table 58 below.

Table 58: Population group by employment sector and local municipality, 2011

	African				Coloured				Indian/Asian				White			
	F.S	IS	P.H	D.K	F.S	IS	P.H	D.K	F.S	IS	P.H	D.K	F.S	IS	P.H	D.K
	Share (%)															
Eastern Cape	69.3	15.7	12.8	2.3	76.7	13.1	8.2	2	75.3	12.5	9.9	2.3	79.8	8.3	9.4	2.5
Chris Hani	69.3	16	12.4	2.3	76.1	13	9.4	1.5	57.3	24.7	15.7	2.4	74.9	10.1	12.8	2.2
Inxuba Yethemba	71.6	14.5	12.4	1.5	78.9	11.3	8.5	1.3	58	23.2	17.4	1.4	77.4	9.9	10.3	2.4
Tsolwana	62.6	11.2	23.7	2.4	59.5	21.3	16.4	2.8	44.8	20.7	31	3.4	60.2	9.6	28	2.3
Inkwanca	69.3	11.4	17	2.3	79.7	8.9	10.9	0.5	43.8	31.3	25	0	61.9	9.1	26.9	2
Lukhanji	71.2	13.4	13.4	2	73.4	14.5	10.2	1.9	64.7	17.3	16	2	79.8	8.3	9.9	2
Intsika Yethu	67.8	18.2	11.7	2.2	54.3	41.3	2.2	2.2	34.1	50.6	10.6	4.7	68.8	12.5	18.8	0
Emalahleni	67.2	17.4	11.8	3.5	71.3	10.9	15.8	2	35.7	40.5	17.9	6	66.4	8.9	21.8	2.9
Engcobo	72.5	17.2	8	2.3	66.7	26.7	6.7	0	72.1	23.3	4.7	0	85	15	0	0
Sakhisizwe	63.2	23.9	10	3	54.4	36.7	8.9	0	62.7	24	13.3	0	63.6	27.2	8.4	0.9

Source: Own calculations based on Census 2011

Please note: F.S=Formal Sector, I.S=Informal Sector, P.H=Private Household and D.K= Do not Know

13.2 Level of Education by Employment Sector

The proportion of people with no schooling employed in the formal sector in EC is around 59.9% in 2011; while 19.5% and 17.4% worked in the informal sector and private sector, respectively.

In CHDM, over the same period, 61.6% of respondents who indicated that they had no schooling were working in the formal sector; compared to 17.6% and 17.9% who reported that they are employed in the informal sector and private sector, respectively.

At the LM level, Engcobo, with 71.5%, has the highest percentage of respondents with no schooling working in the formal sector. While Lukhanji, with 56.2%, has the lowest percentage of this category of respondents working in the formal sector. In the informal sector, Sakhisizwe, with 34.0%, has the highest percentage of people who reported that they have no schooling compared to the other LMs, while Inkwanca with 10.1% had the least. Tsolwana (25.0%), Lukhanji (24.8%) and Inkwanca (24.7%) have the highest percentages of respondents who reported that they have



no schooling and are employed in the private sector compared to the other LMs.

Table 59: Employed with no schooling by Sector, 2011

	Formal	Informal	Private Household	Do not Know
	(%)			
Eastern Cape	59.9	19.5	17.4	3.2
Chris Hani	61.6	17.6	17.9	2.9
Inxuba Yethemba	61.8	14.3	22.8	1
Tsolwana	59	13	25	3
Inkwanca	63.7	10.1	24.7	1.6
Lukhanji	56.2	15.9	24.8	3.2
Intsika Yethu	61.1	19.8	15	4.1
Emalahleni	64.2	17.2	13.1	5.5
Engcobo	71.5	14.3	11.7	2.5
Sakhisizwe	53.3	34	9.5	3.2

Source: Own calculation based on Census 2011 data

13.3 Primary Schooling

Approximately 57.8% of people who indicated that they have some primary schooling as their highest level of education reported that they work in the formal sector in the Province; compared to 21.0% and 18.3% who reported that they work in the informal sector and private sector, respectively. With regards to people who completed their primary schooling as their highest level of education, 59.2% are employed in the formal sector while 20.6% and 17.5% are employed in the informal and private household sectors, respectively.

In CHDM, 58.1% of people with some primary schooling as their highest level of education were working in the formal sector, while 21.0% and 17.8% were working in the informal sector and private sector, respectively. However, the proportion of people who completed their primary schooling as their highest level of education and were working in the formal sector was around 59.2% in 2011. At the same time, 20.6% and 17.5% of people with the equivalent level of education were employed in the informal and private household sectors, respectively.

In the LMs, Engcobo (66.8%), Inxuba Yethemba (64.9%) and Inkwanca (60.0%) had the highest percentage of people that indicated that they were working in the formal sector and have some primary schooling as their highest level of education. Over the same period, Sakhisizwe (48.8%) had the lowest percentage of people with some primary schooling as their highest level of education working in the formal sector. In the informal sector, Sakhisizwe (34.2%) had the highest percentage of people with some primary schooling as their highest level of education compared to the other LMs, while Tsolwana (14.4%) had the least. Tsolwana (26.4%) and Lukhanji (23.9%) had the



highest percentage of people with some primary schooling employed in the private sector compared to the other LMs. In the LMs, as in the Province and District, a large proportion of people who reported that they had completed primary school as their highest level of education reported that they work in formal sector. The following Table 60 shows the proportion of people with primary education employed by sector.

