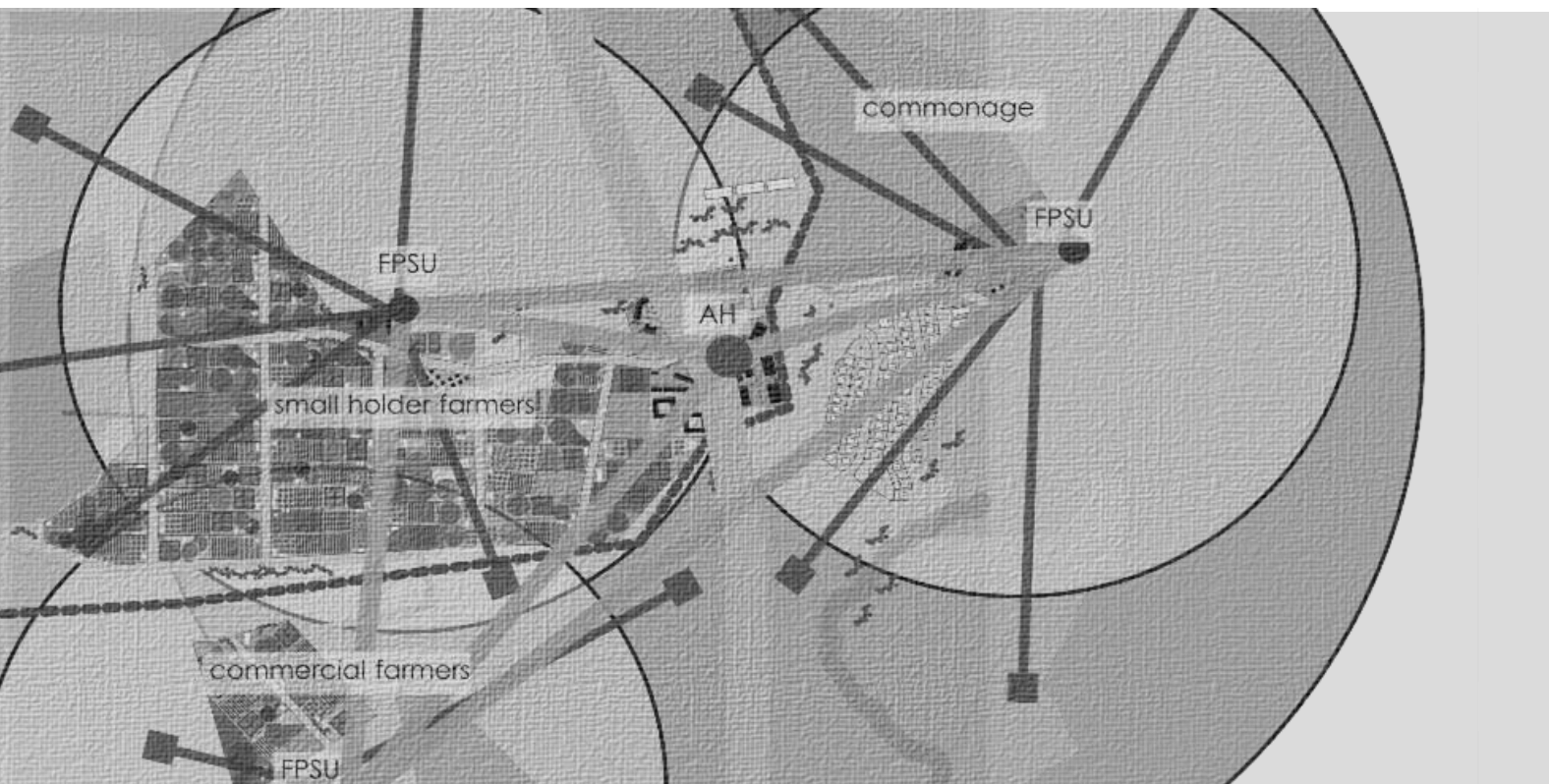


MASTER AGRI-PARK BUSINESS PLAN: EASTERN CAPE

April 2016



SARAH BAARTMAN DISTRICT BUSINESS PLAN

Final Report

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Executive Summary

The Sarah Baartman Agri-Park Business Plan reviewed the current agricultural activities in the Sarah Baartman District Municipality including, but not limited to, a review of the major agricultural products produced and the activities of the various public sector organisations supporting agriculture and farming projects in the region. This report serves as the first phase of the Agri-Park Business Plan, providing a status quo analysis, commodity selection, prioritisation and identification as well as a development concept and implementation guideline. The first section deals with the status quo and major role players in the region. The second section is the commodity prioritisation section and deals with the selection of commodities and the market environment around those commodities. The third section is the development concept and the implementation guidelines which consists of high level costing and recommendations for the development of the Agri-Park in Sarah Baartman District.

The Department of Rural Development and Land Reform has defined an Agri-Park as “a networked innovation system of agro-production, processing, logistics, marketing, training and extension services, located in District Municipalities. As a network it enables a market-driven combination and integration of various agricultural activities and rural transformation services.” Thus the Agri-Park concept involves integrating collective farming, farmer incubation programmes, Agri-Clusters, and Eco-Villages; while also contributing to land conservation and preservation. A business plan for the Agri-Park in Sarah Baartman DM was developed in 2015 by the Department of Rural Development and Agrarian Reform and this report builds on that research as well as the Agricultural Policy Action Plan (APAP).

In this report reference is made to ‘commodities’ this being a broad range of agricultural products and not strictly traded agricultural commodities. Commodities were identified through a review of the status quo of agricultural activities and biophysical conditions of the region, a review of policy documents and current agricultural projects. These commodities were then by way of a prioritisation matrix which has assessed each commodity according to 37 scoring criteria falling into four broad classes. These are:

- A) Biophysical criteria
- B) Enterprise viability
- C) Economic development
- D) Political & social objectives

Based on a Sarah Baartman District Municipality Council decision the site of the Agri-Hub for the district is in the town of Addo, in Sundays River Valley LM. The concept of the Agri-park and its supporting structures within the Sarah Baartman DM will be explored within the Final Report.

In accordance with the Agricultural Policy Action Plan and directives from the Department of Rural Development and Land Reform the three top scoring commodities have been identified for inclusion as the core focus areas for the Sarah Baartman Agri-Park. The top three scoring commodities for Sarah Baartman were identified as Red Meat (Including Beef, Sheep, and Chevon); Vegetable production, and Citrus production.

The identified commodities were then taken through a detailed Market Analysis, Value Chain Assessment, and SWOT Analysis (Chapter 8 -10)

The following were the key outcomes of the commodity analysis, relating to these three candidate commodities:

Red Meat:

- The Sarah Baartman environment is well suited to livestock farming (particularly beef and sheep) with almost all areas of the District showcasing decent suitability to some form of livestock farming.
- Large opportunities exist in the Sarah Baartman District in Red Meat sub-classes Beef, Sheep, and Goat. These opportunities include farming opportunities for commercial and emerging farmers as well as numerous opportunities for small and large concerns in the upstream and downstream portions of the value-chain including agro-processing.
- The demand for red meat grew between 2013 and 2014 and it is believed that the local and international market for red meat will grow in the future.

Vegetables:

- While the Sarah Baartman environment may not be perfectly suited in all areas to vegetable farming, there are some pockets across the District where a variety of crops can be produced.
- By supporting multiple crops the Agri-Park can ensure more farming concerns are catered for and the most suitable crops are planted in each area. This will greatly improve the quality of production, improve enterprise flexibility to market demands and enhance food security.
- Vegetable production and consumption has been increasing and it is believed that demand for vegetables will continue to grow. Because vegetables are a necessary part of the human diet, the demand for them should not decline.

Citrus:

- Citrus is well suited to areas around the Agri-Hub of Addo. Citrus is also suited to the Gamtoos area of SBDM
- The crop is grown as a commercial crop in the District and has historically been an area of high production thus the area has the necessary skills and familiarity for this product to be supported by the Agri-Park.
- There are great opportunities to increase citrus production in Sarah Baartman District
- Farms and existing small holder citrus farmers have already been ear-marked for inclusion in the Agri-Park by the District
- The demand for South African citrus is expected to grow in the future both locally and nationally. Hectares planted has increased by over 18% and it is believed this will increase in the next 10 years to cope with growing demand.
- There is a well-established commercial citrus industry in Sundays River Valley LM that can support and would be willing to support emerging farmers. There are already 15 emerging farms that are being supported by various programmes and commercial farmers.
- It has also recently come to light that there has been existing project plans involving two sites namely KK113 and Enon Bersheba supported by the ECRDA, Sundays River Valley LM and SRCC.

As with many rural municipalities, the agricultural development is constrained by road infrastructure, access to water and electricity infrastructure as well as issues affecting access to arable land. For the Agri-Park concept to succeed it is imperative that these issues be adequately addressed. These weaknesses were discussed within the SWOT Analysis, which include; drought and poor rainfall affecting the potential of the area; infrastructural challenges (road and water) impacting the current development of the agricultural sector and the ever-present threat of theft and vandalism.

The third section of this report deals with the development concept and the implementation guidelines which consists of high level costing and recommendations for the development of the Agri-Park in Sarah Baartman District.

The development concept covers what the completed Agri-Park should contain per commodity. The key thrusts are listed in a table below for each commodity. These key thrusts are activities/ products that should be developed by the Agri-Park.

Table I.I: Key thrusts for each commodity in the Agri-Park

Livestock	
Genetic improvement	Improving the genetic quality of emerging and small-holder farmers for immediate relatively fast improvement of prices offered for carcasses and wool/ mohair when sold.
Feedlot	A feedlot using citrus pulp as the primary means of feed. Operational during the citrus season in order to improve the quality of the cattle that are being sent to abattoirs. Develop a feedlot in Cookhouse through a Public Private Partnership (i.e. Humansdorp Co-Op).
Fencing	Fencing of commonage key grazing areas for small holder and emerging farmers.
Management of commonage	A key aspect of improving small holder farmer's herds is an improvement in the management of commonage. Commonage, if correctly planned and managed, can be vital for small holder farmers.
Veterinary support	FPSUs could potentially provide a base for DAFF veterinarians to operate out of and are invaluable to emerging and smallholder farmers.
Training	Training is a vital aspect of the Agri-Park concept. In order to give small holder and merging farmers an opportunity to produce livestock for the market then it is important to train farmers in animal handling and market information.
Abattoir facilities	There is currently space in the market for an abattoir at FPSU level that has deboning facilities. This should largely be focused on B and C grade meats for the local markets in the Ndlambe and Makana areas. (Redevelopment of the IMPEC Ostrich Abattoir).
Vegetables	
Organic vegetables	There is a growing market in South Africa for organically grown vegetables as consumers become more aware of food production. There may be a gap in the market to exploit organically grown vegetables.
Processing of vegetables	Basic processing of vegetables could take place at the Agri-Hub. Cutting, peeling and packaging could be an important processing opportunity.
Production of vegetables in key projects	Vegetable production can be kick-started in areas through investment in key projects particularly at KK113 (interim production) and Enon Bersheba (110ha).
Market Linkages	Farmers must engage with Agri-Park, commercial farmers and destination markets to gain key market intelligence, form production agreements and make long term partnerships to exchange information and expertise.
Training	A key aspect involved in Agri-Park concept is that of training and development of farmers. Emerging vegetable farmers need practical training in best farming practices as well as training in how to access markets.
Citrus	
Emerging Farmer Support	While there is a well-established commercial citrus sector, production opportunities lie with emerging farmers namely on two sites (KK113 - 225ha and Enon Bersheba 220ha) which has already been explored in research ¹
Training and Mentorship	Training and mentorship are extremely important for the Agri-Park. A key initiative for training and mentorship would be the establishment of

	a Citrus Academy ¹ , supporting both the NARYSEC youth programme and citrus industry initiatives; supported by the Nelson Mandela Metropolitan University.
Citrus nursery and pruning enterprise ¹	Establishment of a citrus nursery and a pruning enterprise which shall be institutionally and operationally supported by the <i>Sundays River Citrus Company</i> .
Creating linkages to established citrus production	It is vitally important that emerging citrus farmers create linkages to established citrus farmers and established businesses. These linkages will benefit farmers. Unlike other commodities, citrus is largely exported and increasing production of citrus in the region can boost exports and satisfy demand in overseas areas thus increasing the amount that is paid to farmers. This system can be extremely beneficial to emerging farmers.

This section also contains the high level costing which was conducted. This cost is purely indicative of a green-fields development and will vary wildly from FPSU to Agri-hub. A key recommendation from this report is that the development must consider services and infrastructure already in place before building more infrastructure or providing services. This ensures that projects and emerging farmers will receive necessary funding.

Finally the implementation guidelines provides guidelines on how to implement the Agri-Parks concept. It contains alignment with government programmes, projects and campaigns that are currently ongoing. Private programmes are included in this section. Recommendations and the rollout plan are also part of this section. Specific recommendations are given for:

- Infrastructure
- Natural resources
- Agri-Park commodities
- Technology
- Training
- Agri-Park units
- Logistics
- Policy environment
- Funding/ investment
- Private/ public integration
- Market and
- Incentive programmes

¹ SURE AGRI MARKETING, January 2015. *The KK113 Citrus Industry Initiative. A development project supported by the ECRDA and SRCC.*

List of Abbreviations

ACIP	Aquaculture Competitiveness Improvement Programme
AGOA	African Growth and Opportunity Agreement
AH	Agri-Hub
APAP	Agricultural Policy Action Plan
CASP	Comprehensive Agriculture Support Programmes
CDA	Cacadu Development Agency
CGA	Citrus Growers Association
CRDP	Comprehensive Rural Development Programme
CSA	Climate Smart Agriculture
CSAP	Camdeboo Satellite Aquaculture Project
DAFF	Department of Agriculture, Forestry and Fisheries.
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DRDLR	Department of Rural Development and Land Reform
DRDAR	Department of Rural Development and Agrarian Reform
ECDC	Eastern Cape Development Corporation
ECRDA	Eastern Cape Rural Development Agency
ECRDS	Eastern Cape Rural Development Strategy
ECSECC	Eastern Cape Socio-Economic Consultative Council
FPSU	Farmer Production Support Unit
GDP-R	Regional Gross Domestic Product
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IPAP	Industrial Policy Action Plan
LRAD	Land Redistribution for Agricultural Development Programme
MPO	Milk Producers Organisation
NDP	National Development Plan
NGP	New Growth Path
NMBM	Nelson Mandela Bay Metropolitan Municipality
NNIP	Ndlambe Natural Industrial Products
REID	Rural Enterprise and Industry Development
RID	Rural and Infrastructure Development

RPO	Red Meat Producers Organisation
RUMC	Rural Urban Market Centre
SBDM	Sarah Baartman District Municipality
SEDA	Small Sector Enterprise Development
SIP	Strategic Integrated Project
SMME	Small, Medium and Micro Enterprise
SRCC	Sundays River Citrus Company
WTO	World Trade Organisation

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Overview

Chapter 1

1. REPORT OVERVIEW

The Department of Rural Development has defined an Agri-Park as “a networked innovation system of agro-production, processing, logistics, marketing, training and extension services, located in District Municipalities. As a network it enables a market-driven combination and integration of various agricultural activities and rural transformation services.” This means that the Agri-Park concept involves integrating collective farming, farmer incubation programmes, Agri-Clusters, and Eco-Villages; while also contributing to land conservation and preservation.

The DRDLR has identified the need for business plans for 44 district municipalities across South Africa for the development of these Agri-Parks. The four Agri-Parks earmarked for the Eastern Cape will be situated in Amathole DM, Joe Gqabi DM, OR Tambo DM and Sarah Baartman DM. This business plan is specifically developed for the Sarah Baartman DM.

This draft report includes the agriculture industry analysis and the prioritisation of commodities for inclusion into the Agri-Park and a full analysis of the selected commodities. The final report will continue by developing the Agri-Park business plan and implementation guidelines

“To develop a Master Agri-Park Business Plan that aligns with the Agri-Park Model that was developed by the Department of Rural Development and Land Reform and the dominant Commodity Value Chains in the specified District Municipalities.”

The goal of the Agri-Park Master Business Plan is described as:

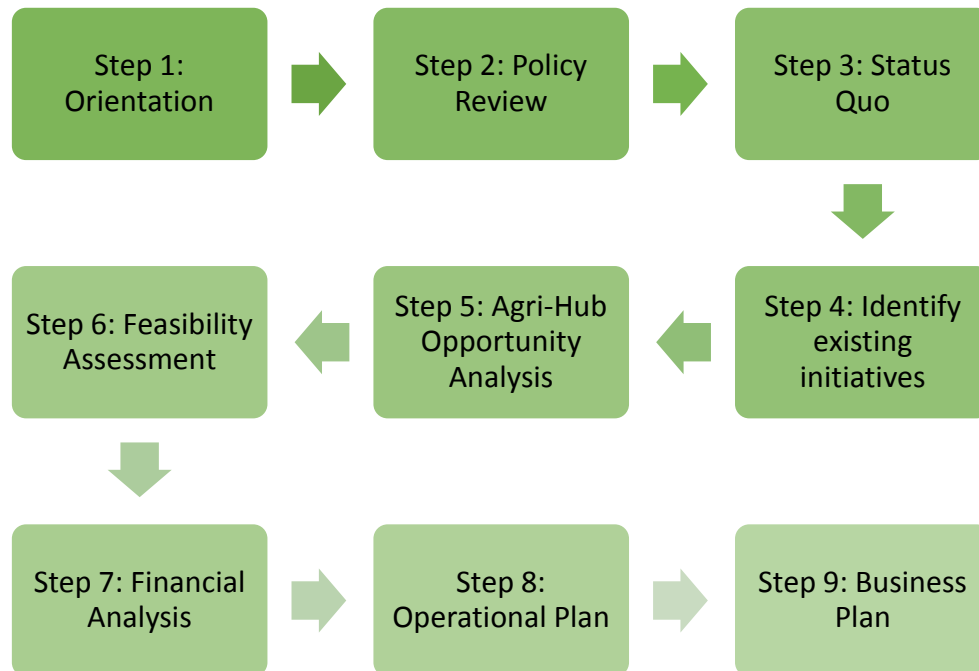
The objectives of the Agri-Park Business Plan is summarised from the Terms of Reference as follows:

1. To understand the Agri-Park Model developed by the DRLDR.
2. To identify the existing agro-processing facilities and farmers within each district municipality and to establish possible linkages.
3. To identify three possible agro-processing business opportunities for each Agri-Park.
4. To develop an institutional/operational plan for each Agri-Park that indicated how existing farmers will be linked with the Agri-Park.
5. Review all existing documentation, maps and information.
6. To work with the representative of the districts and the CSIR.
7. SWOT analysis that includes a legal, environmental, financial and technical analysis.
8. Identify current agro-processing initiatives and possible synergies, linkages and opportunities to buy into existing businesses.
9. Do a financial analysis of the proposed agro-business opportunities.
10. To conduct a feasibility and viability assessment of the proposed agro-processing facilities.
11. Develop an operational plan for the business park.
12. Determine the costing of the Agri-Park.

1.1 Methodology

Figure 1.1 below, provides for a methodology illustration of the various steps that are undertaken for the study, these are issue described below in more detail.