Table 60: Employed with Primary Education by Sector, 2011

	Some Primary				Complete Primary			
	Formal	Informal	Private Household	Do not Know	Formal	Informal	Private Household	Do not Know
	Share (%)							
Eastern Cape	57.8	21	18.3	3	59.2	20.6	17.5	2.8
Chris Hani	58.1	21	17.8	3.1	59.4	19.6	17.8	3.2
Inxuba Yethemba	64.9	17.1	16.6	1.4	68.7	14.7	14.3	2.3
Tsolwana	56.6	14.4	26.4	2.6	49	18.2	29.6	3.2
Inkwanca	60	15.1	21.1	3.9	63.9	13.5	20.1	2.5
Lukhanji	54.2	19.2	23.9	2.8	55.9	20.1	21.7	2.3
Intsika Yethu	55.5	24.4	17.1	3	56.3	22.1	17.5	4
Emalahleni	56	22.9	16.1	5	55.8	20.5	18.4	5.3
Engcobo	66.8	19.2	11	3	65.7	20	11.1	3.2
Sakhisizwe	48.8	34.2	12.9	4.2	53.5	28.6	13.8	4.1

Source: Own Calculations based on Census 2011 data

13.4 Secondary Schooling

The proportion of people with some secondary education working in the formal sector is around 65.5% in EC. At the same time, 17.4% and 14.3% of people with some secondary education were working in the formal and private household sectors, respectively. With regards to people who completed their Grade 12/std10, over 80% are employed in the formal sector while 9.2% and 8.0% reported that they employed in the informal and private household sectors, respectively.

In CHDM, 64.6% of people with some secondary schooling as their highest level of education were working in the formal sector; while 18.2% and 14.5% were in the informal sector and private sectors, respectively. In the District; 84.2% of people with Grade 12/std10 as their highest level of education were employed in the formal sector, while 8.7% and 6.1% were working in the informal and private household sectors, respectively.

In the LMs, Inkwanca (99.2%), Inxuba Yethemba (89.5%) and Engcobo (85.4%) have the highest percentage of people with Grade12/std10 as their highest level of education working in the formal sector. However, Sakhisizwe



(75.1%) had the lowest proportion of people with the same level of education working in the formal sector. In the informal sector and with Grade12/std10 as their highest level of education, Sakhisizwe (20.8%) had the highest percentage of people working than reported compared to the other LMs, while Inxuba Yethemba with 5.5% had the least. Inkwanca (6.6%) had the highest percentage of people who completed Grade 12/std10 as their highest level of education employed in private households compared to the LMs. In the LMs, as with the Province and the District, a large proportion of people who reported that they have some secondary schooling as their highest level of education reported that they work in the formal sector, with Inxuba Yethemba having the highest percentage with 73.5%.

Table 61: Employed with Secondary Education by Sector, 2011

	Some Secondary				Certificate with Grade 12/Std10			
	Formal	Informal	Private Household	Do not Know	Formal	Informal	Private Household	Do not Know
	Share (%)							
Eastern Cape	65.5	17.4	14.3	2.7	81.1	9.2	8	1.7
Chris Hani	64.6	18.2	14.5	2.7	84.2	8.7	6.1	1
Inxuba Yethemba	73.5	14.7	10.1	1.7	89.5	5.5	2.7	2.3
Tsolwana	57.3	12	28	2.7	77.3	10.7	9.6	2.4
Inkwanca	68.1	12.1	17.8	2	92.1	6.6	1.2	0
Lukhanji	62.9	17.1	17.3	2.7	84.8	7.8	6.6	0.8
Intsika Yethu	59.2	22.8	15.1	2.9	84.5	8.5	7	0
Emalahleni	63.8	18.8	13.6	3.8	77.6	8.3	13	1.1
Engcobo	67.9	19.8	9.4	3	85.4	9.5	4	1.1
Sakhisizwe	60.1	24.6	12	3.2	75.1	20.8	3.2	1

Sources: Own calculation based on census 2011 data

13.5 Certificate with less than Grade 12

The proportion of people holding a certificate which is less than Grade 12 and working in the formal sector in EC was about 78.8%; while 9.9% and 8.3% reported that they work in the informal sector and private household's respectively.

In CHDM, 76.5% of respondents who indicated that they have a certificate with less than Grade12 qualification as their highest level of education reported that they work in the formal sector; compared to 12.0% and 10.4% who reported that they are employed in the informal sector and private household, respectively.

Tsolwana (100%) and Emalahleni (100%) have the highest percentage of people working in the formal sector with



certificate less than Grade12 as their highest level of education. While Inkwanca (57.5%) had the lowest percentage of people working in the formal sector, with a certificate less than a Grade 12 as their highest level of education. In the informal sector, Inkwanca (21.3%) has the highest percentage of people with a certificate less than Grade 12 as their highest level of education compared to the other LMs, while Tsolwana and Emalahleni with 0.0% each had the least. Inkwanca (21.3%) has the highest percentage of people with a certificate less than Grade12 employed in private households compared to the other LMs.

Table 62: Employed with a Certificate less than Grade12 by Sector, 2011

	Formal	Informal	Private Household	Do not Know
	Share (%)			
Eastern Cape	78.8	9.9	8.3	3.0
Chris Hani	76.5	12.8	8.3	2.4
Inxuba Yethemba	74.6	18.1	7.3	0.0
Tsolwana	100	0.0	0.0	0.0
Inkwanca	57.5	21.3	21.3	0.0
Lukhanji	77.8	13.1	9.1	0.0
Intsika Yethu	82.8	5.9	11.3	0.0
Emalahleni	100	0.0	0.0	0.0
Engcobo	71.9	14	4.7	9.4
Sakhisizwe	81.8	12.7	5.4	0.0

Source: Own calculation based Census 2011 data

13.6 Diploma with less than Grade 12

In EC, 81.7% of people with a diploma and with less than Grade12 as their highest level of education worked in the formal sector; while 9.8% and 7.3% reported that they work in the informal sector and private households, respectively.

Around 77.8% of people with a diploma and with less than Grade12 worked in the formal sector compared to 12.3% and 9.4% who reported that they are employed in the informal sector and private households, respectively.

Sakhisizwe (91.0%), Tsolwana (81.3%) and Intsika Yethu (80.4%) have the highest percentage of people who work in the formal sector and have a diploma with less than Grade12 as their highest level of education. Whereas Inkwanca (46.2%) has the lowest percentage of people that work in the formal sector and have a diploma less than a Grade 12 as their highest level of education. In the informal sector, Inkwanca (21.3%) has the highest percentage of people with a diploma less than Grade 12 as their highest level of education compared to the other LMs, while Tsolwana with 0.0% had the least. Inkwanca (32.5%) has the highest percentage of people with a diploma less than Grade12



employed in private households compared to the other LMs.

Table 63: Employed with a Diploma less than Grade12 by Sector, 2011

	Formal	Informal	Private Household	Do not Know
	Share(%)			
Eastern Cape	81.7	9.8	7.3	1.2
Chris Hani	77.8	12.3	9.4	0.5
Inxuba Yethemba	76.1	10.8	13.2	0
Tsolwana	81.3	0	18.7	0
Inkwanca	46.2	21.3	32.5	0
Lukhanji	77.3	12.7	9.2	0.8
Intsika Yethu	80.4	13.7	5.9	0
Emalahleni	77.3	8.1	10.4	4.2
Engcobo	77.5	14.4	8	0
Sakhisizwe	91	9	0	0

Source: Own calculations based on Census 2011 data

13.7 Former Technikon

The following Table 64 below shows the percentage of people with a qualification from the former Technikon as their highest level of education by sector of employment. Former Technikon qualifications in this regard refer to a Diploma with Grade 12, Higher Diploma and Post Higher Diploma (Masters, Doctoral Diploma). In EC, 86.1% of people with a qualification from the former Technikon as their highest level of education reported that they work in the formal sector, while 7.5% and 5.4% reported working in the informal sector and private households, respectively.

In CHDM, 87.5% (higher than the Province's 86.1%) of people indicated that they have a qualification from the former Technikon as their highest level of education and work in the formal sector, compared to 7.6% and 4.3% who are employed in the informal sector and private households, respectively.

Intsika Yethu (88.8%), Lunkaji (88.0%) and Sakhisizwe (87.9%) have the highest percentage of people working in the formal sector and having a qualification from the former Technikon as their highest level of education. While Tsolwana (80.1%) has the lowest percentage of people working in the formal sector and having a qualification from the former Technikon as their highest level of education. In the informal sector, Engcobo (10.6%) has the highest percentage of people with a qualification from the former Technikon as their highest level of education compared to the other LMs, while Inkwanca with 2.8% had the least. Inkwanca (14.8%) has the highest percentage of people with a qualification from former Technikon employed in private households compared to the other LMs.



Table 64: Employed with a qualification From Former Technikon by Sector, 2011

	Formal	Informal	Private Household	Do not Know
	Share (%)			
Eastern Cape	86.1	7.5	5.4	1.0
Chris Hani	87.5	7.6	4.3	0.6
Inxuba Yethemba	87.7	5.8	5.4	1.1
Tsolwana	80.1	5.8	13.3	0.8
Inkwanca	82.4	2.8	14.8	0.0
Lukhanji	88	6.9	4.5	0.6
Intsika Yethu	88.8	8.2	2.7	0.3
Emalahleni	86	9.3	3.6	1.1
Engcobo	87.7	10.6	1.2	0.5
Sakhisizwe	87.9	8.8	2.9	0.3

Source: Own calculation based on Census 2011 data

13.8 University Degree

The proportions of people with university degrees employed by sector across CHDM are showed in the following table. University qualification in this regard refers to Bachelor's Degree, Honours degree and Higher Degree (Masters/PhD). In EC, 88.6% of respondents who indicated that they have a university qualification as their highest level of education reported working in the formal sector, while 6.0% and 4.5% reported that they work in the informal sector and private households, respectively.

In CHDM, 89.6% (higher than the Province's 88.6%) of people who indicated that they have a university qualification as their highest level of education work in the formal sector, compared to 6.0% and 3.8% who are employed in the informal sector and private households, respectively.

Intsika Yethu (93.9%) and Lukhaji (92.0%) have the highest percentage of people who work in the formal sector and have a university degree as their highest level of education. While Inkwanca (70.1%) has the lowest percentage of people who work in the formal sector and have a university degree as their highest level of education. In the informal sector, Emalahleni (11.2%) and Engcobo (10.8%) have the highest percentage of people who reported that they have a university degree as their highest level of education and work in this sector compared to the other LMs, while Tsolwana with 2.5% had the least. Inkwanca with 21.3% has the highest percentage of people with a university degree who are employed in private households compared to the other LMs.