Figure 1.1: Methodology



1.2 Draft Business Plan Commodity Selection Report

The purpose of the Master Business Plan is to provide Sarah Baartman DM with a strategic document that will outline how to establish and develop a viable and successful Agri-Park in Sarah Baartman DM. The Master Business Plan report comprises of the following chapters:

Chapter 2: Agri-Park Model: This chapter is aimed at providing a theoretical understanding of the Agri-Park concept. This will describe what an Agri-Park is, how it will operate, why it is being established and who it will service.

Chapter 3: Policy Review: The policy review chapter briefly outlines national, provincial and local policies and documents related to agricultural production and processing. The chapter will also consider district specific policies and documents such as the IDPs, SDFs and the existing Agri-Parks Business Plan for SBDM.

Chapter 4: Location Context: This chapter provides a description of the district in terms of location, major towns, transport routes and main economic activities. It also provides the location of the Agri-Park, including maps and depiction of economic infrastructure.

Chapter 5: Agriculture Role-Players: This chapter identifies the government, private sector and associations and organisations involved in the agricultural sector in the district. This will include the descriptions of the stakeholders' mandates and related agricultural projects.

Chapter 6: District Economic and Demographic Overview: This chapter describes the economic and socio-economic status of Sarah Baartman DM. Details around district demographics, labour trends, income and poverty levels are also provided.

Chapter 7: Agricultural Industry Analysis: The agricultural industry analysis provides insights into the main agricultural activities, current and proposed agricultural projects and the environmental conditions in the district. This chapter will also determine the main commodities for the Agri-Park by means of a multi-criteria prioritisation model.

Chapter 8 - 10: Prioritised Commodity Market Analysis: The three main commodities for the Agri-Park identified in chapter 7 are discussed in more detail in this chapter. This includes a market assessment, value chain assessment and SWOT analysis.

Chapter 11: Development Concept: The development concept is discussed in chapter 12 in which the key components of the Agri-Park are discussed. This chapter also contains a high level costing of the Agri-Park concept.

Chapter 12: Implementation Guidelines: Chapter 13 contains the implementation guidelines for the Agri-Park. This chapter also contains specific recommendations regarding the future development of this concept.

Agri-Park Model

Chapter 2

2. AGRI-PARK MODEL

2.1 Introduction

Agri-Parks are the culmination of existing models in both local and international spheres of development. The concept was developed (by the DRDLR) after examining multiple private and public land usage models, ranging over educational and experimental farm operations, collective farming initiatives, farmer-incubator projects, Agri-clusters, eco-villages, and urban-edge allotments and market gardens. Agri-Parks seek to serve as the transition zone between agricultural production zones in rural areas and urban processing and transportation hubs.

Agri-Parks are doubly named, in that the park seeks to aid in open space preservation, and seeks to promote a business park environment, with multiple organisations and initiatives based out of a centralised area. The centralisation of developmental agricultural activities within districts encourage linkages between the parks and the surrounding land for production. Additionally, it enables the centralisation of physical infrastructure within the district, enabling development of rural agricultural activities.

Agri-Park Guidelines

1. *One Agri-Park per District (44 nationally, 6 provincially)*
2. *Agri-Parks must be farmer controlled.*
3. *Agri-Parks must be the catalyst around which rural industrialization will take place.*
4. *Agri-Parks must be supported by government (for 10 years) to ensure economic sustainability.*
5. *Partnerships between government and private sector stakeholders should be strengthened, ensuring increased access to water, energy, and transport services, and production and develop existing and create new markets to strengthen and expand value-chains.*
6. *Maximise production of state land with high agricultural potential.*
7. *Increase and maximise access to markets to all farmers, especially emerging farmers and rural communities.*
8. *Maximise the use of land with high agricultural potential (i.e. land with high production capability).*
9. *Maximise use of existing agro-processing, bulk and logistics infrastructure.*
10. *Revitalise rural towns and provide support to towns with good growth potential, particularly towns with high current or potential economic growth, and high population growth over the past ten years.*

Agri-Parks, which will be farmer controlled, seek to achieve multiple developmental objectives within the rural environment, aimed at promoting agricultural production within the realm of subsistence and small-scale producers. The Agri-Park approach will include the selection and training of smallholder farmers, as well as selecting farms per province for the placement, incubation and training of unemployed graduates and other entrepreneurs. These agri-business entrepreneurs, and emerging farmers, will be actively mobilised and organised to support this initiative. Strategic public partnerships between the Department of Rural Development and Land Reform with other key government institutions, such as the Department of Agriculture, Forestry and Fisheries, the Department of Cooperative Governance and Traditional Affairs, and local institutions such as provincial development agencies, and the Eastern Cape Rural Development Agency.

The development of Agri-Parks will necessitate the review of all existing land reform policies, to ensure sufficient policy support. State and communal land is expected to be used for both production and processing.

2.2 Objectives of the Agri-Parks Programme

The following are the strategic objectives of the Agri-Parks Programme:

- Establish Agri-Parks in all of South Africa's District Municipalities that will kick start the Rural Economic Transformation for these rural regions.
- Promote the growth of the smallholder sector by creating 300 000 new small-scale producers, as well as 145 000 new jobs in the agro-processing industry by the year 2020 (as set out in the National Growth Path).
- Promote the skills of, and support to, small-holder farmers through the provision of capacity building, mentorship, farm infrastructure, extension services, production inputs and mechanisation inputs.
- Strengthen existing and create new partnerships within all three spheres of government, the private sector and civil society to develop critical economic infrastructure such as roads, energy, water, ICT and transportation/logistics corridors that support the Agri-Park value chain.
- Enable producer ownership of the majority of Agri-Parks equity (70%), with the state and commercial interests holding minority shares (30%).
- Allow smallholder producers to take full control of Agri-Parks by steadily decreasing state support over a period of ten years.
- Bring under-utilised land (especially in Communal Areas Land and land reform farms) into full production over the next few years, and expand irrigated agriculture.
- Contribute to the achievement of the National Development Plan's "inclusive rural economy" and target of 1 million jobs created in agriculture sector through creating a higher demand for raw agricultural produce, primary and ancillary inputs, as well as generating increased downstream economic activities in the sector.

The Agri-Parks Programme seeks to achieve a rural economic development through an all-inclusive approach to development by developing agricultural value chains that are linked nationally. The programme will also be able to address issues of employment, skills development and productivity of land.

The Agri-Parks programme is viewed as a programme that will address issues of rural economic development, one of government's key areas to address. Government has previously intervened with various anti-poverty programmes, but with a lower impact than what was expected. The Agri-Parks model, however, is expected to co-ordinate anti-poverty activities, providing an integrated package service that will match the local priorities. The development of Agri-Parks will necessitate the review of all existing land reform policies, to ensure sufficient policy support. State land is expected to be used for both production and processing.

2.3 Agri-Park Structure

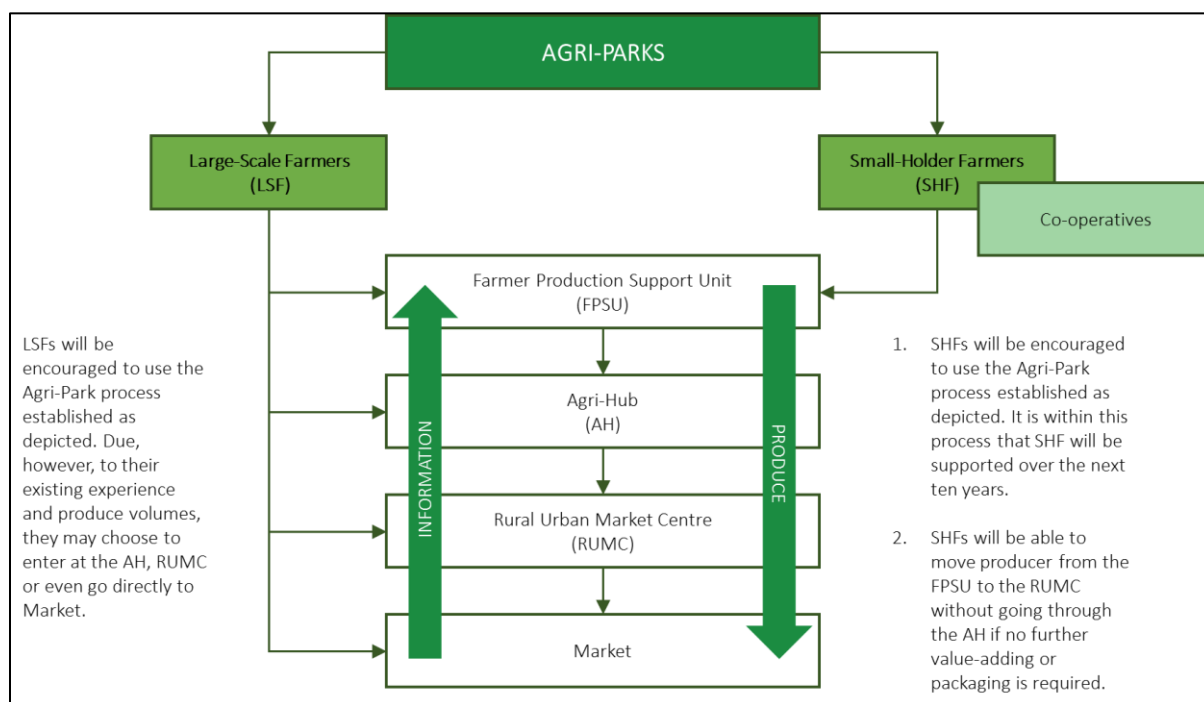
An Agri-Park is a networked innovation system of agro-production, processing, logistics, and marketing, training and extension services. The Agri-Park system is located in a district municipality, serving to enable market-driven

combination and integration of various agricultural activities and rural transformation services. The Agri-Park concept comprises of three basic units:

- **Agri-Hub Unit (AH).**
- **The Farmer Production Support Unit (FPSU).**
- **The Rural Urban Market Centre Unit (RUMC).**

Figure 2.1 provides a visual representation of the information and produce flows within the Agri-Park system.

Figure 2.1: Visual Representation of Agri-Park System



Source: DRDLR, 2015

Agri-Hub

Agri-Hubs are located in centralised places within a District Municipality that are able to service and interact favourably with agricultural activities within the district. The Agri-Hub, by necessity, is located in an area that can serve as a link between district agricultural production and markets, and supply inputs from service and product providers towards the agricultural producers. Agri-Hubs, ultimately, need to possess sufficient physical and social infrastructure to accommodate:

- Storage/warehousing facilities (cold storage, dehydrators, silos etc.)
- Agri-processing facilities (mills, abattoirs, juicing, etc.)
- Enterprise development areas: lease space to high intensity start-up industries that can benefit from the inputs of outputs of the Agri-Hub, i.e. piggeries, tunnel grow crops, bio-gas production etc.
- Large scale nurseries to supply agricultural production initiatives.
- Packaging facilities for national and international markets.
- Weighing facilities
- Logistics hubs for collection of goods from the FPSUs.
- Transport service workshops and spare parts for larger maintenance tasks of Agri-Hub and FPSU equipment.
- Agricultural technology demonstration parks to train farmers in the Agri-Park catchment area on new technologies in terms of fertilizers, plants and seeds, irrigation, energy use and farm implements
- Soil testing laboratories.

- Accommodation for extension training and capacity building programs
- Housing and recreational facilities for workers and Agri-Hub staff.
- Business, marketing and Banking facilities, (ICT)
- Rural development organization offices.

Farmer Production Support Units

The Farmer Production Support Unit (FPSU) is a rural outreach unit connected with the Agri-Hub. The FPSU serves as a resource node in areas isolated away from the main Agri-Hub, serving the surrounding community. The FPSU is detailed with collecting primary production from agricultural initiatives in the area, storing this product, engaging in small-scale processing operations for the local market, and providing extension services to surrounding operations (including mechanisation). In more detail, FPSU are multiple centres within a district that provide:

- Agricultural input supply control (quality, quantity, timeous deployment of inputs).
- Mechanisation support (tractor driving, ploughing, spraying, harvesting etc.)
- Machinery, servicing workshop facilities.
- Primary produce collection.
- Weighing of produce and stock.
- Sorting of produce for local and other markets.
- Packaging of produce for local markets
- Local storage.
- Processing for local markets (small scale mills etc.)
- Auction facilities for local markets
- Provide Market information on commodity prices (ICT).
- Extension support and training
- Local logistics support (delivery of farming inputs, post-harvest transportation, transportation to local markets, etc.)
- Small Business Development and Training centre.
- Banking
- Fuel

Rural Urban Marketing Centres

Rural Urban Marketing Centres (RUMC) are located on the periphery of large urban areas, providing three main purposes. The first is to link rural, urban and international markets; the second is to act as a holding facility for product, releasing produce as required to urban markets based on seasonal trends; and the third is to provide market intelligence and feedback to the Agri-Hub and FPSU. RUMCs seek to:

- Improve access to and distribute market intelligence;
- Assist farmers, processors in managing a nexus of contracts;
- Provide large warehousing and cold storage facilities to enable market management;
- Provide logistic and transport in collection of produce from FPSUs or Agri-Hubs;
- Receive inputs from FPSU's and Agri-Hubs.
- Assist multiple Agri-Parks.

Figure 2.2: Strategic Representation of the Agri-Park Model

Source: DRDLR, 2015

Figure 2.2. Depicts the catchment area of the Agri-Park in the grey circle, essentially illustrating the size and contents of the Park that includes farmers, FPSU's, AH's and RUMC's. The Agri-Hub, or AH, forms the central point of the Agri-Park that is linked to the FPSU's. There will be more than one FPSU per district, which is intended to provide a supporting role between the AH and the farmers. All these components of the Agri-Hub are interlinked, providing a streamlined and integrated approach to agricultural and rural development. Table 2.1 provides the relevant detail of the catchment of each component.

Table 2.1: Norms and Standards for Agri-Parks

Component	Proposed catchment area in areas of low density population	Proposed catchment area in areas of high density population
FPSU	30km	10km
Agri-Hub	120km	60km
RUMC	250km	150km

Source: DRDLR, 2015

The FPSU is designed to have catchment areas of 30km in low density areas and 10km in high density areas, indicating that there will be several per district. The AH is designed to have catchment areas of 120km in low density areas and 60km in high density areas, indicating fewer AH's than FPSU's. There are likely only to be one RUMC in the Eastern Cape for the initial phase of the Agri-Parks roll out. It will likely be located in Buffalo City. After this initial phase a RUMC may be located in each district municipality if there is a need for it. When the SBDM Agri-Park develops into a feasible business venture and there is a demand for a RUMC, one could be developed specifically for SBDM in Nelson Mandela Bay.

Policy Review

Chapter 3

3. POLICY REVIEW

The following chapter aims to discuss the relevant agricultural policy. Agriculture policy documents are provided at three levels of government: National, provincial and municipal. Each of these levels approach agriculture and Rural Development with their own priorities. National government seeks to address high-level inequalities resulting from changing governmental regime and general migratory trends. National-level documents also seek to create employment and income for South Africans. Provincial level reports are more focused in that lower-level initiatives can be identified and developed for rural development. Municipal government, again, be more specific still, allowing for targeted rural policies and initiatives.

It is important to examine the policy documents as it is necessary to align the business plan to planned interventions and

3.1 National Development Plan (NDP) (2012)

The National Development Plan outlines the visions for South Africa, to be realised in 2030, which the provincial (e.g. Eastern Cape Vision 2030) and municipality (e.g. Nelson Mandela Bay Vision 2030) development plans have subsequently been based. The Plan emphasises the importance of inclusive rural development alongside urban initiatives, giving due diligence to the large populace throughout SA that resides within rural areas, enabling rural communities to have greater opportunities to participate in the economic, social and political life of the country (NPC, 2012).

The main driving force of rural development within the National Development Plan is implemented through job creation in the agricultural sector, through development based on effective land reform, and the growth of production in traditional agriculture and aquaculture. Should these policies be implemented, the agricultural initiatives will also enable development within agro-processing and fishing sub-sectors, as well as enabling additional tourism and entrepreneurial capabilities of the regions. Finally, South Africa is committed to providing and improving access to basic services that will develop capabilities of communities to take advantages of opportunities around the region, assisting the communities through remittances and skills transfer (NPC, 2012)

3.2 Comprehensive Rural Development Programme (CRDP) (2009)

The CRDP condenses the policies affecting rural communities into a single organised directive. The framework is “aimed at being an effective response against poverty and food insecurity by maximising the use and management of natural resources to create vibrant, equitable and sustainable rural communities” (Department of Rural Development and Land Reform, 2009:10).

The strategic objective of the CRDP is to facilitate integrated development and social cohesion through participatory approaches in partnership with all sectors of society, and seeks to accomplish this through a three-pronged strategy focusing on:

- A coordinated and integrated broad-based agrarian transformation;
- Strategically increasing rural development; and
- An improved land reform programme

3.3 Department of Rural Development and Land Reform – Strategic Plan 2015-2020 (2015)

The Strategic Plan outlines five programmes that will assist in completing its mission statement: To initiate, facilitate, coordinate, catalyse and implement an integrated rural development programme (Department of Rural Development and Land Reform, 2015:9). Of these programmes, one specifically targets rural development, Programme 3: Rural Development.

Programme 3 plans set in place actions for government entities to implement for rural development. The main objectives of the programme are to:

- Facilitate rural livelihoods development;
- Develop infrastructure that will support the rural economy;
- Provide support to rural enterprises and development of rural sectors and sub-sectors; and
- Encourage job creation and skills development in rural areas.

These objectives have links to the Agriculture Policy Action Plan, the CRDP, and the National Development Plan.

3.4 Industrial Policy Action Plan 2013/14 – 2015/16 (2013)

The IPAP is unlike the previous rural development policy reports, in that it does not focus primarily on rural development, but rather industrial development. National industrial development is not isolated to industrial hubs, but spread across the whole value chain. The plan focuses on rural development via improving rural inputs into the value chain. Examples of rural inputs range from agricultural produce from formalised farming structures to animal hides sold informally from subsistence farmers. The IPAP seeks to inform and standardize the latter markets, so that a uniform, high quality product is available for processing.

3.5 Diagnostic overview of the Eastern Cape Province (2013)

This report is a summary of the main challenges, attributes and accomplishments of the Eastern Cape. It serves as a diagnostic review that highlights the main development challenges and problems in the province. Furthermore, the review acknowledges and seeks to address the well-known provincial crisis areas, specifically health, education, employment and the functioning of the state, with particular focus on education and health, economic development, and governance and institutional capabilities, the core chapters of the overview.

The review does not specifically focus on rural development, but similar to the IPAP, addresses the core role that rural communities play in correcting the above concerns. Human Development, as a good example, focuses on the disparities between the rural and urban areas, the disparities between the former homeland areas and the Cape Province, and the legacies of Apartheid. The chapter also acknowledges and discusses migratory trends, such as the circular rural-rural and the rural-urban migration patterns.

3.6 Eastern Cape Rural Development Strategy (ECRDS) (2010)

The ECRDS is a response by the Eastern Cape Department of Agriculture and Rural Development to a then growing national focus on rural development. Rural development was seen as a corrective tool to address uneven development, as a result of increased urbanisation after 1994. The ECRDS seeks to “align and effectively coordinate all policy interventions in order to ensure that the strategy draws from, and is aligned with all major policy frameworks across all spheres of government”. (Eastern Cape Department of Agriculture and Rural Development, 2010:9)

The ECRDS acknowledges that the Rural Eastern Cape is a region that required a different approach than macro-policy objectives. Rural development, with respects to the Eastern Cape, is a process where people need to be involved in creating a different society, and must be created around population organisation and mobilisation. The strategy ties the need for rural development into several fundamental concerns currently existing within the province, particularly:

- Structural factors
- Historical political economy
- Land and agrarian relations
- Settlement patterns and migration
- Food security; and

- Impacts of past initiatives.