Table 65: Employed with a University Qualification by Sector, 2011

	Formal	Informal	Private Household	Do not Know
	2011(%)			
Eastern Cape	88.6	6	4.5	0.9
Chris Hani	89.6	6	3.8	0.6
Inxuba Yethemba	87.2	7.1	5.5	0.3
Tsolwana	84.2	2.5	12.7	0.7
Inkwanca	70.1	8.6	21.3	0
Lukhanji	92	4.2	3.1	0.7
Intsika Yethu	93.9	4.2	1.5	0.4
Emalahleni	86.6	11.2	1.9	0.3
Engcobo	86.9	10.8	1.9	0.4
Sakhisizwe	88.6	7.8	2.1	1.6

Source: Own Calculations based on Census 2011 data

13.9 The Impact of HIV/Aids on ECs Economy and Labour Market

While HIV prevalence among adults in EC is among the lowest of the 9 Provinces, the impact is likely to be severe, as it is concentrated in the 15-49 age groups, which constitutes the bulk of the economically active population and the core of EC economy. This has negative implications for the composition, size and growth of the labour force, as well as the Province's capacity for effective human resource development.

Projected HIV infections, Aids deaths and Aids morbidity is estimated to grow at a much higher rate than the provincial population. By 2010, the number of HIV infections will peak at 1.2m. The projections suggest that EC is now in the middle of an extremely vulnerable period, as the sharpest increases in infections are being experienced.

HIV/Aids impacts negatively on CHDM economy because mortality rates are higher than they would otherwise be and this causes a reduction in the labour force. Within the SA context, the costs of HIV can be high for companies. Such costs could be in relation to the need for companies to invest massively in HIV/Aids prevention programmes; putting in place a vigorous Employee Assistance Programme (EAP) benefit; medical aid/insurance as well as costs towards sick leave, compassionate leave and providing contingency budgets for the increased levels of absenteeism due to Aids-related deaths and illnesses. As the cost-burden to companies, individuals, households and the state increases, so does their vulnerability. The implications for EC's labour market are dire: in a context where the national labour force is projected to decline by between 18 to 21% by 2015, the costs related to HIV/Aids morbidity and mortality (including increased labour turnover, losses in skills, experience and productivity) will be onerous.



Figure 58: HIV/ AIDS Profile in CHDM

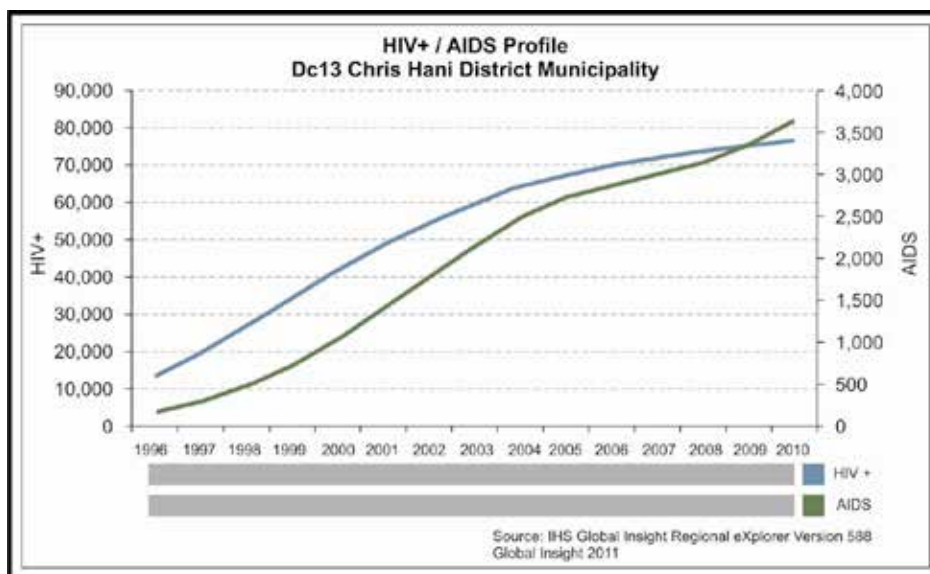


Figure 58 shows that HIV/ AIDS initiatives are being driven throughout the District and these are starting to slowly turn the tide against the HIV/ AIDS pandemic. The graph shows the decrease in HIV infection rate, and during the same period the rate of people acquiring AIDS has increased.

13.10 Institutions of Higher Learning in CHDM

In CHDM, there are two FET Colleges, Ikhala Public FET College, King and Sabatha Dalindyebo FET which offer both DoE accredited as well as non-DoE programmes. The provision of non-DoE programmes is a proxy indicator of the extent to which FET colleges are responding to new market opportunities. Non-DoE programmes accounted for about 12% (16 853) of the total full time equivalents²⁶ (FTE) (138 712); however this distribution varies across Provinces. The Western Cape, KwaZulu Natal and Limpopo Province each had more than 15% of their students enrolled in Non-DoE programmes, whilst Mpumalanga and EC had 5% or less enrolled in such programmes.

²⁶ Full Time Equivalent (FTE) means the number of Students determined by the Department of Education in any Year to be the full-time equivalent of the actual number of Students enrolled in any educational, cultural or recreational activity.