The strategy also outlines the principles of which it uses to understand Rural Development, before outlining its strategic vision and goals. The goals are broadly defined as the transformation of rural areas into regions that are socially and economically developed, and creating a conducive institutional environment for rural development. The goals will be achieved through the implementation of six pillars, focusing on land reform, agrarian transformation and food security, non-agriculture rural economic development, infrastructure, social and human development, and providing an enabling environment.

3.7 Eastern Cape Rural Development Plan (2013)

The Eastern Cape Rural Development Plan, builds on the Eastern Cape Rural Development Strategy by developing actionable plans to affect the Eastern Cape Rural Development Strategy. The EC RDP defines and identifies the rural population within the province, as well as providing an industrial review of key rural industries within the province (Agriculture, Forestry, Tourism, Agro-Processing, Construction, and Mining). The Plan also seeks to outline rural-focused development opportunities within the province, based upon existing initiatives and industrial gaps identified within the various districts. The document achieves this by focusing on four developmental pillars: Land Reform, Agrarian Transformation and Food Security, Non-Farm Rural Economy, and Infrastructure and Social Development.

The four pillars streamline developmental objectives, identified within the document, into distinct categories, enabling project planning and industrial development. One of the key developmental projects identified within the Rural Development Plan is the Agri-Park, with the plan unpacking the Agri-Park concept. The positive knock-on effects can be obtained near, and as a result of, the development of the Agri-Park and FPSU, such as improved transport infrastructure, localised agri-processing initiatives and enabling consolidated agricultural production.

3.8 Agricultural Policy Action Plan (APAP), (2014)

The Agricultural Policy Action Plan (APAP) seeks to translate the high-level responses offered in the IGDP, into tangible, concrete steps. The first iteration of APAP is not offered as a fully comprehensive plan; rather, based on the model of the Industrial Policy Action Plan ('IPAP'), it identifies an ambitious but manageable number of focused actions, in anticipation of future APAP iterations that will take the process further.

The APAP aligns itself with the New Growth Path (NGP), the National Development Plan (NDP) and Industrial Policy Action Plan (IPAP) and seeks to assist in the achievement of Outcome 4, Decent Employment through Inclusive Growth, and that of Outcome 7, Comprehensive Rural Development and Food Security.

The APAP presents 'sectoral interventions' that concern selected subsectors/value chains, and 'transversal interventions' which will support multiple subsectors (such as addressing common constraints or addressing core competencies) and implementation management, monitoring and evaluation process.

The key outcomes of the APAP are listed below:

SECTORAL INTERVENTIONS

- **Poultry / Soybean / Maize integrated value chain**

Interventions are concerned primarily with supporting the domestic soybean and yellow maize industries with the aim of increasing production and lowering animal feed costs i.e. by relying less on imported oil-cake, which is double of what is locally produced, and in this way render domestic poultry producers more competitive.

- **Red meat value chain**

Intervention are concerned with commercialising the communal livestock systems by means of improving the herd health status and husbandry, continual reduction and prevention of food borne illness. There is a need to ensure an analysis is done determining the potential of communal the communal farmers, and the support required to prepare them (standards and meat quality and other processes) to meet market requirements.

- **Wheat value chain**

Interventions seek to make South African wheat farmers more competitive. This will be done through a combination of R&D in new cultivars, adaptation of conservation agriculture technologies to wheat production, while examining the possibility of augmenting milling capacity in the Western Cape near to one of South Africa's main production areas.

- **Fruits & vegetables**

Interventions for fruits and vegetables include the supporting of fresh produce markets through infrastructure investment, raising levels of skills and agricultural knowledge and the development of new technologies to increase the productivity and profitability of fruit and vegetable farming.

- **Wine industry**

Interventions for the wine value chain are focused on rendering it more adaptable, robust, globally competitive and profitable. The sustainability of possible solutions and interventions will be directly proportionate to the extent to which the industry is able to institutionalise with the necessary government support.

- **Biofuels value chain**

There are two main types of interventions regarding biofuels. The one type relates to a cluster of R&D initiatives to ensure that farmers have access to the best possible varieties for feedstock production, including R&D that enables them to increasingly take advantage of conservation agriculture methods. The second is to determine how best to develop the smallholder sector to become feedstock suppliers, especially as much of the land that could be made available for biofuels feedstock production is located within the former homelands.

- **Forestry**

The interventions for forestry are concerned with the following:

- Infrastructure development
- Land allocation and providing land tenure security
- Develop new management model for state owned forests
- Small growers support

- **Small-scale fisheries**

The interventions for small-scale fisheries as described in the Small-Scale Fisheries Policy are as follows:

- Subsidy schemes for the storage of fish, skills training in the areas of processing, and basic business skills.
- Subsidy schemes for the establishment of locally based and owned marketing companies,
- The development of a South African label/certificate for fish products caught by small-scale fishers.
- Establish small-scale fisheries development nodes.

- **Aquaculture competitiveness improvement programme (ACIP)**

Interventions for aquaculture are taken from the National Aquaculture Strategic Framework and are as follows:

1. Create an enabling, integrated regulatory and operational environment for developing an equitable and globally competitive aquaculture sector for South Africa.
2. Increase access to available public and private land and water bodies for utilisation for aquaculture purposes.
3. Ensure that appropriate funding instruments are put in place to attract private and public investments into the sector.
4. Make provision for a reliable supply of good-quality and affordable seed and feed to all fish farmers.
5. Ensure adequate investment in the undertaking of aquaculture research and development to ensure technical knowledge and transfer of technology which will make the aquaculture sector highly competitive.
6. Implement environmental and biosecurity programmes to assure food safety and enhance quality of aquaculture products.
7. Increase South African aquaculture products' market share locally and internationally.
8. Ensure information management and dissemination to create awareness and promote aquaculture as a socially, environmentally and economically viable activity.
9. Create partnerships and coordination between various government departments, industry and the private sector.
10. Invest in capacity building and skills development in government, fish farmers and the private sector.

TRANSVERSAL INTERVENTIONS

Fetsa Tlala

Fetsa Tlala Integrated Food Production Intervention focuses on supporting subsistence and smallholder farmers to increase the area under production, with particular attention to bringing under-utilised arable land in the former homelands into production, targeting 1 million hectares by March 2019.

Research and innovation

Interventions include the establishment of appropriate national bodies with the purpose of setting the national Research and Development agenda for agriculture, forestry and fisheries, to guide and monitor agricultural innovation.

Promoting climate-smart agriculture (CSA)

Interventions are in support of the following aspirations:

- The development of CSA framework / strategy
- Up-scaling of the CSA concept and practices by/among all farmers in all the nine provinces.
- The provision of incentives for CSA practices with special focus on small holder farmers
- CSA through measures such as, but not limited to, reduced tax on fuel.
- To produce more with the same amount of water by using more efficient irrigation methods & water demand management.

Trade, agri-business development and support

Interventions are aimed at increasing market access for agriculture, forestry and fisheries products both domestically and internationally through targeted/ product specific interventions. The priority should be given to smallholder farmers through research, capacity building and technical assistance.

Strategic Integrated Project (SIP) 11

The Interventions for the SIP 11 - Agri-logistics and rural infrastructure – are listed below:

- Maximise the use of communal land and productivity of land reform projects
- Expand irrigated agriculture by 500 000 Ha
- Support agricultural sectors and regions with high productive potential.

Bio-security

Interventions for bio-security include:

- Develop and strengthen regulatory frameworks in the biosecurity sphere
- Promotion of regulatory compliance and training and advisory services in the field of biosecurity
- Verification and registration of production unit codes for export markets
- Control and eradication of quarantine diseases and pests
- Procurement of an electronic information management system, and
- Improvement of the early warning and early detection systems.

3.9 Eastern Cape Vision 2030

The Eastern Cape Vision 2030 is a comprehensive response by Eastern Cape Planning Commission to the National Development Plan (Vision 2030) outlining the province's critical priorities. The Provincial Development Plan (PDP) has, at its core, ten principles. These are:

- The implementation, monitoring and review cycle of the PDP must encourage the active and critical participation of all citizens of the Eastern Cape in their own development. Key to this will be people-centred local action.
- The PDP and its implementation must be decisive in redressing injustices of the past effectively, while fostering a consciousness for justice in future judgments and arrangements.
- The PDP should foster equitable economic growth and investment, as well as opportunities for meaningful work.
- High-quality education, a healthy population and effective social protection are important to the realisation of a flourishing future for all. The PDP should particularly guarantee an equal start for all children, and ensure that no child suffers from malnutrition.
- The PDP should foster creative links between economic and social strategies to promote inclusive and equitable participation in the economy by an active, hardworking and cohesive society.
- Collaboration between communities, the public and private sectors should be strengthened, with greater attention paid to strengthening the capabilities of a community-anchored agency for sustainable development.
- An effective and capable government, and public institutions with ethically committed leaders, are key to the success of the PDP.
- An ethical, accountable private sector is equally important to the success of the PDP.
- Conscientious leadership is encouraged from all sectors of society and there should be a conscious, ongoing effort to develop and strengthen such leadership.
- The PDP should foster the province's knowledge-driven, evidence-based development.

The Eastern Cape Planning Commission responds to the challenges outlined in the NDP by illustrating that, provincially:

1. There are too few labourers to work
2. The standard of education for most poor learners is poor
3. Infrastructure is poorly located, under-maintained and insufficient to foster higher growth and spatial transformation
4. Spatial patterns exclude the poor from development
5. The economy is overly and unsustainably resource intensive

6. A widespread disease burden is compounded by a failing public health system,
7. Public services are uneven and often of poor quality
8. Corruption is widespread
9. South Africa remains a divided society.

The Commission seeks to address these issues through rural development strategies, regionally targeted, that encourage spatially specific solutions. For example, the eastern and north-eastern parts of the province are identified as high-density, poverty-stricken rural areas, and are acknowledged as potential agricultural hubs; whereas the central region of the province is encouraged to make use of the East London Industrial Development Zone (IDZ), through sectoral expansion. The western regions of the province are identified as having untapped economic and tourism potential, as well expansion opportunities within existing agricultural and agro-processing production, such as Mohair.

The PDP ultimately identifies three pillars through which the province can achieve its strategic vision and objectives, specifically:

- Human Development;
- Economic Opportunity and Rights; and
- Institutional Capabilities.

3.10 Sarah Baartman District Municipality Integrated Development Plan 2012 – 2017 (2015/16 Review)

The SBDM IDP is a comprehensive document that deals with the status quo of the demographics, economy and infrastructure. It also gives an outline as to the goals of the municipality and how it plans to achieve the goals. For the purpose of this study it is important to determine the agricultural policy of the municipality. SBDM has the following goals regarding agriculture and the development of rural areas:

- Increase agricultural income to achieve a 1% year on year growth in the agriculture and agro-processing sectors.
- Regenerating at least four core towns as service and economic hubs
- Improving connectivity infrastructure in all nine local municipalities

It aims to achieve these goals through the following strategies namely:

- Support local and regional food systems that keep wealth in rural communities
- Promote rural tourism (including agri-tourism) and niche services and manufacturing
- Rural connectivity infrastructure particularly broadband and mobile phones access
- Improve rural infrastructure, particularly roads

The SBDM notes that agro-processing in the district is very small and is in need of expansion. It is noted that an increase of this sector needs to occur so that value can be added in the district and that raw products do not simply leave the district. This results in lost opportunities to develop an industry in the municipality. The municipality is currently promoting further investment into food security initiatives as well as attempting to secure more commonage for local residents as there is a lack of commonage areas to graze animals.

The District is also supporting the Agricultural Mentorship Programme which is a measure that aims to educate emerging farmers and to ensure that knowledge gained is applied correctly and in a flexible manner and adapting it to local conditions. This is being done in collaboration with GIZ and is being piloted on five projects in the District.

3.11 EC DRDAR Western Region Proposed (Sarah Baartman) Agri-Park Business Plan 2015

The Eastern Cape Department of Rural Development & Agrarian Reform has produced an Agri-Park Business Plan for the Sarah Baartman District in response to the Agriculture Policy Action Plan. This document presents a plan and proposal to the Department of Rural Development and Land Reform (DRDLR) on the establishment of an Agri Park in the SBDM.

This document proposes establishment of an Agri-Park in the Sundays River Local Municipality on Portion 307 of the Farm Commando Kraal 113, known simply as KK113 in Addo. However, the main purpose of this document is to map the best Agri-Park model that will best fit the local conditions, but without deviating from that of national government and its strategic goals. This document suggests commodities that will can be focused on as well as potential projects that align with the commodities. The market conditions are briefly examined as well as the potential linkages with established projects in the area.

The current report will expand and build on the suggestions and proposals made in this document in order to gain an understanding of the important projects and commodities that the District wishes to take forward.

Location Context

Chapter 4

4. LOCATION CONTEXT

4.1 Description of the district

The Sarah Baartman District Municipality is bordered by the Chris Hani and Amathole Districts, and the Western Cape Province. The district comprises nine local municipalities but the merger of Ikwezi, Baviaans and Camdeboo has been confirmed. These are the current local municipalities:

- Camdeboo,
- Blue Crane Route,
- Ikwezi,
- Makana,
- Ndlambe,
- Sundays River Valley,
- Baviaans,
- Kouga, and
- Kou-Kamma

It covers an area of roughly 58 245 km². The major population centres in the district are Grahamstown, Humansdorp, Jeffreys Bay, Graaff-Reinet, Kirkwood and Port Alfred. The municipal offices are located in Port Elizabeth.

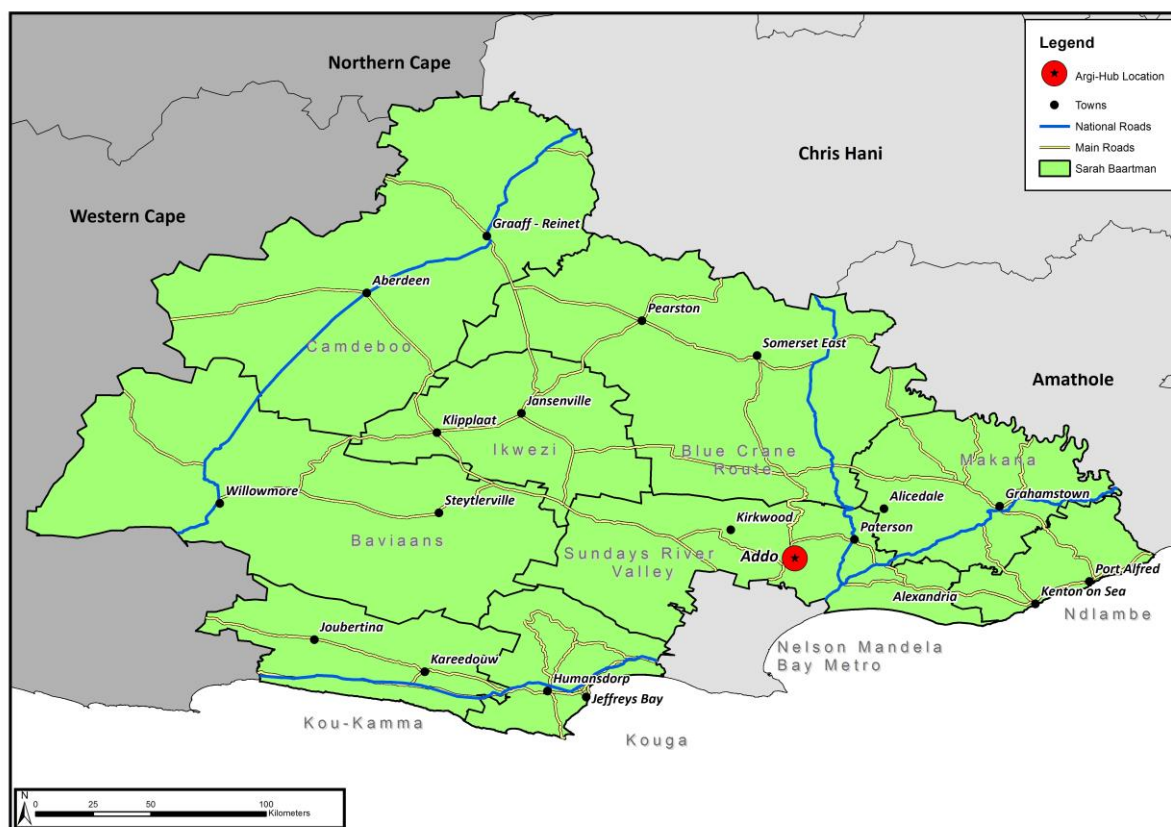
The Sarah Baartman District Municipality is the second smallest district by population in the province, with 452 000 people, while also being the largest in area. As a result, it has the lowest population density within the province by a significant amount, with just 7.7 people distributed per square kilometre. The district has one of the highest levels of education attainment, with 20.3% of the adult population having matric and 8.2% with higher education. The District has the lowest unemployment rate in the province.

4.2 Location of the Agri-Hub

The Sarah Baartman District Municipality is one of the most agriculturally diverse districts in the province, supplying citrus, fruit, potatoes, beef, dairy, wood, wool, mohair, lamb, and goat, amongst others, to the provincial and national market. The district itself is also the largest, of the district municipalities in the Eastern Cape.

The location for the Agri-Park Hub has been identified as the greater Addo area. Addo is close (32km) to Kirkwood which is home to the commercial citrus industry. The Agri-Hub is centrally located and is only 60km from the Port Elizabeth Harbour and 50km to the Port of Ngqura. The Agri-Hub is also only 70km to the international airport in Nelson Mandela Bay. Existing transport infrastructure already exists in the area but is need of maintenance. One of the possible sites for identified for the Agri-Hub is Portion 307 of the Farm Commando Kraal 113, known simply as KK113, which is a 440 hectare property currently owned by the Sundays River Municipality. While this may be one of the sites identified by the DRDAR it is recognised that the Agri-Hub itself may spread its operations over available municipal and government land in the area, but the Hub location itself will largely be located in the Addo area around the site known as KK113. Some operations may occur throughout the Addo area. For the purpose of costing, KK113 has been used as the site. The DAPOTT and DAMC have yet to make a final decision regarding the site for the Agri-Hub.

Figure 4.1: Location of the Agri-Hub



Source: Urban-Econ GIS Unit, 2015

4.3 Economic Infrastructure

The N2 National Road enters into the Sarah Baartman District in the west, passing near Kareedouw, Humansdorp, and Jeffreys Bay before heading towards Nelson Mandela Bay. The N2 continues through the district on the other side of the Nelson Mandela Bay Metropolitan Area, heading towards Grahamstown, before continuing on out of the district towards Peddie. The N2 links Cape Town to Nelson Mandela Bay to Durban. The N2 splits into the N10 just outside of Nelson Mandela Bay, heading towards Craddock (Chris Hani District) in the north. The N9 enters the district near Willowmore, passing through Willowmore, Aberdeen, and Graaff-Reinet on its way towards Middelburg (Chris Hani District). Regional roads in the region serve as routes to traverse the significant district area, with multiple regional roads serving this purpose. These are the R61, R63, R67, R72, R75, R306, R329, R335, R337, R338, R342, R343, and R400. The road infrastructure around the Agri-Hub is a challenge to growth in the region as road quality is extremely poor. This will need to be addressed if the Agri-Hub is to be placed in Addo and its surrounds. There are road quality concerns throughout the District which will need to be addressed as well.