Figure 59: FTE Spread: DoE and non-DoE

2000 FET Programme Enrollment

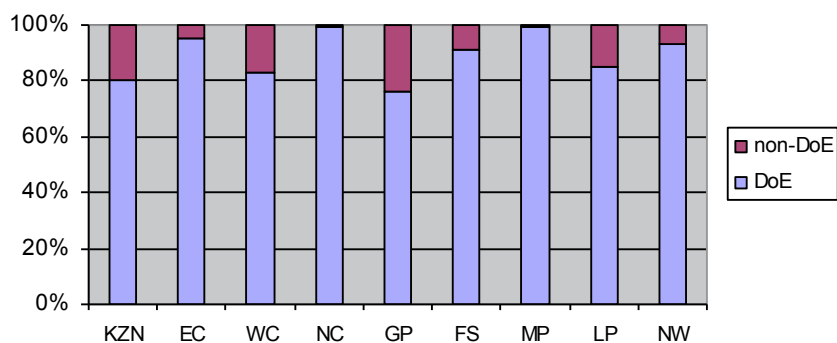
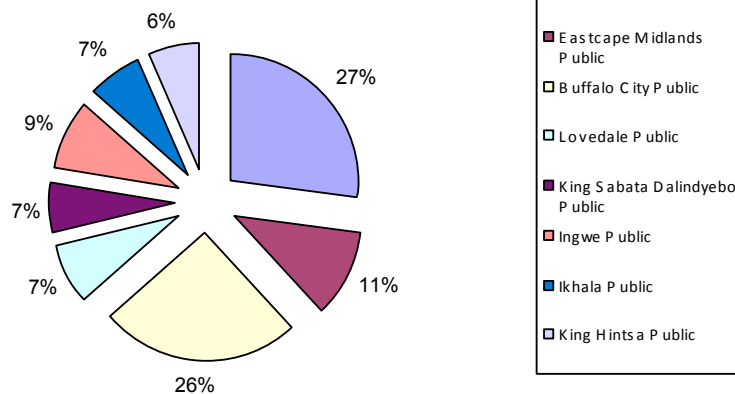


Figure 60: FET Colleges: EC Province²⁷

FET Colleges: EC Province

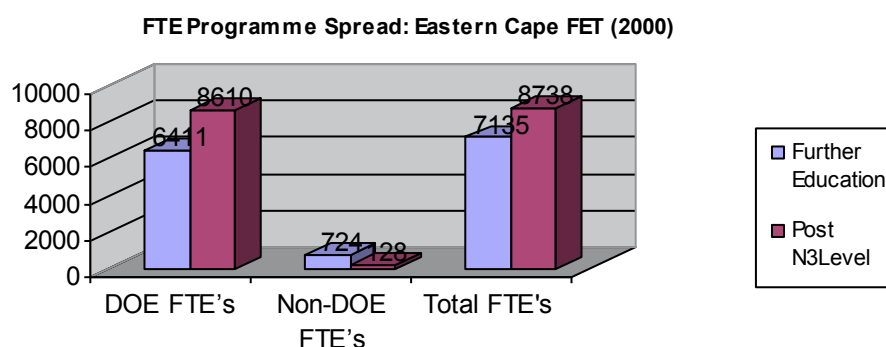


The FET colleges in EC are predominantly located in urban or peri-urban areas. The programmes offered by the colleges are at 2-levels, the further education (N1-N3) and post N3-level. Within those levels, there are programmes that are DoE accredited as well as Non-DoE. Figure 61 below reflects the actual number of students enrolled within the DoE as well as Non-DoE programmes at both further education and post N3-level.

²⁷ Data Source: National Business Initiative Study, 2000.



Figure 60: FET Colleges: EC Province²⁸



In 2004, the FET colleges were identified as critical in the alignment of education with the working world. The geographical location of some of the FET colleges in peri-urban and rural areas also makes these institutions critical in the training of unskilled and semi-skilled rural based workers. The DoE and the Department of Labour (DoL) started a recapitalization programme that includes infrastructure development as well as the revamping of training programmes.

The FET sector is indeed critical for the training and development of low-level skills. CDC has existing partnerships with local FET's and has networks with FET colleges outside CHDM; these can be utilised for either starting a training programme or working in collaboration with these institutions for the training of unskilled and semi-skilled workers.

13.11 Higher Education and Training (HE)

A matric endorsement is required for the study of university degrees, with a minimum of three subjects passed at the higher, rather than standard grade. Some universities set additional academic requirements. A standard school-leaving SA senior certificate is sufficient for technical qualifications and diplomas.

Higher education or tertiary education includes education for undergraduate and postgraduate degrees, certificates and diplomas, up to the level of the doctoral degree. SA has a vibrant higher education sector, with more than a million students enrolled in the country's 24 state-funded tertiary institutions: 11 universities, five universities of technology and six comprehensive institutions. Higher education is also offered at hundreds of private institutions, which are registered with the DoE to confer specific degrees and diplomas. Many of SA's universities are world-class academic institutions, at the cutting edge of research in certain spheres. Although subsidised by the state, the universities are autonomous, reporting to their own councils rather than government.

²⁸ Data Source: National Business Initiative Study, 2000.



Figure 62: University Spread: by Province²⁹

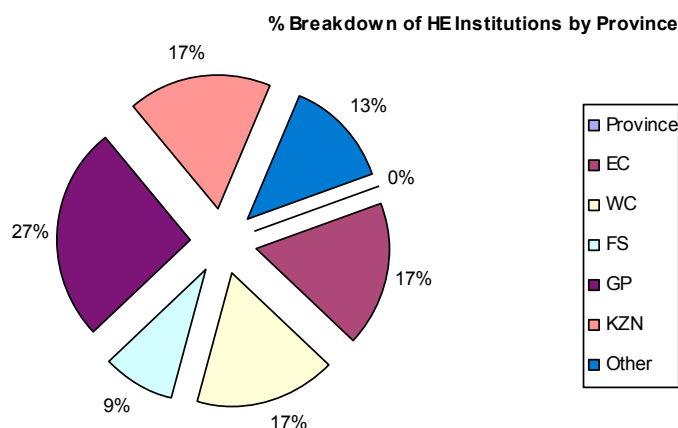
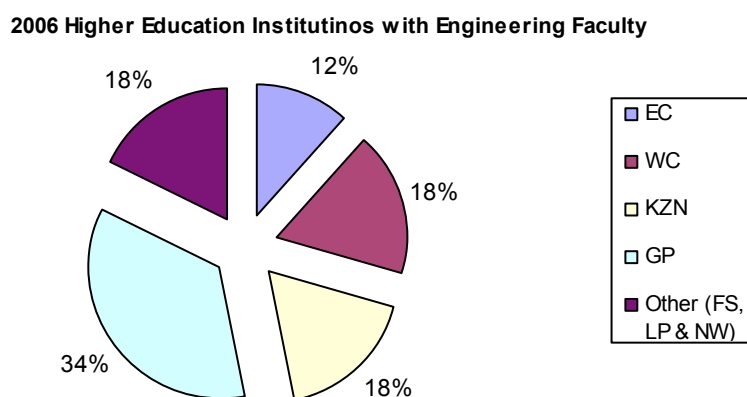


Figure 63: Universities with Faculty of Engineering (broadly defined)³⁰



Whilst EC Province has a fair number of universities, there are only 2-universities which offer engineering degrees/ diplomas. The engineering faculty of both universities was previously offered as part of a Technikon. The Nelson Mandela Metropolitan University (NMMU) is the most established institute of higher learning and Walter Sisulu University. The Institutions of Higher Learning in the proximity of CHDM are the University of Fort Hare, Walter-Sisulu University, and Grootfontein Agricultural College.

Initially, those working in the sectoral nodes serving the SEZ may not require a higher level of education; however the proposed CHDM SEZ will necessitate higher levels of skills because of the agro-processing machinery, plants and other supporting operations. This is likely to entail specialists especially in engineering and technology.

²⁹ Data Source: HEMIS (National Department of Education).

³⁰ Data Source: HEMIS (National Department of Education).



The Universities of Cape Town, Witwatersrand, Pretoria, Natal and Stellenbosch are regarded as having the best faculties of engineering in SA. As such, most companies recommend their engineering degrees to their future employees. For historical reasons, these universities are well resourced in terms of human capital, finance, infrastructure and international linkages. However, their throughput rate of metallurgists remains significantly low compared to other areas of specialisation. At a strategic level, there will be a need to engage the national DoE, university executives and university governing councils to start the process of engaging relevant academic faculties to begin a process of responding to the urgent need to produce metallurgists. Such an intervention could also require establishing strategic partnerships with the MERSETA, the Department of Science and Technology as well as other stakeholders such as JIPSA. The estimates skills requirements and wage bills for the proposed SEZ and sectoral nodes are listed in Table 66 below. Table 67 summarises the direct and indirect impacts, induced impacts and economy-wide impacts in terms of job creation.

Table 66: Estimated Number of employees and Category of worker for proposed SEZ

Category of work	Number	Amount in Rand (per annum)	Amount in 15 years (2030)
Managers	7	6,300,000	94,500,000
Professionals	4	2,600,000	39,000,000
Supervisors	6	5,850,000	87,750,000
Technicians	5	1,500,000	22,500,000
Trade Workers	12	13,500,000	202,500,000
Clerical and Admin Workers	2	360,000	5,400,000
Sales Workers	3	1,350,000	20,250,000
Machinery Operators and Drivers	9	2,700,000	40,500,000
General Workers	52	5,200,000	78,000,000
Total Salary bill for 1 factory	100	39,360,000	590,400,000
Total Salary bill in 15 factories per annum		590,400,000	8,856,000,000
Training Fees (10% of salary bill)	10%	3,936,000	59,040,000

Table 67: Estimated of Job Creation for proposed SEZ

Employment by skill (number)	Direct & indirect impact	Induced impact	Economy-wide impact
Highly-skilled	724	153	877
Skilled	2388	614	3002
Semi- and Unskilled	3567	752	4319
Employment in formal Sector	6679	1519	8198
Employment in informal Sector	7125	1001	8126
Total employment	13804	2520	16324

Source: Quantec & Own Calculations



During the operational phase, the economy-wide output is expected to be around R3bn while the GDP impact in EC Province is estimated at R1.0bn on average per year. This represents about 0.8% of EC GDP, at constant 2005 prices. Additional economy-wide labour remuneration is estimated at R473.4m per year. The more marginalised households in the region will see an increase in their incomes of about R165.3m on average per year.

14 102 direct and indirect formal operational job opportunities (about 10 681 of which will be semi- and unskilled jobs) are expected to be created during operations by established companies as well as the agro-processing upstream and downstream industries. Additionally, 11 870 job opportunities on average will come from the informal sector per year³¹. The following table summarises the macro-economic impact during the operational phase of the SEZ.