There are three major railway routes in the district, both emanating from Nelson Mandela Bay; the first heads from Nelson Mandela Bay to Grahamstown, before continuing on to Port Alfred. The second splits from the Grahamstown line and heads towards Middelburg. The final route heads through Uitenhage, past Kirkwood, and splitting within in the district, to head towards Graaff-Reinet, continuing on to Middelburg with the other route heading towards George (Western Cape). The Addo railway line is directly connected to the major industrial regions of Coega and Port Elizabeth.

No major ports exist in the District but it is served well by the Port of Ngqura and Port Elizabeth in Nelson Mandela Bay Metro. Port St Francis, Jeffreys Bay, and Port Alfred serve as minor fishing ports. There are no

major airports in the region either but once again it is served by the Port Elizabeth International Airport. There are various small aerodromes around larger towns in the District and there is an airport initiative underway at Somerset East.

Much of the Eastern Cape and especially Sarah Baartman District is water deficient. While there are dams in the district, water scarcity is an issue. This led to developments around water transfers in the Eastern Cape to support irrigation, industrial and domestic use. The areas around Kirkwood and Addo are also part of the Sundays River Irrigation scheme which supplies water for crops to the farms in the surrounding areas. This water is largely used for citrus farming but Water is supplied from the Orange River into the Gariep Dam which is then fed into the Fish River via the Orange-Fish tunnel which is then sent on to the Sundays River. The primary purpose of the water transfer scheme is to supply water for irrigation and domestic use. The issues of water rights does appear to be of concern however. In order to draw water from the scheme, water rights needs to be obtained from the Department of Water Affairs and Sanitation. There is uncertainty among stakeholders as to the granting of water rights and if any more water can or will be allocated. The process of allocation is also unclear and the requirements that the DWA use to grant water rights is not clearly known.

Much of the electrical network in the municipality is of acceptable quality with a few towns in the District in need of upgrades to the network and maintenance. The load-shedding outages that occur throughout the country limit the economic effectiveness of the area but this is a common theme across the country. Electricity infrastructure is largely acceptable in the District.

Role-Players

Chapter 5

5. ROLE-PLAYERS

The following chapter will discuss the main role-players who could provide support, finance and skills for the Agri-Park. This section will include possible role-players from the public sector, private sector and various associations and organisations. It will discuss the role-players mandate, budgets if available and current projects.

5.1 Public Sector

5.1.1 The National Department of Rural Development and Land Reform (DRDLR)

The mandate of the DRDLR is to promote sustainable land and agrarian transformation in the country while promoting rural development and creating sustainable tenure systems that will enhance South Africans livelihoods. They are also tasked with fighting poverty and promoting food security. The DRDLR functions under three pillars namely:

The first pillar - sustainable land and agrarian transformation: The aim is to increase agricultural production through the optimal and sustainable use of natural resources and appropriate technologies to ensure food security, dignity and improved rural livelihoods. This will subsequently lead to vibrant local economic development.

The second pillar - rural development: This focus is on improving both economic infrastructure (such as roads, community gardens, food production, fencing for agriculture, etc.) and social infrastructure (e.g., communal sanitation, and non-farming activities). To successfully achieve this, ownership of processes, projects and programmes is vital.

The third pillar- land reform based on restitution, redistribution and land tenure reform: Deliberate and intensified post-settlement support is available to ensure that land transferred to black South Africans contributes to the fight against poverty, by ensuring food security and underpinning economic and social transformation in rural areas. Land reform remains critical to the comprehensive development of South Africa's rural areas and the government's recapitalisation and development of land reform projects, currently in distress, bears testimony to this.

The main projects that DRDLR are going to be involved in in the District is the Agri-Parks Project. The DRDLR are the main drivers of the Agri-Parks concept and are heavily involved in its implementation and conceptualisation.

5.1.2 Eastern Cape Department of Rural Development and Agrarian Reform (DRDAR)

The mandate of DRDAR is to "promote, support and coordinate rural development and agrarian reform to reduce poverty and underdevelopment through integrated and participatory interventions."

The three strategic goals of the Department are to create a thriving farming sector and access to affordable food, to develop improved rural economic livelihoods and creation of employment opportunities and an environment conducive to the enhancement of service delivery.

The Eastern Cape Rural Development Agency (ECRDA) is a public entity that reports to the DRDAR and many of the projects that are funded and implemented are done so through the ECRDA.

Current projects and initiatives that are promoted through the DRDAR in the district include:

Table 5.1: Projects previously assisted by DRDAR in SBDM

NAME OF PROJECT	LOCATION	ASSISTANCE PROVIDED
Belvoir Farm	Addo	Boundary fence, irrigation system
Willowtree	Addo	Citrus sprayer
Siyathemba Citrus Farm	Addo	Citrus inputs
Welwediend Farm	Kirkwood	Citrus sprayer; 20 citrus bins and production inputs
Mbuyiselo farm	Kirkwood	Boundary fence
Luthando Farm	Kirkwood	Boundary fence, citrus bins, irrigation fittings, pruning machines
Khangela Farm	Addo	Citrus tractors, citrus inputs, citrus bins

*Source: DRDAR, 2015***5.1.3 Sarah Baartman District Municipality**

The Sarah Baartman District Municipality is one of the key stakeholders in the Agri-Parks concept. The Sarah Baartman District Municipality is one of 46 district municipalities in South Africa and one of the largest in the Eastern Cape covering 34% of the province. The Sarah Baartman District Municipality is made up of nine local municipalities namely Kou-Kamma, Baviaans, Kouga, Ikwezi, Camdeboo, Blue Crane Route, Sundays River Valley, Ndlambe and Makana. It shares the responsibility of providing basic services like electricity, water and refuse removal with the local municipalities. As a district municipality it provides support to local municipalities within its area that are too small, poor or rural to provide all the services required by their communities.

The SBDMs role in the Agri-Parks plan will be to take ownership of the Agri-Parks concept and be the primary driver of the Agri-Parks concept. The SBDM will be able to include key LED projects as well as other special projects into the Agri-Parks concept that drive agriculture in the District.

Strategically it is important for the SBDM to be included in the planning for the Agri-park as they Agri-Park concept can be used to solve challenges that the municipality is facing. These challenges include reducing poverty, economic development, transformation and agrarian reform. The SBDM identifies various projects through its LED strategy and IDP process which can be included in the Agri-Park concept to assist emerging farmers.

The SBDM also has a development agency which is responsible for facilitating economic growth in the district. It is important to also include this agency in the role-players for the Agri-Park.

- **Cacadu Development Agency (CDA)**

The CDA was established by the Cacadu District Municipality (now Sarah Baartman) in 2012 with the goal of facilitating economic, social and environmental policies and projects. Approximately R 4 million was set aside predominantly for feasibility studies into various projects. Its purpose is also to fund projects that could sustain economic growth and create a suitable investment climate in the District in order to stimulate employment and economic development.

The primary areas that the CDA aim to achieve success is in agriculture and tourism. The CDA aims to develop various programmes centred on agro-processing, aquaculture, renewable energy, natural fibre beneficiation, and Agri-tourism.

The main goals of the CDA are to:

- Initiate, identify and implement high economic impact development programmes and projects
- Generate sustainable economic growth as well as social transformation to the benefit of communities within the district
- Promote productive partnerships and cooperation between the relevant stakeholders on area/regional-based initiatives
- Manage the spatial organisation of the area in a socially efficient manner, particularly through the use of public land and targeted private project"
- Acquire, own and manage buildings to be used for social and economic development purposes
- Facilitate a business environment conducive to private sector investment and the leveraging of public and private sector resources for economic development, and
- Contribute towards integrating the region/district into domestic and international markets.

The CDA have identified a number of potential projects that have the potential to create employment and economic development. These include:

- Fig production in BCRM
- Cactus pear production in BCRM
- The Somerset East airport development
- Agro-processing operations related to leather, hides, wool and other animal products.
- Agro-processing opportunities related to fruit and veg processing.
- Agri-tourism in the Sarah Baartman District.

5.1.4 Eastern Cape Rural Development Agency (ECRDA)

The ECRDAs mandate is to promote, support and coordinate rural development and agrarian reform to reduce poverty and underdevelopment through integrated and participatory interventions. The ECRDA seeks to enhance Department of Rural Development and Agricultural Reform programmes and support initiatives, with the aim of rejuvenating rural economies, by focusing on 5 main pillars, namely:

- Effective co-ordination and implementation of agrarian-driven high impact priority programmes
- Promoting entrepreneurship through rural finance and support programmes
- Develop, institutionalise and sustain an effective, capable and fit-for-purpose organisation including best-in-class project management, targeted research and innovation driven Agency
- Leverage strategic partnerships toward implementation and funding of rural development initiatives
- Develop sustainable, localised institutionalised rural framework.

The ECRDA has 9 major Programmes in various stages of implementation which are:

Programme 1: Rural Development Programme

The establishment of nine agro-processing and marketing infrastructure projects to enhance value-addition over a period of three years. Increasing the feedstock supply to an estimated 13 200 tons to support milling plants over a period of three years. Facilitating the establishment, support and oversight of community-owned and operated forestry projects covering 20 000 ha over the next 3 years.

Programme 2: Renewable Energy Programme

Undertake eight renewable energy research studies by 2017/2018. Facilitate the implementation of four renewable energy and ancillary projects by 2017/2018. Facilitate the production/provision of 164 500 tons of feedstock for the bio-energy industry by 2017/2018.

Both of these programmes falls under the ECRDA's Pillar 1, with a total cost of R 35 572 000.

Programme 3: Rural Finance Programme (including micro-finance)

Facilitate disbursements and recovery of loans to the value of R19.3 million by 2017/2018, with the loans used to stimulate entrepreneurship in rural areas by guiding and supporting communities through providing guidance during the entrepreneurship stages. The ECRDA is budgeting R34.5 million over the 2014-2018 period.

Programme 4: Rural Development Support Programme

Facilitate the establishment of 90 sustainable rural development enterprises by 2017/2018, by identifying rural development entities, mobilising these entities, providing capacity building through training of cooperative members and to encourage linkages to other partners that are able to provide assistance. The budget for the programme is R5.724 million.

Programme 7: Co-ordinate and facilitate external funding and investments to co-fund mega projects.

This is with reference to six rural enterprise development hubs, completed by 2017/2018.

Programme 9: Establishment of rural development clusters and nodes.

This is achieved via the establishment of nine rural development clusters across the six district municipalities in the Eastern Cape between 2015/2016 and 2017/2018, with a budget of R400 000.

ECRDA provides finance in the form of loans is given to clients who qualify and who wish to start economically viable business undertakings. The client must accept full responsibility for the funds borrowed. ECRDA does not fund infrastructure and/or goods that the Comprehensive Agricultural Support Programme (CASP) programme of the Department of Agriculture can finance by way of grant funding. ECRDA is an accredited agent of the National Department of Agriculture and has been identified as the principal implementing agent in the Eastern Cape for the MAFISA loan finance scheme. Details of the scheme are available from the Agricultural Extension Officer in each district.

Financial Support is further available through the Provincial Department of Rural Development and Agrarian Reform.

5.1.5 Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)

The blueprint for economic development comes from the Provincial Growth and Development Plan (PGDP). The main goal of DEDEAT is to lead economic development in the province through environmentally sound and sustainable practices.

DEDEAT is predominantly involved in creating policy that will facilitate the necessary economic development and funding the various public enterprises that are part of DEDEAT. Through various funding platforms DEDEAT encourages the development and creation of infrastructure and special economic zones, enterprise development, development of the trade sector, provision of regulation services, research and planning, partnerships and linkages, tourism development and environmental management.

DEDEAT concentrates and performs on three main programmes namely:

Programme 1 – Administration

Provides the department with strategic leadership and management

Programme 2 – Economic development and tourism

This programme is primarily responsible for promoting and administering job creation and economic development in the province.

Programme 3 – Environmental Affairs

Administration of environmental policy that cascades from national level and alignment of departmental policy. This programme regulates environmental management through environmental impact assessments compliance and enforcement, air quality, waste and biodiversity management.

DEDEAT performs functions through public entities which are listed below with their budget allocation for 2014:

- Eastern Cape Development Corporation (ECDC) – R 208 million
- East London Industrial Development Corporation (ELIDZ) – R 95 million
- Coega Development Corporation (CDC) – R 185 million
- Eastern Cape Parks and Tourism Agency (ECPTA) – R 193 million
- Eastern Cape Gambling and Betting Board (ECGBB) – R 44 million
- Eastern Cape Liquor Board (ECLB) – R 42 million

Each of these agencies are responsible for various activities and projects. Some are region and location specific such as the CDC and ELIDZ which operates in the IDZs in the Eastern Cape while others operate throughout the Eastern Cape such as ECDC, ECPTA, ECGBB and ECLB. Outside of the IDZs most of the economic development projects are planned and funded by the ECDC and ECPTA. For this exercise the ECDC will be discussed in further detail.

5.1.6 Eastern Cape Development Corporation (ECDC)

The ECDCs mandate is to promote sustainable economic development in the Eastern Cape through focused provision of innovative development finance and the leveraging of resources, strategic alliances, investment and partnerships. The ECDC seeks to act as a bridge between the socio-economic goals of the Eastern Cape and the areas of the private sector that requires development. The primary mandate is to positively contribute to governmental development objectives for the province, and to overcome the constraints of poverty, unemployment, inequality, under-development and apartheid inheritance.

The ECDC has numerous priority areas for projects namely: Business Finance, Investment Promotion, Enterprise Development, Project Development, Property Management, Export Promotion, Spatial and Rural Projects. The table below is a list of projects under the ECDC. It should be noted that there are a broad range of projects that are funded by the ECDC including mining operations and tourism operations (Table 5.2):

Table 5.2: ECDC Projects in and around SBDM

Project Name	Location	Budget
Ndlambe Natural Industrial Products	East London/Bathurst	R27 million
Bio-coal Manufacturers and Distributors		R3.9 million
Tourism Enterprise Partnership	East London, Hankey, Mthatha, Port St Johns, Graaff-Reinet, Somerset East	R200 000
Imvaba Co-operative Fund	Eastern Cape	R6.2 million
Karoo Blue Trust Fish project	Graaff-Reinet	R1 million
Giant Flag Project	Graaff-Reinet	R800 000
Clover	Perseverance	R100 million
Forestry Rehabilitation		R113 million

Source: ECDC, 2015

The Eastern Cape Provincial Government, as part of its Provincial Growth and Development Plan (PGDP), has identified agriculture as an economic growth sector for the province. Agrarian transformation forms a large part of the PGDP in terms of the economic diversification within the province. As such this sector has large-scale investment potential which will contribute significantly to economic diversification and job-creation. THE ECDC

provides both Financial and Non – Financial business support services to predominantly SME businesses in the Eastern Cape.

5.1.7 Eastern Cape Socio-Economic Consultative Council (ECSECC)

The mandate of the ECSECC is to be a multi-stakeholder centre of excellence in applied policy research, development planning and facilitation.

The principal goal of the ECSECC is to advise and assist government and other stakeholders to achieve an integrated development strategy for the Province and its constituent regions, to address the socio-economic development of the province, and particularly the needs of the communities and underdeveloped areas.

The Eastern Cape Socio-Economic Consultative Council provides supportive roles for planning and project development, ensuring that there is alignment with governmental policies, such as the provincial growth plan. ECSECC is also involved in service delivery, promoting alternative service delivery initiatives to poor and underserved communities.

The projects that the ECSECC are currently involved in include:

- Political Economy of HIV and AIDS Conference
- Development of the Rural Development Strategy
- Development of the Business Case from the establishment of a rural development agency
- Liberation Heritage Route
- Skills Indaba
- Database of Provincial Training providers

5.1.8 Small Enterprise Development Agency (SEDA)

SEDA is an agency of the Department of Small Business Development. SEDA was established in December 2004, through the National Small Business Amendment Act, Act 29 of 2004. SEDAs mandate is to develop, support and promote small enterprises throughout the country, ensuring their growth and sustainability in co-ordination and partnership with various role players, including global partners, who make international best practices available to local entrepreneurs.

SEDAs main goal is to develop small enterprise development ecosystem, and its network provides access to much needed support services to small enterprises and co-operatives. These services include information to start-up businesses, support through incubation, market access and expansion for established small enterprises and co-operatives

SEDA is involved in projects that deal with entrepreneur, skills and business development. Some of the successful projects (and SEDAs role) in the Eastern Cape include:

- Anax Fleet Management & Fuel Supply Solutions – Business plan and project proposals.
- Four Star Communications – Computer skills training
- Maletswai Waste and Recycling cooperative - Developing a business plan, skills training
- Sithembeni Woman Cooperative – Developing a business plan, learning exhibitions in Canada.

SEDA is also planning to budget between R 5 million and R 20 million with the establishment of poultry cooperatives, servicing the live bird and indigenous poultry demand throughout the Eastern Cape in association with other development agencies such as DRDAR and DEDEAT.

5.1.9 Extension and Support Services

DAFF has implemented an Extension and Advisory Revitalisation Programme worth R1.1 billion over the last five years. By the end of 2012/13, more than 1 200 extension and advisory officers had been recruited to improve the ratio of extension officers to farmers. To ensure that these officers are visible and accountable on the ground, the Digital Pen technology has been rolled out nationally. This technology is used by extension personnel to record their interaction with clients and allows the taking of pictures on site for evidence purposes. To ensure access to appropriate information, the Extension Suite Online system has been adopted nationally. This computerised system enables extension officers to access relevant information during their interaction with the farmers in the field.

Veterinary services are also provided through DAFF which assists the local commercial and emerging farmers with any issues they may have with livestock and animals.

Table 5.3 indicates the extension and support services being offered by different organisations. These services usually include training, business and financial services.

Table 5.3: Extension and Support Services Offered by Various Organisations

Organisation	Type of Support
DAFF	Provides state veterinary services and various agricultural services through the extension and advisory offices
ECDC	Financial and business support services
ECRDA	Financial and business support through CASP and uVimba services. It is the implementing agent of the MAFISA loan finance scheme
DRDAR	Provides support and training to farmers and financial services
SBDM	Provides financial and operational services mainly to SMMEs

5.2 Private Sector

5.2.1 Commercial Banks

The four major commercial banks target market comprises of both the commercial as well as developing agriculture. Their focus is on retaining and selective acquisition of their market share in commercial agriculture. Products and services offered are, amongst others, cheque accounts, overdraft facilities, term loans, mortgage loans, asset finance, investments, estate and asset management, insurance and assurance, international banking services, contract growing, hedging and trading as well as electronic banking services and advisory services. Agricultural Long-term Loans are used to buy farm property, make capital improvements such as fencing, water provision and soil conservation or to consolidate short-term debt (where farmers have previously financed fixed assets out of working capital or short-term finance). Agricultural Project Loan is a medium-term loan product. It is a multipurpose agricultural loan suited for the acquisition of livestock, orchards, farm buildings, etc., which generates an income only after a certain establishment period. Agricultural Cheque Account fulfils the transmission of funds requirements of a farming business, as well as providing a dedicated product for short-term (less than 12 months) production credit.