Table 68: Average annual socio-economic impact of the Opex spent in the SEZ on EC

Eastern Cape	Direct & indirect impact	Induced impact	Economy-wide impact
GDP multiplier (Rm)	789.5	227.7	1017.1
Percentage Share of Eastern Cape GDP (%)	0.6	0.2	0.8
Percentage Share of South Africa GDP (%)	0.0	0.0	0.1
Capital requirement (Stock)(Rm)	3 521.4	1 020.2	4 541.6
Labour Income (Rm)	376.5	96.8	473.4
Indirect taxes (Average)	140.7	43.7	184.4
Direct taxes: Corporate (Average)	71.7	23.8	95.4
Household income Quintile 5 (Rm)	134.4	30.9	165.3
Employment by skill (number)			
High-skilled	646	114	760
Skilled	2 775	458	3 233
Semi- and Unskilled	10 681	602	11 283
Employment in formal Sector	14 102	1 174	15 276
Employment in informal Sector	11 870	802	12 672
Total employment	25 972	1 976	27 948

Source: Quantec & Own Calculations

With about 15 factories planned to be built in the proposed SEZ, the construction of enabling infrastructure and factories will necessitate the employment of about 13500 people over the period of 15 years. This will reduce unemployment by 8 – 12% in the District.

Almost 1800 sustained jobs will be created for the period of the existence of the SEZ. The induced and informal jobs created as a result of the existence of the SEZ will be 25610 for the period of 15 years.

³¹ Jobs may not be new or all permanent jobs, and may overstate the impact of the project.



Job created as a result of feeder and supply nodes have not been taken into consideration in the numbers noted above. The lack of skills in the area has led to the allocation of 20% of the salary bill to be spent on training of staff members and employees. The amount equates to R4m per annum on training in one agro-processing factory exclusive of other funds that can be sourced through government agencies.

14 EXTERNAL CONSIDERATIONS

14.1 SWOT ANALYSIS

A SWOT analysis is a planning technique used to evaluate the **Strengths, Weaknesses, Opportunities, and Threats** involved in a project or in an organization. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favourable and unfavourable in achieving that objective.

Strengths	Weaknesses
<ul style="list-style-type: none"> Land available for development. CHDM has relatively favourable conditions for agriculture although the Western parts are subject to droughts and temperature extremes. CHDM has fertile soil to grow vegetables and vegetation as animal feed. Furthermore, three LMs in the area have high grazing potential. Advantages lie in food-processing based on resource and crop availability and existing factory infrastructure. Relatively well developed road and rail infrastructure connecting to Port Elizabeth, East London, Bloemfontein and Mthatha. High voltage (132kV) electrical lines go through Lukhanji (proposed SEZ location), making for easy electrical connectivity. Good ICT connectivity (internet and telephony) around the proposed SEZ location. The proposed site is earmarked and suitable for industrial development. Ability to produce primary agricultural products such as milk, beef, wool, fruit etc. Availability of sector clusters that can supply the proposed SEZ. Provincial political support for the establishment of the SEZ. 	<ul style="list-style-type: none"> The District's bulk agricultural products are processed outside the District e.g. milk, beef, wool, fruit etc. which relegates the District to the bottom of the value chain. High soil erosion, fluctuating temperatures and uneven rainfall making it difficult to predict business cycles and outputs. Unavailability of skilled labour for SEZ, however excellent for primary production for sector clusters. There are both emerging farmers and commercial farmers in the District. The emerging farmers concentrate mainly on crop farming but produce low yield crops and lower volumes to be able to form sustainable sector nodes. Local markets offer limited scope in terms of selling or marketing the products. In addition, limited agro-processing takes place in the nodes. There is a shortage of reliable and sustainable water supplies in the District.



Opportunities	Threats
<ul style="list-style-type: none"> The output from both the sector clusters and SEZ will help fulfil food security objectives. The anticipated creation of construction and operational employment from sector nodes and the SEZ. There is a high demand for SAs wool in China. There are demand opportunities that exist in the food-processing market in maize, wheat and beef. There is an opportunity to stimulate CHDM's economy and subsequently its LMs through the sector nodes and the SEZ. There are irrigation schemes with potential for expansion in Ncora, Bilatye and Qamata. There is an opportunity to tap into the growing Middle Eastern markets for export of goat meat. 	<ul style="list-style-type: none"> Competition from nearest municipalities that already operate in Agro-processing space. Proposed CHDM SEZ is not part of the dti's proposed SEZ Programme and thus may be overlooked. The area may not be attractive for the skilled labour envisaged for the SEZ. Further delays in the enactment of the SEZ Bill that will legitimize the establishment of the proposed SEZ.

14.2 PESTEL Analysis

Table 69 below is a summary of relevant external factors that could impact significantly on the viability of the establishment and development of the proposed SEZ in CHDM. In many strategic analysis tools, PESTEL and SWOT analyses have been considered adequate and are applied. PESTEL analysis stands for Political, Economic, Social, Technological, Environmental and Legislative elements. The analysis describes a framework of macro-environmental factors used in the environmental scanning component of strategic management. Results of the analyses are summarised in Table 69 below.

Factor	Description	Strength/Positive	Weakness/Negative
Political	Government supports the establishment of SEZ by allowing necessary compliance permits and licenses.	The environment has potential for agriculture and forestry because of the climatic and physical endowments such as rainfall and soil type	Lack of existing financial support
Economic	The economic upliftment of CHDM through SEZ and new investors	Creation of jobs and elimination of poverty and improvement in agro-processing	Current investor interest
Social	High unemployment rate and lack of skilled labour	Available of lower skilled labour pool	Country wide crime rate



Technological	Include communication through technology such as fixed telephony, internet and mobile telephones.	Availability of advanced equipment	An analysis has been done to determine the areas within CHDM where existing ICT infrastructure and services are available to support the proposed SEZ. There is weak connection to national fibre networks to improve bandwidth for the SEZ area.
Environmental	Low skills level, dilapidated and insufficient infrastructure (roads, fencing, stock dams and dipping tanks) are the biggest challenges	Availability of raw materials and highly fertile land	Poor water and sanitation infrastructure
Legal	Legal requirements with the SEZ	Critical compliance to PFMA, SEZ Bill, NDA and company laws	Clarity on financial support and incentives for SEZs

14.3 Major Risks

The major risks to the feasibility of the proposed SEZ in CHDM are listed below.

- a) Lack of support for the sector clusters may lead to further under-development of the District and poor input to the SEZ.
- b) Lack of political will and support may affect the necessary and critical impetus for the financial provision of the proposed CHDM SEZ. Even though there is a political will to improve agriculture in CHDM, no significant strides have yet been made in the development of this sector in the District. A focussed approach to feedstock production should be pursued in order to create the economies of scale required to make agro-processing in the District feasible and to combat the present cost of transport to high-volume markets that is currently rendering local production uncompetitive.
- c) Funding: Financial availability and provision for the capital cost of R2bn for the development may undermine the viability of the SEZ.
- d) SEZ Bill: Currently the legislation for SEZs is in a bill form and changes are effected towards enactment in 2014. Thus, the feasibility study is based on the SEZ Bill: 03/13 and changes may affect the viability of the SEZ.
- e) Lack of co-operation from LMs to CHDM vision may result in delays and inadequate supplies to the proposed SEZ.



- f) CHDM has preferred the establishment of an SEZ with sector clusters as the instrument for economic development within the District. The lack of designation of the SEZ and lack of support for clusters may result in the continued under-development, heightened poverty levels and joblessness in the region.

15 CONCLUSIONS

The EC's primary sector contributed only 2.1% to the total country's economy in 2011, a decrease of 0.2% from 2009. Between 1995 and 2011, CHDM's share of the provincial primary sector output decreased by almost 50%. The agricultural sector is of great economic significance to CHDM as it has the potential to contribute to regional food security, service local markets and social development. An Agro-processing SEZ is proposed in the region, and all indications based on the following criteria for selecting a suitable location, are that the SEZ should be located in Lukhanji, Queenstown. The criteria are:

- a) Proximity to residential areas, being an industrial development node a radius of five to ten kilometers was used;
- b) Demographics should favour a skilled to semi-skilled and employable age population of between 18 and 55 years old;
- c) Access to various modes of transport, especially rail and road for the transportation of raw materials and finished goods to markets;
- d) Quality bulk infrastructure to support the identified of Agro-processing economic cluster. Bulk infrastructure includes High Voltage (HV) electricity, water, sewerage, roads and storm water management and ICT;
- e) Favourable environmental conditions;
- f) Economic opportunities;
- g) A physical land requirement of approximately 300-500 hectares for industrial use, preferably Municipal owned; and
- h) Alignment to current development strategies.

The Hub and Spoke model suggested for economic development by the CHDM ensures an integrated and inclusive means of growth as sector nodes will enhance primary production and the SEZ secondary and tertiary production. This will bring economic activities to both the sector nodes and the SEZ locality.

The proposed location has all necessary base infrastructures such as water supply connection, waste water management works, electricity supply, ICT infrastructure and roads and rail connections to the economic hubs of EC and rest of the country.



The proposed SEZ has been designed with the following parameters:

- About 15 agro-processing factories are feasible;
- The total electricity demand for the proposed SEZ is approximately 100 MW. Each factory is estimated at 5 MW maximum design for electrical supply;
- The land requirement is about 350 ha (300 – 500 ha) in Lukhanji LM;
- For water requirements in the SEZ, a peak factor of 2,4 is recommended. This will result in a domestic water demand of 24,000 l/ha/day (8 400kL/day). All other design parameters such as minimum and maximum hydrostatic pressures could be factored into the preliminary design, as well as a medium risk fire category allowing two hydrants to discharge at any specific time with a design flow of 25 l/s per hydrant;
- The initial costs for the SEZ development are estimated at R2bn inclusive of capital cost, training, legislative compliance and ICT; and
- The total numbers of jobs to be created by 2031 are estimated at **16 324** construction jobs and operational being **27 948** totaling **44 272**.

The minimum annual volume of supply from the eight (8) commodities to make the proposed SEZ viable is noted as:

- a) Wool for Scouring Facility – 1 750 000 kilograms per year equates to roughly 437 500 sheep.
- b) Dairy plant – 70 000 litres of milk per day with roughly 15 000 000 litres per year at about 3 500 milk cows.
- c) Abattoir with about 400 cattle per day with a minimum of 110 000 cattle per year
- d) Wheat processing plant of 5 000 tons of wheat per year
- e) Maize processing of not less than 1 000 tons of maize per year
- f) Sheep for Mutton equates to a minimum of 40 sheep per day and roughly 10 000 sheep per year or 1,2 million tons per year
- g) Goat meat with about 40 goats per day translating into roughly 10 000 goats per year or 1,2 million t per year
- h) Mohair of about 45 kg of mohair per day (approximately 9 goats @ 5 kg each) equates to 2 700 goats per year or 13 500 tons per year.

From the study, the proposed SEZ is feasible provided the R2bn is made available in 5 – 10 years to galvanise the productive use of the agricultural potential of CHDM. This should be enhanced by reliable supply from sectors nodes and adjacent District Municipalities.