5.2.2 Agricultural Co-operative Finance

Depending on the scale of co-operatives they often have financial assistance divisions which offer assistance to farmers. These can include production loans or seasonal facilities for period of up to one year. These facilities

are granted for the purchase of production resources and services rendered. Interest is calculated on the basis of simple interest per day on the outstanding balance owed. The interest rate applicable on the account is the interest rate determined per individual depending on the risk profile. Month accounts are used to make purchases at trading branches. These accounts are short-term credit and the full outstanding balance must be settled monthly, 30 days after statement. The primary goal of a long term loan is to finance the purchase of productive agricultural land. The purpose of asset finance is to assist clients financially in purchasing durable capital goods, like tractors, combines and implements. The Eastern Cape Province has three major Agricultural Co-operatives namely:

- OVK – TRADE
- Humansdorp Ko-op
- East Cape Agri – Co-op Ltd / BKB LTD

There are a host of smaller co-operatives with many focused on the major product in the area.

5.2.3 Agro-Processing Businesses

There are numerous agro-processing businesses that currently operate in and around the district. Many of these are situated in the areas where major production occurs such as Nelson Mandela Bay and East London or they are located close to major production centres in the district such as lamb in Karoo or citrus agro-processing in the citrus production region of Sundays River Valley. The following section will be expanded per commodity from Chapter 8 onwards. The major producers for each commodity are listed below:

Table 5.4: Major Producers and Agro-Processors Operating in the Eastern Cape

Red Meat	Vegetables	Citrus
Austin Evans Feedlot	McCain Foods SA	Sundays River Citrus Company
Adam Agri	Just Veggies	Cape Fruit Processors
Beefcor	Carbocraft	Sundays Organic Growers Association
Beefmaster	Rhodes	Valor
Chalmar Beef	Langeberg Food Processors	JC's Fruit Juices
Dc Louw Feedlot	McCain South Africa	Ceres Fruit Juices
Karan Beef	Koo	Fruittime
Sparta Beef	Retail Store Brand	Unifrutti
		Patensie Citrus

There are numerous other small scale producers situated in the Eastern Cape and particularly in the Sarah Baartman District which are not listed.

5.3 Other Key Role Players

5.3.1 Land Bank

The Land Bank is a statutory body with a mandate from Government to support the development of the agricultural sector. The Bank's key strategic intent is to achieve financial sustainability focused on social and development impact. Meeting client needs by means of cost-effective and competitive products and services, building a representative, committed and an efficient workforce and good relations with stakeholders are critical elements in this strategy. The Bank provides a comprehensive range of retail and wholesale financial products and services designed to meet the needs of commercial and developing farmers and agriculture-related businesses. As a statutory development finance institution, the Bank must fulfil a government mandate requiring it to:

- support the development of all elements of the agricultural economy

- give special attention to the needs of previously-disadvantaged people in the sector
- benchmark its operating efficiencies and service delivery against financial-sector norms
- ensure its financial sustainability.

The Land Bank gives low, medium and high-risk clients access to a full range of long, medium and short-term loans to meet all financial needs, including land and equipment purchases, asset improvement and production credit. During 1999 the bank added Gold Premium and Platinum risk categories to its existing Gold low-risk category. Clients who qualify on the basis of exceptional security and high loan values pay reduced interest rates. Specific criteria for medium and high-risk clients with limited security increases access to credit while minimising the risk of default.

The table below provides key institutions that will be able to provide support to the Agri-Parks concept in the District. Some of the institutions are located outside of the District but are extremely important to the area. These institutions can mainly provide research, expertise and training.

Table 5.5: Key Institutions

Institutions	Description
Tertiary Institutions	Tertiary institutions such as Nelson Mandela Metropolitan University, Rhodes University and the University of Fort Hare are important to consider in the Agri-Parks planning as they can provide expertise, research and provide valuable training to emerging farmers and managers of the Agri-Park. Buy-in from these institutions can provide valuable support.
Colleges	If the proper linkages can be formed, colleges and TVET institutions can provide valuable skills training that can directly assist those emerging farmers who need to be trained. TVET colleges also provide practical and job ready skills that emerging farmers can make use of.
Research Institutions	Research institutions such as CSIR and ARC can provide key research regarding a wide range of subjects that may impact emerging farmers such as weather, soil conditions, temperature variations, cultivar use among other things. It is essential to form linkages to these research institutions.

5.3.2 Associations and Organisations

The following section outlines the associations and organisations that may be important to consider and consult during the planning stage of the Agri-Park. Some of these organisations operate nationally while also having provincial and local offices. Other organisations are only represented at a local level. The organisations that are represented here are only a small set of those in the district and nationally and once FPSUs are set up then other associations in relevant areas need to be considered. Table 5.6 is a list of the stakeholders.

Table 5.6: Associations and Organisations

Associations/ Organisations	Description
Agri-SA	Agri-SA is a non-profit organisation aimed at developing a stable, profitable agricultural environment within South Africa. Through its affiliated membership, Agri-SA represents a diverse group of farmers. Agri SA's policy advocacy includes work on trade negotiations, industrial policy, taxation, financing, land reform, labour laws, training, farmer development, environmental affairs, water rights and water pricing, other input-related issues, farm safety, law and order, infrastructure, technology

Associations/ Organisations	Description
	development and transfer, statistical information and local government. The organisation also maintains an extensive communication network with its members and other affected communities, organisations and individuals.
African Farmers Association (AFASA)	AFASA aims to commercialise the developing agricultural sector and ensure meaningful participation of black individuals within the mainstream commercial agribusiness sector, hence ensuring the long-term sustainability of the agricultural sector in South Africa.
The Agricultural Economics Association of South Africa (AEASA)	AEASA is the professional organisation of Agricultural Economists in South Africa. AEASA's products and services should support all agricultural economists active in the industry.
South African Agricultural Machinery Association (SAAMA)	SAAMA serves as a combined forum for the agricultural machinery industry in South Africa in which the interests of its members and agriculture as a whole are addressed, promoted and developed through responsible, co-ordinated discussion, action and provision of funded information about the industry as a whole.
Citrus Growers Association (CGA)	The CGA was established in 1997 after the citrus industry was deregulated in order to protect the interests of citrus farmers. Since then it has also taken on additional responsibilities in providing the industry with access to global markets, optimising cost effective production of quality fruit, development and research into citrus, as well as effectively transforming the industry.
Red Meat Producers Organisation (RPO)	RPO is service organisation that acts as mouthpiece for South African commercial red meat producers. It is an independent producer's organisation that strives to dynamically promote the sustainability and the profitability of the red meat industry in South Africa.
Agricultural Employers Association (AEA)	An affiliate of Agri EC, the LWO offers specialised knowledge and assistance with matters such as employment contracts, disciplinary hearings, strikes, restructuring, retrenchments and union negotiations.
Citrus Growers Association Development Chamber (CGDC)	The CGDC is responsible for overseeing the emergence of new and emerging farmers in the citrus industry. It also plays an important part in the transformation in the citrus industry.
Agri-EC	Formerly known as the Eastern Province Agricultural Union, was established in 2001 and is the voice of the farmer in the province. Its vision is to develop and grow the agricultural industry as a sustainable economic sector by promoting agricultural business interests, influencing government policy formulation and providing value-added services to its members.
Lower Sundays River Water Users Association	Formed in 1917 (as the Sundays River Irrigation Board) to oversee the construction of Darlington, the original board's

Associations/ Organisations	Description
	role was to ensure that continuous and scheduled delivery of water to farmers in the valley through a water transfer scheme from the Gariep Dam. The board was restructured to an association of water users in 2005 in line with legislation and today promotes the concerns of water users in the Sundays River Valley.
Agri-Sondagsrivier	A local farmers' association that promotes the interests of farmers in the Sundays River Valley. Associated with Agri-EC.
Addo Farmers Association	A local farmers association dedicated to promoting the concerns of local farmers.
Farm Dwellers Association	An association dedicated to promoting the concerns and issues of local farm dwellers in the Sundays River Valley Municipality.

District Overview

Chapter 6

6. DISTRICT OVERVIEW

The following chapter seeks to analyse Sarah Baartman DM according to a range of socio-economic indicators in order to compare the various local municipalities' performances as well as identify future trends within the province. Understanding the regional context of provincial trends is essential to measuring performance and designing programmes that support region specific development.

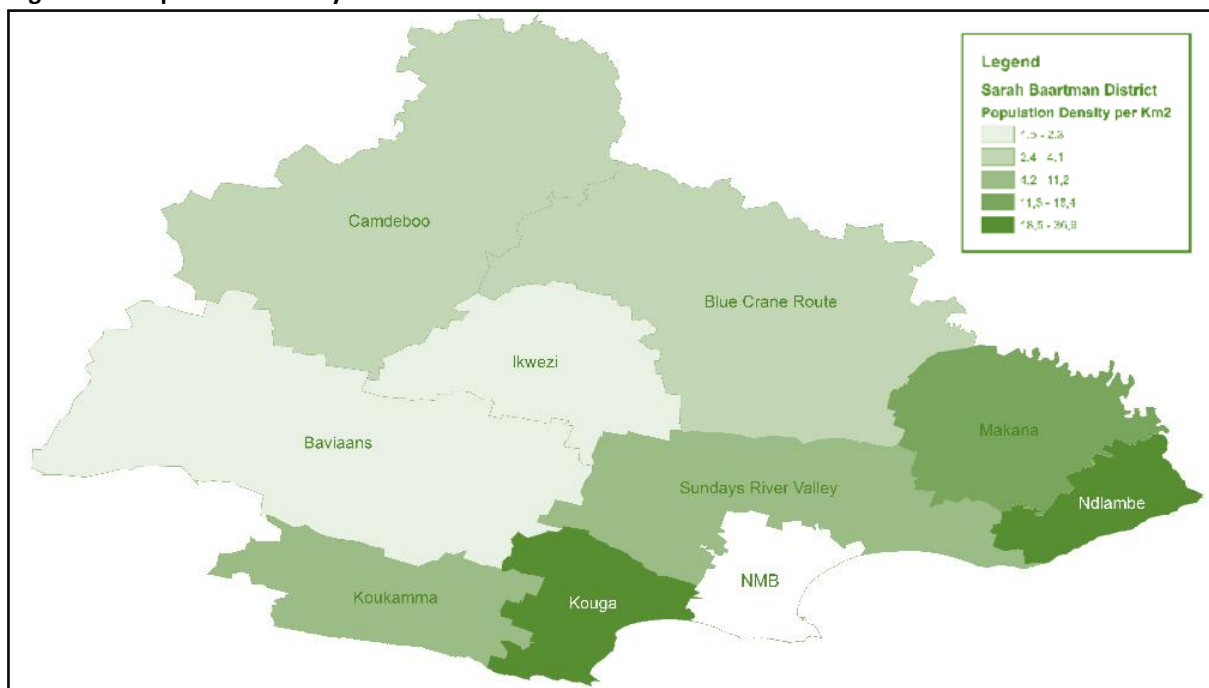
This analysis is based on the 2001 and 2011 Census and will be structured under the following headings:

- Demographics
- Education
- Poverty and income levels
- District economy
- Labour market

6.1 Demographics

6.1.1 Population Densities

Figure 6.1: Population Density



Source: Statistics South Africa Census, 2011

The population of the Sarah Baartman District is 450 585 and contains 125 632 households. The population density of the District is very low (7.74) compared to other districts in the province. This is largely as a result of climatic, geological and historical differences. The municipalities with the largest populations are Kouga (98 556), Makana (80 389) and Ndlambe (61 178). The smallest municipalities in terms of population are Ikwezi (10 538) and Baviaans (17 761). Household sizes throughout the district are similar (3.16 – 4.11 persons per household) with little variation between the municipalities. Table 1 indicates that Kouga (36.9) and Ndlambe (33.24) are the most densely populated municipalities while Baviaans (1.52) and Ikwezi (2.31) are the least densely populated.

Population densities are important to consider in agriculture as if an area has low population then finding suitably skilled labourers would be difficult and labourers would have to be brought in from areas outside of the district.

Table 6.1: Population Densities of Sarah Baartman

Municipality	Population	Number of Households	Population Density	Average Household Size
Sarah Baartman	450 585	125 632	7.74	3.59
Camdeboo	50 994	12 401	4.11	4.11
BCR	35 999	9 760	3.25	3.69
Ikwezi	10 538	2 915	2.31	3.62
Makana	80 389	21 385	18.37	3.76
Ndlambe	61 178	19 333	33.24	3.16
SRV	54 504	14 747	9.09	3.70
Baviaans	17 761	4 611	1.52	3.85
Kouga	98 556	29 448	36.92	3.35
Kou-Kamma	40 666	11 032	11.16	3.69

Source: Statistics South Africa Census, 2011

6.1.2 Age Structure

It is important to consider age in agricultural planning as this has a direct impact on the labour requirements of an area. Agriculture generally requires labourers who are physically fit and many areas are experiencing migration of the working aged group to major centres leaving the elderly and young in the rural areas.

In 2011, 65.7% of the inhabitants of the Sarah Baartman District were between the ages of 15 and 64. Table 2 indicates that 34.3% of the population are in the age range of 0-14 and 65 years and older. Generally the Sarah Baartman District has a higher proportion of working age inhabitants than other districts in the Eastern Cape.

Table 6.2 indicates that Ndlambe has a high proportion of inhabitants that are 65 years and older (10%). This could largely be a result of the large number of people who move to the area to retire. Kou-Kamma (4.6%) and Sundays River valley have lower numbers of elderly (5.2%). Makana has the lowest proportion of inhabitants between the ages of 0-14 but does have the largest proportion of 15-34 year olds (38.2%). This is largely as a result of the numerous educational centres located in the region. Grahamstown is the location of Rhodes University and various private and public schools which inflate the proportion of school aged inhabitants. Sundays River Valley also has a high proportion of 15-34 year old inhabitants (36.2%). This is as a result of the agricultural industry which employs a large number of people in the municipality.

Table 6.2: Proportional Age Distribution in the Sarah Baartman District Municipality

Municipality	0-14	15-34	35-64	65+ years
Sarah Baartman	27.2%	33.9%	31.8%	7.0%
Camdeboo	29.7%	32.9%	30.4%	7.0%
BCR	29.2%	30.8%	33.0%	7.0%
Ikwezi	30.9%	29.5%	32.7%	6.8%
Makana	24.4%	38.2%	31.2%	6.2%
Ndlambe	25.2%	31.5%	33.3%	10.0%
SRV	26.8%	36.2%	31.8%	5.2%
Baviaans	31.2%	30.0%	32.2%	6.5%
Kouga	26.8%	33.8%	31.5%	7.9%

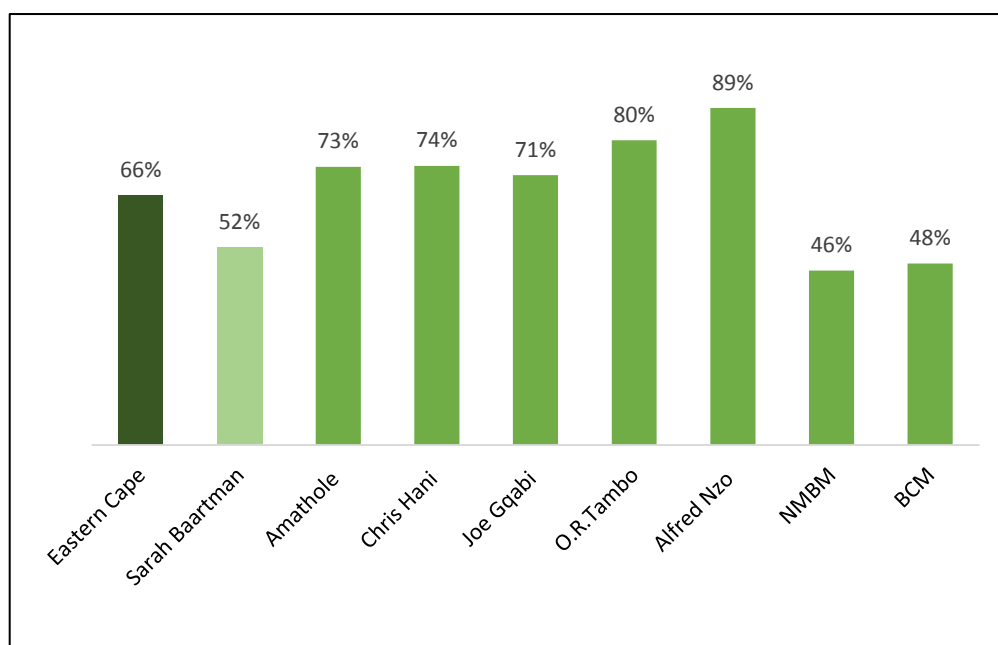
Kou-Kamma	29.7%	33.6%	32.1%	4.6%
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Source: Statistics South Africa Census, 2011

6.1.3 Dependency Ratio

The dependency ratio measures the ratio of the non-working age population (i.e. people between the ages of 0 and 14 years old, and those older than 65) to the working age population. The higher the ratio, the more pressure there is upon the working age population to provide for the non-working age individuals. The measure, however, does not take into account that age may not be an indicator of economic dependency as children and the elderly can qualify for social security grants. The indicator also assumes that those older than 65 years do not have other sources of income (e.g. pensions). Regardless, the indicator does provide a useful indication of age-based dependency, both for households and for the state. Where the ratio is high, there is a greater burden placed on the state to assist households with the provision of child and social services and welfare assistance. The dependency ratio can also be presented as a percentage, as indicated in Figure 6.2

Figure 6.2: Dependency ratios across the Eastern Cape in 2011



Source: Urban-Econ calculations based on Census, 2011

The Eastern Cape's Dependency ratio was 66% while Sarah Baartman DM's ratio was that of 52%. In fact Sarah Baartman has the lowest dependency ratio compared to all district municipalities in the Eastern Cape excluding the two metropolitans. Cities, such as Nelson Mandela Bay and East London, naturally attract the working age population who migrate from rural areas. This often results in the very young and old populations remaining in rural and under developed areas.

6.1.4 Population Growth Rates

Table 6.3 indicates the growth rates of the Eastern Cape and the various district municipalities. As indicated in the table, the Eastern Cape's population grew by 0.4% between 2001 and 2011. Sarah Baartman District Municipality grew by 1.5% which is the highest growth rate among any of the district municipalities. Population growth is important to understand in this context as it indicates how a district is growing and what planning needs to take place. Sarah Baartman has shown a slight growth in population which indicates that agriculture may be viable in the area. The impact of migration may not be all that drastic in the area.

Table 6.3: Population growth rates in the Eastern Cape

MUNICIPALITY	POPULATION		ANNUAL POPULATION GROWTH RATE (2001-2011)
	2001	2011	
EASTERN CAPE	6 278 650	6 562 057	0.4%
SARAH BAARTMAN	388 205	450 585	1.5%
AMATHOLE	962 203	892 634	-0.7%
CHRIS HANI	809 454	795 461	-0.2%
JOE GQABI	341 961	349 768	0.2%
O.R. TAMBO	1 295 060	1 364 946	0.5%
ALFRED NZO	773 704	801 344	0.4%
BUFFALO CITY METRO	1 005 779	1 152 115	1.4%
NELSON MANDELA BAY METRO	702 284	755 204	0.7%

Source: Urban-Econ calculations based on Census, 2001 and Census, 2011

6.1.5 Migration Trends

The Eastern Cape's historic migration patterns, which are still evident today, are of external migration out of the province. Historically, it was the colonial and apartheid policies which drove outward migration, as the Eastern Cape was seen as a source of cheap migrant labour. Today migration is socio-economic in nature, as Eastern Cape residents migrate to cities in other provinces for employment and education opportunities. Internal migration within the province has become increasingly evident in recent years, with individuals migrating from rural areas to peri-urban and urban areas due to these areas' proximity to transport corridors, services and employment opportunities. A number of Eastern Cape migration trends were identified by including:

- Rural populations are highly mobile
- Rural to rural migration is where most migration is occurring and occurs between rural areas or between small towns and rural areas
- Rural densification the trend of 'rural peri-urbanisation' where 'densification of small rural towns and coastal towns is taking place on a very large scale
- Circular migration was an identified trend whereby individuals and households moved from one settlement hierarchy to another onwards; from rural to peri-urban and then on to urban centres
- Pursuing development and infrastructure was an identified migration trend whereby migrants go in search, not just of jobs, but also access to infrastructure and services in relatively advantaged urban areas

There are a number of trends in the Eastern Cape's internal migration:

- Movements towards coastal towns: The coastal towns of Jeffrey's Bay, Port Alfred and Kenton-on-Sea have seen an increase in their settlement footprint as residents move from inland to these towns. This development has been both through investment in property developments for middle income migrants, as well as those attracted to the area in search of economic opportunities. This migration is associated with the growth of the Kouga and Ndlambe Local Municipalities (both in the Sarah Baartman District Municipality).
- Movement between secondary towns: There has been movement around and between secondary towns of the Eastern Cape. This is associated with proximity to accessing welfare grants.
- Movement from rural to peri-urban: This is especially prominent in the Eastern portion of the Eastern Cape where residents move from rural village settlements to towns and peri-urban settlements surrounding towns such as Mthatha (O.R. Tambo District Municipality) and Butterworth (Amathole District Municipality). This correlates with lower change in absolute population numbers.

- Movement out of the Karoo: There has been a general depopulation of the arid areas of the province, often to the Western Cape and to coastal towns and cities. This is characterised by a consolidation of commercial farms and a shrinking commercial farming community. Farm labourers have moved into settlements in towns.
- Movement to transport corridors: This refers to movement along the N2 and accounts for increases in the population of King Sabata Dalindyebo, Nyandeni (both in the O.R. Tambo District Municipality) and Mbizana (Alfred Nzo District Municipality).
- Movement to cities: The rural parts of the Eastern Cape have been impacted by migration of people to cities. The degree to which the Eastern Cape cities have from these migration patterns has been reduced as migrants often prefer to move to Gauteng and the Western Cape.

Net rural-urban migration is the primary driver of urbanisation. As peri-urban areas become settled and urban areas expand, so too does the demand for services and infrastructure. Urbanisation means that there will be further demands for land by commercial agriculture, industry, businesses and residents. It results in unsustainable settlement sprawl increasing the cost of infrastructure provision.

6.2 Education

Educational attainment directly impacts on how agriculture is performed and planned in the district. To perform commercial levels of agriculture a higher level of education is needed. This includes understanding of market forces, trade and monetary policies.

The current size of the education system within each district is provided based on the number of learners and schools. In total, there were 1.9 million learners in the Eastern Cape spread over 5 589 public and 166 independent schools. These schools had approximately 68 499 educators, resulting in an average of 28.6 learners per educator in 2011.

Table 6.4: Learners, Educators and Schools in the Eastern Cape, 2011²

MUNICIPALITY	NUMBER OF LEARNERS	NUMBER OF EDUCATORS	NUMBER OF SCHOOLS
EASTERN CAPE	1 963 578	68 499	5 755
SARAH BAARTMAN	90 534	3 176	264
AMATHOLE ³	459 255	18 030	1 757
CHRIS HANI	251 673	9 521	934
JOE GQABI	108 534	3 763	365
O.R. TAMBO	685 353	21 111	1 617
ALFRED NZO	146 191	5 043	480
NELSON MANDELA BAY METRO	218 682	7 564	323

Source: Department of Basic Education, 2013

The Eastern Cape has suffered from ongoing challenges with regards to supplying sufficient educators, resources and support to schools. Table 6.4 indicates that the smallest learner population is in Sarah Baartman as well as the smallest number of educators and number of schools.

² SOURCE: Department Of Basic Education. 2013. **Education Statistics in South Africa, 2011**. Pretoria: Department of Basic Education.

³ Under Department of Education statistics Buffalo City is included within the Amathole dataset.

6.2.1 Education Attainment Levels

The figures in Table 6.5 indicates that 21.3% of the population in Sarah Baartman has an education while 6.4% of the population over the age of 20 have no schooling at all. Approximately 65.9% of the population have some form of education lower than a matric pass.

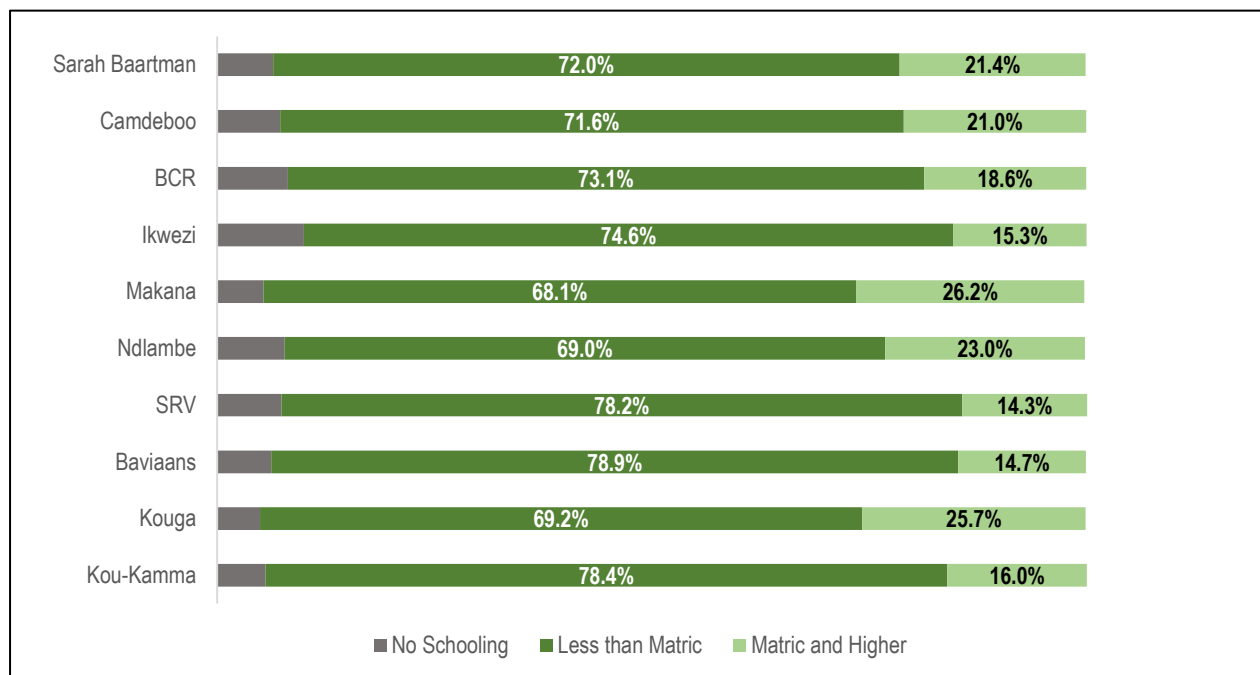
Table 6.5 indicates Ikwezi has the highest proportion of the population over the age of 20 without an education (10%) While Blue Crane Route has 8.1% without an education. The municipalities that have the lowest proportion of people without schooling are Kouga (4.9%) and Makana (5.3%). Sundays River has 7.4% without schooling, 11.6% has Grade 12 and 2.7% have higher degrees.

Table 6.5: Education attainment levels for Sarah Baartman, 2011

Municipality	No Schooling	Some Primary	Completed Primary	Some Secondary	Grade 12	Highe r
Sarah Baartman	6.4%	30.8%	7.7%	33.5%	15.3%	6.0%
Camdeboo	7.2%	30.7%	8.4%	32.6%	14.2%	6.8%
BCR	8.1%	34.9%	7.8%	30.4%	14.3%	4.3%
Ikwezi	10.0%	36.0%	7.5%	31.0%	11.7%	3.6%
Makana	5.3%	27.4%	6.5%	34.2%	17.4%	8.8%
Ndlambe	7.8%	31.0%	6.6%	31.3%	15.7%	7.2%
SRV	7.4%	34.0%	8.7%	35.5%	11.6%	2.7%
Baviaans	6.2%	33.5%	10.7%	34.8%	11.8%	2.9%
Kouga	4.9%	27.7%	7.4%	34.1%	18.4%	7.3%
Kou-Kamma	5.5%	34.5%	9.1%	34.8%	13.0%	3.0%

Source: Statistics South Africa Census, 2011

Table 6.5 and Figure 6.4 indicate that the municipalities with the highest proportion of the population who have a matric or higher are Makana (26.2%) and Kouga (25.7%). Makana's high proportion of the population who have a matric or higher could be related to the fact that a large number of university students and highly qualified lecturers reside in Grahamstown. Conversely the areas with the lowest proportion of the population with matric or higher is Sundays River Valley (14.3%), Baviaans (14.7%) and Ikwezi (15.3%). The low proportion of the population with matric or higher in Sundays River Valley may be as a result of the large agricultural sector which employs a large number of semi-skilled and unskilled labourers. Thus there is a large proportion of the population in the area who have not complete high school. The reason areas such as Baviaans and Ikwezi have lower proportions of people who have completed matric or higher may be as a result of the lack of economic opportunities in the two municipalities and have thus migrated to areas where there are more skills based employment.

Figure 6.4: Education Levels in Sarah Baartman

Source: Statistics South Africa Census, 2011

6.3 Poverty and Income Levels

Income and poverty levels in a municipality indicate directly how much each household is earning and how many people live below the poverty line. This impacts on socio-economic and economic policy and planning and has a large impact on what infrastructure may be needed to develop the area. Poorer areas may need very different infrastructure than infrastructure needs of a more affluent area. Relative income will also impact on how much people can consume and thus how people use different infrastructure. Poverty and income levels serves as indicators of a success and deprivation of a certain area.

Agriculture provides the opportunity to reduce poverty and increase income levels. If farming ventures are successful there is the possibility to improve food security of a region and thus reduce poverty.

6.3.1 Average Household Income

Relative wealth of households can be determined by examining the weighted average household income in a certain area which were calculated using bands of income from the 2011 National Census data.

The results of this calculation are presented in Figure 6.5. Income levels in Sarah Baartman are generally higher than eastern portions of the country. The lowest income levels are present in Ikwezi and highest are in Makana, and Kouga.

6.3.2 Poverty Line and Gini Coefficient

In 2010, approximately 49.8% of the Eastern Cape population, or 3.3 million individuals, were classified as living below the poverty line. The districts with the highest proportion of individuals below the poverty line were Alfred Nzo with 66.2%, or 551 135 people, and O.R. Tambo with 60.2% or 876 130 people.

The Gini Coefficient is an indicator of income equality that looks at how concentrated the income of a region is, over the population. Higher ratios are indicative of high income inequality whilst lower ratios indicate a more equal distribution of a region's wealth. The highest Gini Coefficients, globally, are in the 60 to 70 range, whereas the lowest are the 20 to 30 range. South Africa has one of the highest Gini Coefficients in the world at 64.3. The Eastern Cape's Gini Coefficient at 63.6 is the highest in the country. Sarah Baartman's Gini coefficient is 61.6.

Table 6.6: Eastern Cape Households below Poverty Line and Gini Coefficient in 2010

MUNICIPALITY	PEOPLE BELOW THE POVERTY LINE	% BELOW THE POVERTY LINE	GINI COEFFICIENT
EASTERN CAPE	3 393 984	49.8%	63.6
SARAH BAARTMAN	158 515	35.5%	61.6
AMATHOLE	516 321	52.6%	57.8
CHRIS HANI	429 033	53.0%	60.6
JOE GQABI	226 697	60.2%	59.5
O.R. TAMBO	876 130	62.7%	59.3
ALFRED NZO	551 135	66.2%	55.7
BUFFALO CITY METRO	366 308	31.1%	61.6
NELSON MANDELA BAY METRO	269 845	33.8%	63.2

Source: ECSECC (2012)

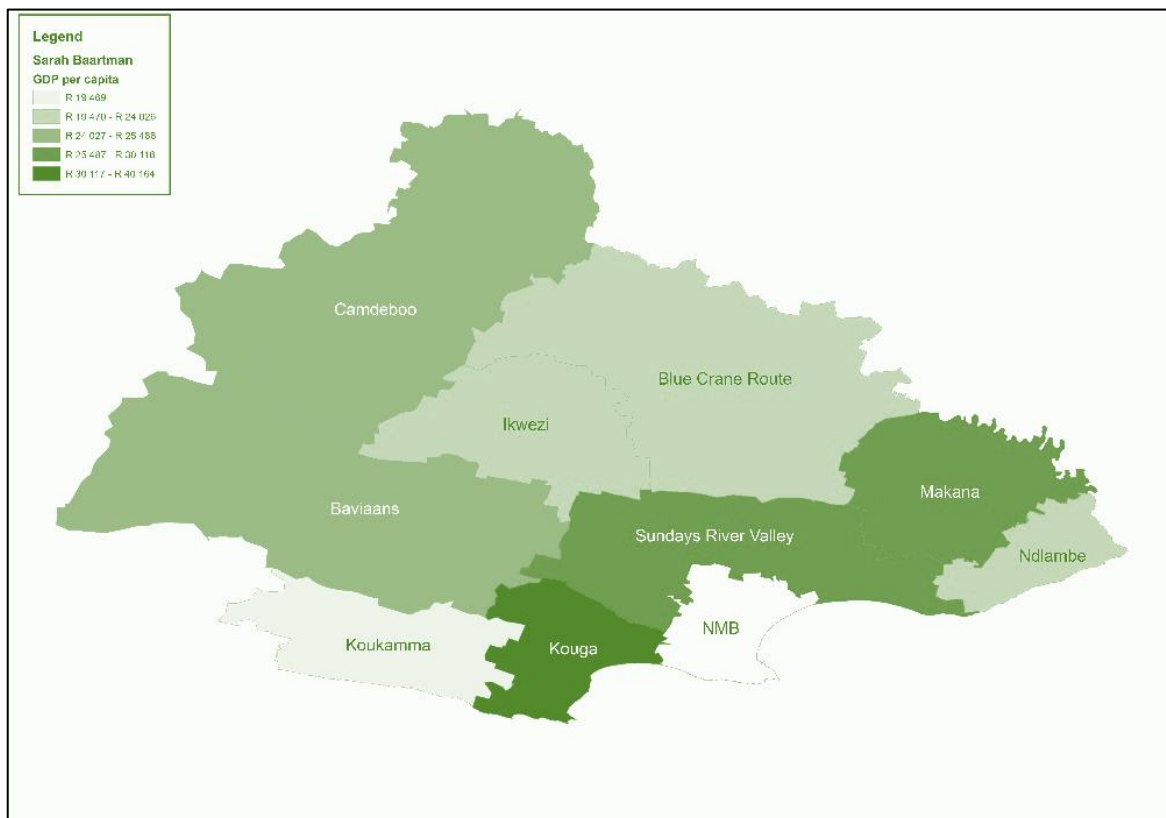
6.4 Economic profile

The Eastern Cape economy experienced low growth in 2014, in line with the underwhelming national economic performance. Weak sectoral performance in key industries, such as automotive manufacturing, is expected to continue in 2015. This is to be compounded by continued slow growth in the Euro Zone economy, which in turn will adversely affect provincial exports. Despite these vulnerabilities, it is expected that key investments planned for the Eastern Cape in the short and medium term, will offset some of these factors, helping to promote job creation and output growth.

This chapter considers provincial economic and sectoral performance between 2003 and 2013, as well as labour market conditions and future economic performance. These factors are assessed at a provincial, district and local level. In addition, the chapter provides a high level analysis of the identified priority sectors at a provincial and district level. This will help to contextualise the more detailed sectoral analysis presented in subsequent chapters.

The GDP-R (Gross Value Added + Taxes – Subsidies) per local municipality within the Sarah Baartman District is illustrated in the Table 6.7 below. GDP-R is the regional Gross Domestic Product and measures output of a region. From the table it is evident that the Kouga Local Municipality accounts for the overwhelming majority of the real GDP-R of the District (28.1%) followed by the Makana (20.7%) and Ndlambe (11.2%) Local Municipalities. The economic dominance of the Kouga and Makana Local Municipalities is a function of the large population residing in these two areas and the corresponding buying power linked to this population.

Although GDP-R is an important measure of the economic position of a municipality, GDP-R per capita serves as a better mechanism for assessing the relative strength of a given municipal economy against a benchmark location, in this case either the Eastern Cape or South Africa.

Figure 6.7: Real GDP-R per capita in the Sarah Baartman District

Source: Urban-Econ calculations based on Quantec, 2015

The real GDP-R per capita for each local municipality within the Sarah Baartman District for 2013 (illustrated in Figure 6.7) ranges from R 19 469 (Kou-Kamma) to R 40 164 (Kouga). The total GDP-R per capita for the entire Sarah Baartman District in 2013 was approximately R 28 833. All the values except for that of the Kou-Kamma Local Municipality are above the provincial figure (R 20 448). Likewise only the GDP-R per capita figure for the Kouga Local Municipality exceeds the national figure of R 34 859. These GDP-R per capita figures are indicative of the low population densities, and the agricultural orientation of the local municipalities' economies in the district.

Table 6.7 below shows the total GDP-R generated by each local municipality within the district in constant 2005 prices. The table also illustrates each respective local municipality's contribution to the total GDP-R of the Sarah Baartman District in 2013.

Table 6.7: Real GDP-R for the Sarah Baartman District and its Local Municipalities

MUNICIPALITY	GDP-R (R, MILLIONS ⁴)		SHARE OF TOTAL GDP-R (2013)
	2012	2013	
SARAH BAARTMAN ⁵	R 10 809	R 11 053	7.8% ⁶
CAMDEBOO	R 1 096	R 1 103	10.2%
BLUE CRANE ROUTE	R 648	R 662	6.1%
IKWEZI	R 270	R 279	2.6%
MAKANA	R 2 223	R 2 252	20.7%
NDLAMBE	R 1 199	R 1 216	11.2%
SUNDAYS RIVER VALLEY	R 1 060	R 1 086	10.0%
BAVIAANS	R 364	R 373	3.4%
KOUGA	R 2 959	R 3 056	28.1%
KOU-KAMMA	R 809	R 835	7.7%

Source: Urban-Econ calculations based on Quantec, 2015

Although Table 6.8 indicates that the Kouga Local Municipality contributed the greatest percentage of the district's total GDP-R in 2013, the local municipality's GDP-R only grew by 3.3% in absolute terms between 2012 and 2013. The GDP-R of the Ikwezi Local Municipality in comparison, which only accounts for 2.6% of the total real GDP-R of the Sarah Baartman District, increased by 3.4% between 2012 and 2013. This however can be attributed to the low base from which the Ikwezi Local Municipality's economy is growing. Sundays River Valley contributes 10% of the GDP_R to Sarah Baartman.

Table 6.8: Real GDP-R growth rates for the Eastern Cape

AREA	AVERAGE ANNUAL GROWTH IN REAL GDP-R			FORECASTED ANNUAL GROWTH IN REAL GDP-R		
	2012	2013	2003 – 2013	2014	2015	2016
EASTERN CAPE	2.5%	1.8%	3.2%	1.6%	2.2%	2.4%
SARAH BAARTMAN	3.6%	2.3%	3.6%	1.6%	2.2%	2.5%
AMATHOLE	3.9%	2.4%	5.1%	1.8%	2.5%	2.8%
CHRIS HANI	2.2%	1.6%	2.9%	1.4%	2.0%	2.2%
JOE GQABI	5.3%	2.9%	5.2%	1.9%	2.6%	2.8%
O.R. TAMBO	3.9%	2.6%	6.5%	1.7%	2.4%	2.6%
ALFRED NZO	5.8%	3.7%	8.4%	2.3%	3.2%	3.6%
BUFFALO CITY	2.0%	1.5%	2.8%	1.5%	2.1%	2.4%
NELSON MANDELA BAY METRO	0.6%	0.9%	0.8%	1.5%	2.1%	2.3%

Source: Urban-Econ calculations based on Quantec, 2015

⁴ Figures are in Constant 2005 Prices

⁵ In 2006 the Sarah Baartman District Municipality still included District Management Areas (DMA). The figures presented in this table have been retrospectively adjusted through the recalculation of the 2006 figures to take into the account the dissolution of the DMA.

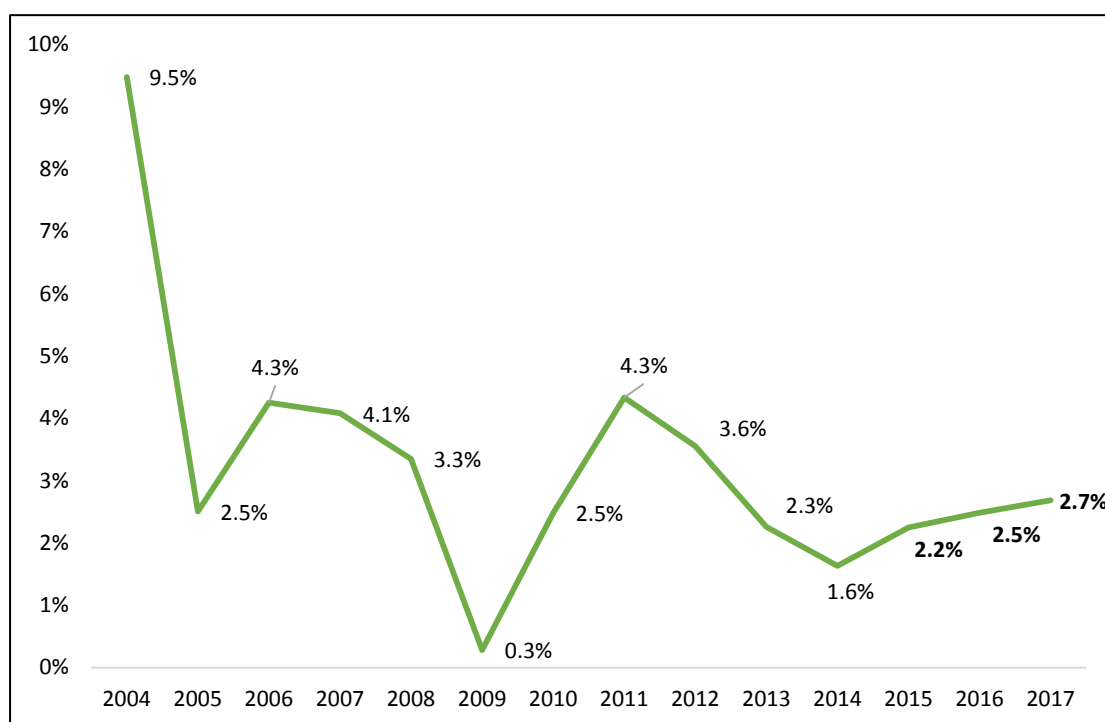
⁶ Sarah Baartman District's contribution to the total GDP-R of the Eastern Cape.

6.4.1 Eastern Cape GDP-R Growth rates and Projections

The most recent economic statistics for the Eastern Cape show that provincial GDP grew by 1.8% in 2013, 0.7% lower than the 2012 growth rate. This figure was, however, lower than the national average (2.1%) as well as all but the Northern Cape whose GDP-R only grew by 1.3% over the period. The statistics also show that the GDP-R growth in the Eastern Cape (as well as the rest of South Africa) is lower than the pre-crisis growth rate of approximately 5.3%, recorded between 2006 and 2007.

The Eastern Cape performed below expectations in 2014, only growing at 1.6% year-on-year compared to 1.8% during 2013. Figure 3.2 and Table 3.3 indicate that the forecasted GDP-R growth for the Eastern Cape in 2015 is 2.2%, recovering to 2.4% in 2016, in line with national expectations. Growth in 2015 is expected to be moderate and below the national figure. These expectations of constrained growth are based on continuing power supply challenges which will impact business productivity, increased electricity costs, and reduced domestic demand.

Figure 6.8: Current and Projected Growth Rate



Source: Urban-Econ calculations based on Quantec, 2015

6.4.2 Employment

This section outlines the structure and performance of the Eastern Cape labour market between 2003 and 2013. The labour market, through job retention and employment creation, is the principle means by which changes in economic structure and performance filter through to changes in household and individual welfare.

Table 6.10 indicates that the number of employed have decreased between 2003 and 2013. This is as a result of a large number the workforce is migrating out of the district to the major metropolitans and other provinces such as Western Cape and Gauteng. The biggest decrease in employment figures has been in Blue Crane Route which has decreased by 6.25% between 2003 and 2013. This is followed by Sundays River Valley which has seen a decline by 3.45% for the same period. The smallest decrease has been in Kou-Kamma which has only seen a decrease of 0.75% followed by Kouga which experienced a 1.03% decrease.

Table 6.9: Sarah Baartman District's employment status in 2013

MUNICIPALITY	EMPLOYED	UNEMPLOYED	
		NUMBER	RATE
SARAH BAARTMAN	139 628	37 050	21.0%
CAMDEBOO	14 728	3 434	18.9%
BLUE CRANE ROUTE	9 580	1 744	15.4%
IKWEZI	3 626	2 101	36.7%
MAKANA	23 746	13 654	36.5%
NDLAMBE	18 377	5 586	23.3%
SUNDAYS RIVER VALLEY	14 439	1 036	6.7%
BAVIAANS	4 605	985	17.6%
KOUGA	33 923	5 810	14.6%
KOU-KAMMA	13 748	2 173	13.6%

Source: Urban-Econ calculations based on Quantec, 2015

Table 6.10: Employment growth trends in the Sarah Baartman District

MUNICIPALITY	AVERAGE ANNUAL EMPLOYMENT GROWTH		
	2012	2013	2003 – 2013
SARAH BAARTMAN	3.0%	5.2%	-2.4%
CAMDEBOO	1.3%	3.0%	-3.4%
BLUE CRANE ROUTE	2.9%	5.9%	-6.3%
IKWEZI	4.9%	7.3%	-3.1%
MAKANA	0.0%	2.4%	-1.2%
NDLAMBE	3.1%	5.8%	-2.7%
SUNDAYS RIVER VALLEY	5.1%	6.0%	-3.5%
BAVIAANS	3.0%	6.1%	-2.8%
KOUGA	3.8%	5.6%	-1.0%
KOU-KAMMA	4.4%	7.9%	-0.8%

Source: Urban-Econ calculations based on Quantec, 2015

The tables provide insight into the employment sector in the District and indicates that average annual employment is decreasing in every local municipality in the District. Sundays River in particular is experiencing a decrease in employment. This can largely be attributed to increasing mechanisation and rural urban migration.

Agriculture Sector Analysis

Chapter 7

7. AGRICULTURAL INDUSTRY ANALYSIS

7.1 Sarah Baartman District Agricultural Activities

The Sarah Baartman District has a wide variety of agricultural pursuits compared to other districts in Eastern Cape. This is as a result of the wide variety of climatic regions and fairly well developed infrastructure in the area. This section aims to outline the current agricultural status quo of the Sarah Baartman District. The following sectors will be examined:

- Livestock
- Fruit and Vegetables
- Forestry
- Aquaculture
- Biofuels

7.1.1 Livestock

The District is home to a wide range of livestock that are kept for a variety of agricultural reasons. Cattle, sheep and goats are the most common livestock that are kept in the District. The most common agricultural products gained from livestock are wool and meat products.

Red Meat (Beef, Mutton, Chevron)

The beef industry is fairly well established in the District. Beef and red meat are produced throughout the region with main centres of production in Camdeboo, Blue Crane Route, Kouga and Makana. In 2007/2008 beef production and consumption fell in South Africa due to the global economic downturn which saw many people reduce their consumption of beef (RPO, 2015). In 2010/2011 beef production also fell because of an outbreak of foot and mouth disease which impacted regions all over South Africa. Cattle production for the purpose of beef only accounts for 6% of all cattle in the province with the majority in Sarah Baartman. While not a major industry in Sarah Baartman District there are numerous projects planned for the area to increase support to emerging farmers in the beef industry (RPO, 2015). Stock production has seen a decline in the past decade, primarily as a result of game farm establishment and the expansion of the Addo National Elephant Park.

Mutton and chevon (goat) are also common in the District for wool, mohair and red meat production. Small-stock farming predominates in the dry Karoo interior predominantly in Camdeboo, Baviaans and Blue Crane Route. Goat production is particularly focused in Camdeboo around Aberdeen and Graaff-Reinet. Baviaans and Blue Crane Route. These areas are renowned for Karoo mutton and mohair production. These sub-sectors are set to expand as the government invests in more co-operatives involving sheep and goats. Most of the livestock in the area are sent to abattoirs in the District or to Nelson Mandela Bay to be processed. Sakkies Small Farmers (Goats and sheep), Mimosdale (Goats and sheep), Khanya Cambria (Livestock), Lamoney Trust (Livestock), Sewefontein (Livestock) and Inyebo Trust (Livestock) are all part of the Agricultural Mentorship Programme which aims to address the skills challenges in the district and promote food security in the area (RPO, 2015).

Dairy

There are four major dairy breeds (not used for beef) in South Africa namely, Holstein, Jersey, Guernsey and Ayrshire. The industry comprises of number of different economic activities and significant differences exist between farming methods and processing of dairy products. Dairy products are produced in the district and are a large source of income for the region. The commercial dairy industry is large and is located in the Kou-Kamma, Kouga and Ndlambe area. The dairy industry in the Eastern Cape is well organised and produces approximately 30% of South Africa's milk. Approximately 20% of the South Africa's milk is produced in Sarah Baartman District alone (MPO, 2015). Major companies such as Parmalat, Woodlands and Clover purchase milk from local farmers and produce dairy products. Most of the products produced are in the form of milk and cream and are largely focused around the Humansdorp area of Kouga which produced 226 035 872 litres of milk in 2014. The Kouga

and Kou-Kamma coastal areas contain the most cows per km² (10.1 – 17.5) and produces the most litres of milk per km² (200.1 – 350 litres) in the country (MPO, 2015:21). The other centres of production include Alexandria in Ndlambe, Jansenville in Ikwezi and Sundays River Valley. There are farms throughout the District however. Dairy products accounted for approximately R64 million worth of exports from Sarah Baartman in 2014.

Major trends in the dairy sector indicate that production has increased at approximately 2.2% per year and looks set to increase at this level but the number of milk producers have decreased by 37% between 2007 and 2015 (MPO, 2015).

Wool/Mohair

The wool and Mohair industry is an extremely important export for the region. The global mohair industry is dominated by South Africa which contributes 50% - 60% of the total production. The mohair industry is centered around Jansenville in Ikwezi but areas of highest production include Somerset East in Blue Crane Route, Aberdeen and Graaff-Reinet in Camdeboo and Willowmore and Steytlerville in Baviaans (Mohair SA, 2014). Mohair is largely exported to foreign markets unprocessed or semi-processed. There is also a large number of local manufacturers who produce mohair products. Mohair production has fallen throughout the region between 2012 and 2013 with some areas decreasing production by as much as 16% (Camdeboo, Baviaans). Camdeboo and Baviaans produced the largest share of Mohair in 2013 as seen in Table 7.1.

Table 7.1: Wool Production in Sarah Baartman

Area	Mohair (Kg)		% Growth (2012-2013)	% Share (2013)
	2012	2013		
Sarah Baartman	1 308 712	1 119 840	-14.4%	47.5%
Camdeboo	421 312	350 160	-16.9%	14.59%
Blue Crane Route	219 240	193 920	-11.5%	11.32%
Ikwezi	160 544	154 560	-3.7%	6.44%
Makana	123 192	102 720	-11.5%	1.89%
Baviaans	384 424	318 480	-16.6%	13.27%

Source: Urban-Econ calculations based on Mohair SA, 2014

Major projects that are in pilot or rollout phase include the Uitkomst Farm in Ikwezi LM which is part of the Agricultural Mentorship Programme which intends to teach emerging farmers how to produce mohair goats. Mentors are selected to guide emerging farmers and assist in decision making and skills training/transfer.

Wool from sheep is produced in Camdeboo in Graaff-Reinet and Aberdeen, Somerset East in Blue Crane Route and Baviaans with smaller production centres in Jansenville in Ikwezi and Kirkwood in Sundays River Valley. While not the largest producer of wool in the province, Sarah Baartman contribute 19.3% to the total Eastern Cape production. As with mohair, wool is exported unprocessed or semi-processed to international markets, but predominantly China.

Game

Game is a growing industry in the municipality. No longer seen purely as a means of conservation, game farming has emerged as a sector that provides meat, leather and live animal products for sale and export. While not at the same production level or extent of cattle, sheep and goats game is gaining popularity in many farming areas. Game is also useful in attracting tourism revenue largely in the form of hunting and eco-tourism. Much of the production occurs around Somerset East in Blue Crane Route and Makana around Grahamstown in Makana but present in most municipalities. Much of the land in the District is suitable and capable of housing the game industry and can be seen as a potential area of investment in the future. There is currently only one operational

abattoir in the District located in Graaff-Reinet which processes game meat. The other abattoir in Grahamstown was shut down to operating losses stemming from poor production. This is largely produced for the export market with some limited domestic markets in mind. There is however an increasing concern that the unregulated importation of game will have a negative impact on livestock established in the area by bringing in disease (Farmers Weekly, 2015).

Recently a ban from the EU on the importing of South African meat exports was lifted and it is expected that the industry is set to grow again with opportunities to export meat to this market. This can be seen as a large opportunity for emerging farmers (Farmers Weekly, 2015).

Pork

Pork and pig farming is not as large as the red meat industry in the District but is seen as an important part of the agricultural industry. The District Municipality believes that in the future pork can be a major export from the region as well as used in conjunction with the meat production industry (requires pork fats and other pork products) to produce a viable industry in the area. Pig farming is more labour intensive than other red meat farming and is a useful tool in employment creation. Pig farming also supports small holder farmers as many pigs can be kept in a smaller area than compared to cows. This has benefits if land availability is an issue. The region is conducive to pig farming as waste from the citrus, vegetable and pineapple industry can be used as feed to support the pig farming industry.

Currently the Aberdeen Piggery project in Camdeboo is being supported as part of the Agricultural Mentorship Programme which is providing support for local farmers. It is also receiving support from the local government in the form of piglets and infrastructure. There are piggery projects proposed for various other towns such as Grahamstown and Humansdorp.

Poultry Integrated Value Chain (layers, breeders, broilers)

Poultry is an extremely important industry in South Africa. Production of poultry products are a major source of food for the majority of South Africans. The industry is believed to be expanding with many opportunities for emerging farmers in both local and export markets. South Africa is a net importer of poultry broiler meat as consumption of the product outstrips production but it is believed that there is an oversupply of eggs in the market with supply outstripping demand. Eggs and meat are mainly sold to the major retailers such as Pick n Pay, Shoprite Group, Spar, Woolworths and MassMart. The main export markets are SADC countries.

While not the main production area for South Africa, poultry is still extremely important in providing jobs and food to the area. Major producers such as Sovereign Poultry are located outside the District in Thornhill and Uitenhage but these areas allow for linkages to be created in the District. There are numerous projects planned by the DRDAR, DEDEAT and SEDA to create poultry co-operatives throughout the district particularly in Alexandria, Port Alfred, Bathurst, Somerset East, Hankey, Humansdorp, Patensie, Waggle and Zandvlakte. Each project areas may receive between R1.2 – R20 million support.

The poultry industry is not a particularly labour intensive industry but does ensure food security for communities with scope to make profits from exports and local markets.

Ostrich is also produced in the area but has come under increasing pressure in District. South Africa is a net exporter of Ostrich meat. The main export market is the EU which constitutes 98% of the exports of Ostrich meat. The ban of Ostrich meat to the EU in 2011 had a drastic impact on the industry and saw an extremely large decrease in Ostrich exports largely as a result of the restrictions imposed by the EU after numerous birds throughout the country were infected with disease. Recently the ban has been lifted but the industry in the area is still suffering. There are very few export ready Ostrich farms and only one (Graaff-Reinet) out of two abattoirs

are operational. There is scope to increase the production of Ostrich products in the area including leather products.

7.1.2 Fruit and Vegetables

Fruit is one of the most exported agricultural commodities in the District with R357 million worth of exports in 2014 which is mostly grown in the Sundays River Valley, Kouga and Kou-Kamma. Small pockets of fruit farmers in other municipalities (Makana, Blue Crane Route) (DAFF, 2014).

Citrus

The citrus industry is one of the most critical industries in the District. The citrus industry is centred on Kirkwood and the surrounding area in Sundays River Valley but there are significant plantations in the Gamtoos Valley as well (Hankey and Patensie). The Sundays River Valley and Gamtoos Valley produces a large proportion of South Africa's citrus. Packing, juicing and other processing plants are located around Kirkwood and Addo which is where the citrus industry is centralised. The Sundays River Citrus Company (SRCC) is responsible for a large part of the Sundays River Valley Local Municipality production, producing 2 million pockets of citrus for the local market, with approximately 10.0% of this regional production is produced for the export market. These production levels make the Sundays River Citrus Company the largest producer of citrus in southern Africa. Citrus is one of the major beneficiaries of the Sundays River Valley Irrigation Scheme that was set up to transfer water from the Gariep Dam into the Sundays River. Citrus accounts for 66% (13 442.86 ha) of the area in the irrigation scheme alone (DAFF, 2014). The biggest challenges that face the citrus industry in the area is road infrastructure which causes up to R 250 million in losses per season (Personal Communication CGA, 2014). The main types of citrus grown around the Gamtoos Valley include oranges, grapefruit, lemons and soft citrus. Patensie Citrus has two packhouses in the Gamtoos Valley and is able to pack 60 tons per hour. Approximately 1.8 million cartons of citrus are exported annually while fruit not acceptable for export are sold locally. Patensie Citrus currently exports to the UK, Canada, Russia, Northern & Southern Europe, China, South East Asia, Far East and the Middle East. Paksaam Nursery (located in the Gamtoos) is one of 22 accredited nurseries in South Africa and produces citrus trees for local farmers and is an integral part of the citrus industry in the area.

It is expected that the local demand for citrus will still increase thus creating an opportunity for emerging farmers. While local markets are important the main focus of citrus in South Africa is the export market. South African citrus is sent all over the world but, the largest export regions are Asia (Western and eastern Asia) and Europe (European Union member states) (CGA, 2014). It is expected that demand for South African citrus is largely as a result of reductions in citrus production during the northern hemispheres off season. The largest competitors facing the industry are fellow southern hemisphere producers such as Argentina, Brazil and Australia. It is believed that there is potential to export a large quantity of citrus to emerging markets such as China and other eastern Asian countries (CGA, 2014).

Pineapples

Pineapples are considered one of the most important export crops in South Africa because of their foreign exchange earnings, employment creation and linkages with support institutions. The pineapple industry is closely associated with the agro-processing industry and most fruit is often absorbed into the process which is then exported and sold to retailers. The biggest export competitors are the Philippines, Brazil and Thailand (DAFF, 2014).

Pineapples are also grown in the District and accounts for 90% of the Eastern Capes production. Pineapple exports from Sarah Baartman total almost R53 million. Pineapple production is located almost exclusively in the Ndlambe Local Municipality surrounding Bathurst. The pineapple sub-sector is labour intensive, contributing greatly to social and economic growth in the region. It is seen as a priority growth area that can boost employment in the surrounding Ndlambe community (DAFF, 2014).

In 2007 the pineapple industry in Eastern Cape was on the brink of collapse largely owing to strong competition from overseas producers, high Rand Dollar exchange rate and declining fruit volumes to name a few. The Ndlambe Natural Industrial Products (NNIP) was formed to determine if pineapple waste could be used to create useful products. Soon after feasibility studies were completed and it was determined that Bromelain (used in medicine as an anti-inflammatory), dietary fibre, and MCC (micro-crystalline cellulose – an anti-caking agent, stabiliser and fat replacement) could be created from the waste products usually discarded in the pineapple production process. Despite this intervention the pineapple industry is still very volatile and faces challenges in the future.

Deciduous and Stone Fruit

Fruit such as apples, pears and quinces are commonly referred to as deciduous. Apricots, peaches, plums and nectarines are also deciduous but are commonly referred to as stone fruit or drupes. Deciduous fruits are predominantly produced in the Western Cape while apples and pears are focused in the Ceres area. In the Sarah Baartman District the major deciduous fruit producing areas are the Langkloof in Kou-Kamma and Gamtoos Valley in Kouga. It is centred on the towns of Hankey and Patensie (DAFF, 2014).

The Langkloof alone produces apples (19% of the country's total production area), pears (13%), apricots (4%), peaches (2%), and plums (4%). While not widespread across the entire district the fruit industry is vitally important to employment and skills development in the Langkloof and Gamtoos (DAFF, 2014).

Vegetable Production

Vegetables are popular in the Sarah Baartman District and are grown throughout. The major vegetable production areas are mainly along the coastal belt in the Sundays River and Gamtoos Valley. Besides citrus these areas produce a large number of vegetable goods such as potatoes, cabbage, spinach, carrots, cauliflower, tomatoes and cucumber among other goods. Vegetable production is spread throughout the District with numerous projects planned for emerging farmers (Abstract of Agricultural Statistics, 2015).

Potatoes are grown throughout South Africa but predominantly in Limpopo. Potatoes are seen as a good export commodity as they last longer than traditional vegetables and can endure long transits to markets. This being said Potatoes are not a major export in South Africa. Potatoes are mainly sold within South Africa or exported to neighbouring countries such as Mozambique or Zimbabwe. The major potato growing region in Sarah Baartman is located in Kouga Municipality around Hankey and Patensie.

Major challenges faced by the industry are largely infrastructural in nature as many farmers cannot move their produce out of the Gamtoos or Sundays River area without damaging produce.

Field Crops (including grains, sugar cane, etc.)

Field crops such as maize, sorghum, wheat and other grains are not common in the municipality. The most common field crops that are present include Lucerne, which is primarily grown for cattle feed and Chicory, which is used as a coffee substitute and sold to local manufacturers. Maize is predominantly grown on a subsistence level and with some produced for animal feed as well.

Chicory

South Africa is the second largest producer of chicory in the world. Chicory is a plant that has Chicory is also grown and produced almost exclusively in Alexandria area where it is processed and distributed for national consumption. There is also a small area of Chicory production in the Gamtoos area. Chicory is used for three main uses. The first is as a coffee substitute, the second as part of the greens for salad and lastly as fodder for

agriculture. The production units in Alexandria largely concentrate on the production of chicory for coffee manufacturers around the country. Fodder is sold to local milk producers in the Alexandria area.

7.1.3 Forestry

Forestry is not present throughout the municipality as the climate is not suitable for large plantations but, it does form an important part of the economy in the Kou-Kamma and Kouga municipalities. Forestry has potential to provide economic spin-offs in terms of manufacturing (pulp milling, paper manufacturing, sawmilling, furniture manufacturing). The forestry industry can also play an important part in environmental services such as conserving soil, water and biological diversity. The main purposes of forests are conservation, commercial activities or woodlots which provide small scale production such as fire wood, non-timber forest products and recreational uses. Natural forests cover the largest area in Sarah Baartman (48 703 ha) while commercial forests occupy a slightly smaller area (DAFF, 2014).

Sarah Baartman has over 30 068 ha (10 634 in Kouga and 19 434 in Kou-Kamma) of state owned forestry which is used for commercial activities. Forestry employs approximately 100 labourers in Kouga and 500 labourers in Kou-Kamma for plantations while downstream employment in forestry related industries account for 532 jobs in Kou-Kamma (DAFF, 2014).

Infrastructure in the forestry industry is vitally important. The most critical factor in forest production is the risk of fire. Sufficient support systems and preventative infrastructure needs to be in place. In 2005 nearly 15 000 ha in the Kou-Kamma and Kouga areas were destroyed by fire. Minimising risk is vitally important. Effective water, road and fire protection service needs to be in place (DAFF, 2014).

7.1.4 Aquaculture

Fishing and aquaculture is seen as an underdeveloped sector in the District. The district does however, produce a large amount fish and crustaceans for export these are largely produced in Kouga and Ndlambe. The District has two separate sections of coastline and limited access to rivers and fresh water bodies that can be utilised to improve the sector. There are currently projects set to expand the aquaculture sector by creating fish farms in Camdeboo through the DAFF and the ECDC called the Camdeboo Satellite Aquaculture Project (CSAP).

There are also plans to expand this industry by creating fishing fleets in Kouga, Cape St Francis and Ndlambe Port Alfred to further take advantage of the natural resources off the coast of the municipalities. Fish processing plants are also planned for Kouga and Kou-Kamma. This will increase the contribution of fishing to the GDP_R of the region.

Aquaculture and fishing industries are reliant on effective infrastructure. Fishing activities need access to suitable port areas and to sea worthy boats and craft that that withstand ocean currents. Freshwater aquaculture requires good water and electricity infrastructure (for refrigeration and processing) and needs to be effectively maintained to avoid the destruction of the products

7.1.5 Biofuels

Biofuels in the District are still in a planning phase and it is expected that more investment will be focused on producing crops such as sugar beet and sorghum to produce biofuels. The planned construction of a biofuel production plant in Cradock will allow linkages to be created especially in the Blue Crane Route Local Municipality with regards to producing sugar beet and sorghum. Opportunities exist for biofuel from waste products in the agricultural industry especially from forestry, pineapples, citrus and vegetable farming.

7.2 Current and proposed projects in the region

There are multiple project categories for economic, social and socio-economic development within South Africa. The following section brings to the fore the more common project types, namely REID, RID, CASP, LRAD, Ilima/Letsema, and others, that are applicable to the O.R. District Municipality.

7.2.1 Rural Enterprise and Industrial Development (REID)

REID was established by the Department of Rural Development. It aims to create an enabling institutional environment for vibrant and sustainable rural communities. REID consists of four units. Each unit is briefly described below.

The social organisation and mobilisation unit, which is responsible for the promotion of participatory approach to rural development.

The technical support, skills development and nurturing units, this unit provides technical support to institutions and organisations in rural communities through skills and capacity building.

The Institutional Building and Mentoring unit is responsible for facilitating, building and mentoring institutions in rural communities.

The rural livelihoods and food security unit, that is responsible for facilitating strategic partnerships that would promote economic and rural enterprise development. Strategic partners are from the private sector, government entities and international organisations. These strategic partnerships also facilitate value added services such as agro-processing and the establishment of village industries and enterprises.

There are 12 REID projects operating in Sarah Baartman.

7.2.2 Rural Infrastructure and Development (RID)

The Rural Infrastructure and Development initiative was established and run by the DRDLR in order to facilitate rural infrastructure development strategies for socio-economic growth. The key role of RID is to provide ICT, economic and social infrastructure necessary to uplift rural communities. The functions of the programme include provision of economic and ICT infrastructure and development services; facilitation of social infrastructure, development and adaptation of innovative and appropriate technologies within rural areas.

RID also intends to facilitate access to additional funding to implement infrastructure project services, to provide project management functional specific support to RID in provinces, to provide financial and administrative support services and finally to provide service delivery coordination services.

An example of how RID links with other projects is that it would, for example, provide the fencing for a project area while REID will provide the funding and invest in food gardens.

There are numerous RID projects that are currently being run in the SBDM as can be seen in Figure 7.1 the highest concentration of which appear to be in Sundays River Valley LM and Makana LM.

7.2.3 Land Redistribution for Agriculture Development (LRAD)

The Land Redistribution for Agricultural Development (LRAD) programme was designed to help previously disadvantaged citizens from African, Coloured and Indian communities to buy land or agricultural implements specifically for agricultural purposes. The LRAD grant is made available as a non-refundable form of funding or financial contribution to help prospective farmers to purchase land by government.

The grants are made available through the Dept. Land Affairs with assistance from the Dept. of Agriculture, Fisheries and Forestry. Funds can be used for the acquisition of land or the financing of land improvements, infrastructure investments, capital assets and short-term agricultural inputs.

LRAD funding is made available to beneficiaries at various levels, these are:

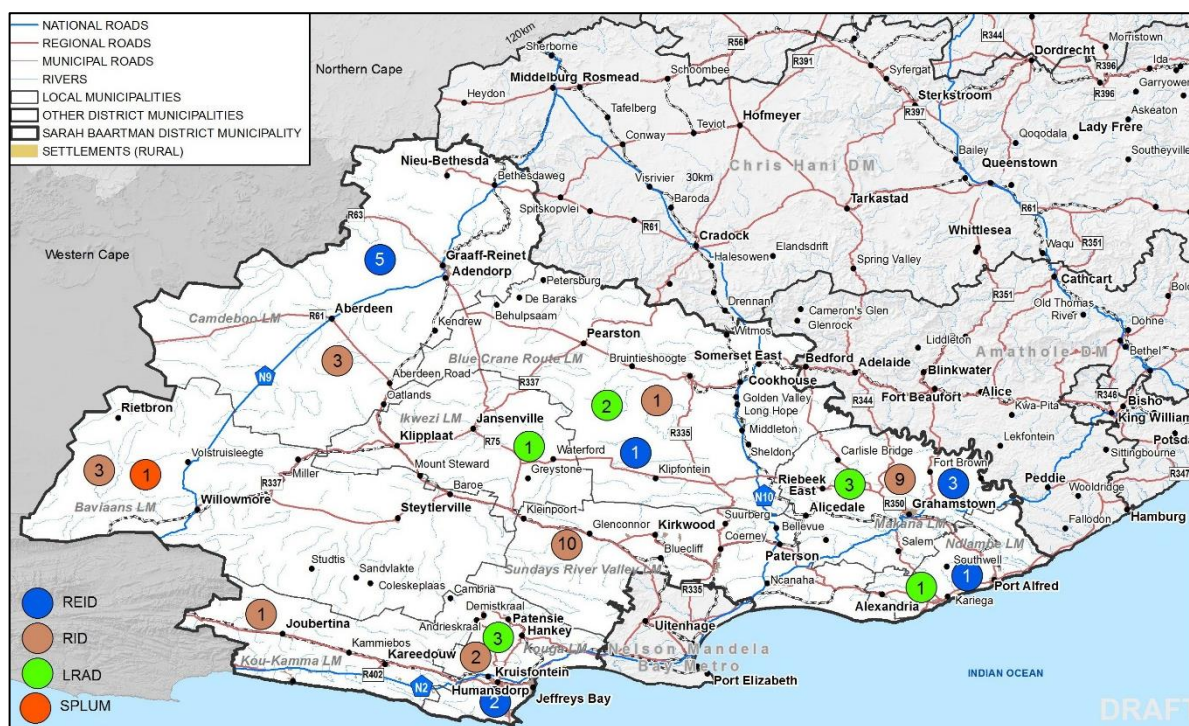
Safety-net projects: This is the level at which beneficiaries will acquire land to produce mainly for own consumption.

Equity schemes: Members of a group will each contribute a certain amount towards accessing the grant. In turn, each member will own a certain percentage of the project according to the degree of their contribution.

Production for markets: Some people will enter the programme at a much higher level than the ones mentioned above. These people will most probably have more farming experience as well as access to additional finance through normal bank loans as well as their own assets and cash to purchase bigger farms and therefore farm on a much larger scale.

Agriculture in communal areas: Quite a number of people in communal areas already have secure access to agricultural land, but may not have the money to start using that land productively. Such people will be allowed to apply for assistance to start putting up productive investments on the land.

Figure 7.1: DRDLR Projects in SBDM



Source: Urban Dynamics, 2015

7.2.4 Comprehensive Agriculture Support Programme (CASP)

The Comprehensive Agricultural Support Programme is a Dept. of Agriculture, Fisheries and Forestry project, supported by National Treasury, which seeks to provide agricultural support to land and agrarian reform projects.

The strategic goals of the CASP programme are to create a favourable and supportive agricultural service environment for the farming community, including subsistence, smallholder and commercial farmers.

Grants are allocated with the aim of expanding the provision of agricultural support services and the promotion & facilitation of agricultural development by targeting smallholder and previously disadvantaged farmers.

7.2.5 Ilima/ Letsema

The Ilima Letsema initiative was established in 2008 and reformed in 2013 by the DAFF with the aim of encouraging food gardens among to support food security in rural areas. The funding originated with the special poverty allocations made by National Government for a specific purpose and a conditional grant enables government to ensure that specific projects are targeted. The funding will look to support small emerging farmers and takes the form of grants given to farmers. The grant is given to farmers who apply and uses a grant framework to assist targeted vulnerable South African farming communities to increase agricultural production and improve farming skills. Some of the funding goes towards strategic interventions like the rehabilitation of irrigation schemes.

The expected outcomes from this project includes:

- Increased production efficiency
- Increased agricultural production for the targeted group
- Improved ability of targeted group to cope with high food prices.
- Improved food production at both household and national level.

In 2012 it is believed that a total of 4 021 farmers had been supported through the Ilima Letsema programme. It is believed that through this programme, farmers will be trained in appropriate agricultural practices, the number of hectares under production will increase and new irrigation schemes will be established.

In the SBDM, Ilima Letsema has a strong presence with a number of projects in Bavians, Makana and Ndlambe LM.

7.2.6 Integrated Development Plans (IDP)

District Municipality Integrated Development Plans (IDP) is a super plan for an area that gives an overall framework for development. It aims to co-ordinate the work of local and other spheres of government in a coherent plan to improve the quality of life for all the people living in an area. It should take into account the existing conditions and problems and resources available for development. The plan should look at economic and social development for the area as a whole. It must set a framework for how land should be used, what infrastructure and services are needed and how the environment should be protected.

All municipalities have to produce an Integrated Development Plan (IDP). The municipality is responsible for the co-ordination of the IDP and must draw in other stakeholders in the area who can impact on and/or benefit from development in the area.

Once the IDP is drawn up all municipal planning and projects should happen in terms of the IDP. The annual council budget should be based on the IDP. Other government departments working in the area should take the IDP into account when making their own plans.

The IDP develops projects in conjunction with regional and provincial government departments to aid specific development objectives. Funding for District IDP projects is accessed through these government departments, from the District IDP budget and through other funding avenues and mechanisms.

7.2.7 Social Relief Projects

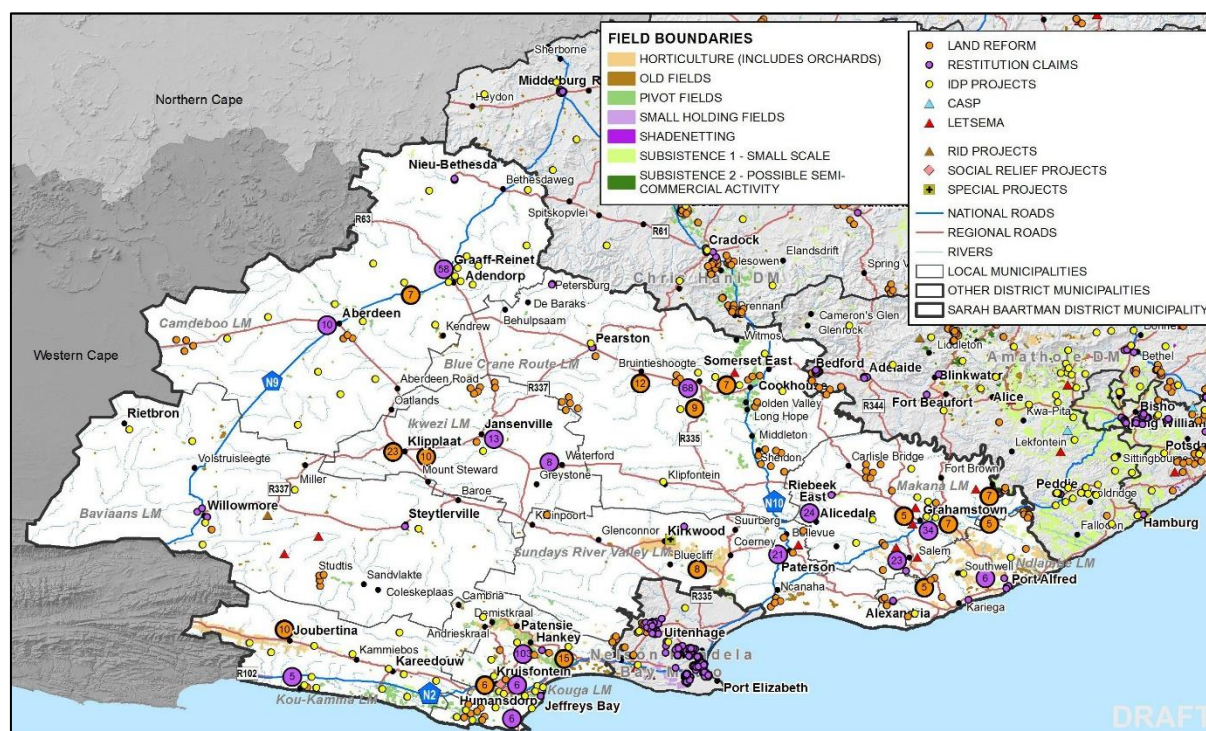
Social relief projects are generally temporary assistance projects for those in dire need of support. In the case of the agricultural sector, social relief projects are generally directed at those who have experienced a natural

disaster such as drought, fire or floods. Social relief projects are funded by a number of organisations, including the private sector. There are currently no social relief projects underway in SBDM.

7.2.8 Special Projects

Special projects are projects that are usually large and unique in nature which have specific goals that are linked to national and regional development. Examples of these projects include IDZs and large infrastructure projects such as dams and electricity projects.

Figure 7.2: Projects in SBDM



Source: Urban Dynamics. 2015

7.3 Environmental Profile

Sarah Baartman has a unique and interesting environment. Biodiversity in the municipality is broad and ranges greatly from one extent of the District to the other. Just as biodiversity differs, so does the temperature, rainfall and general climate. The following section details the environmental characteristics of the municipality.

7.3.1 Temperature

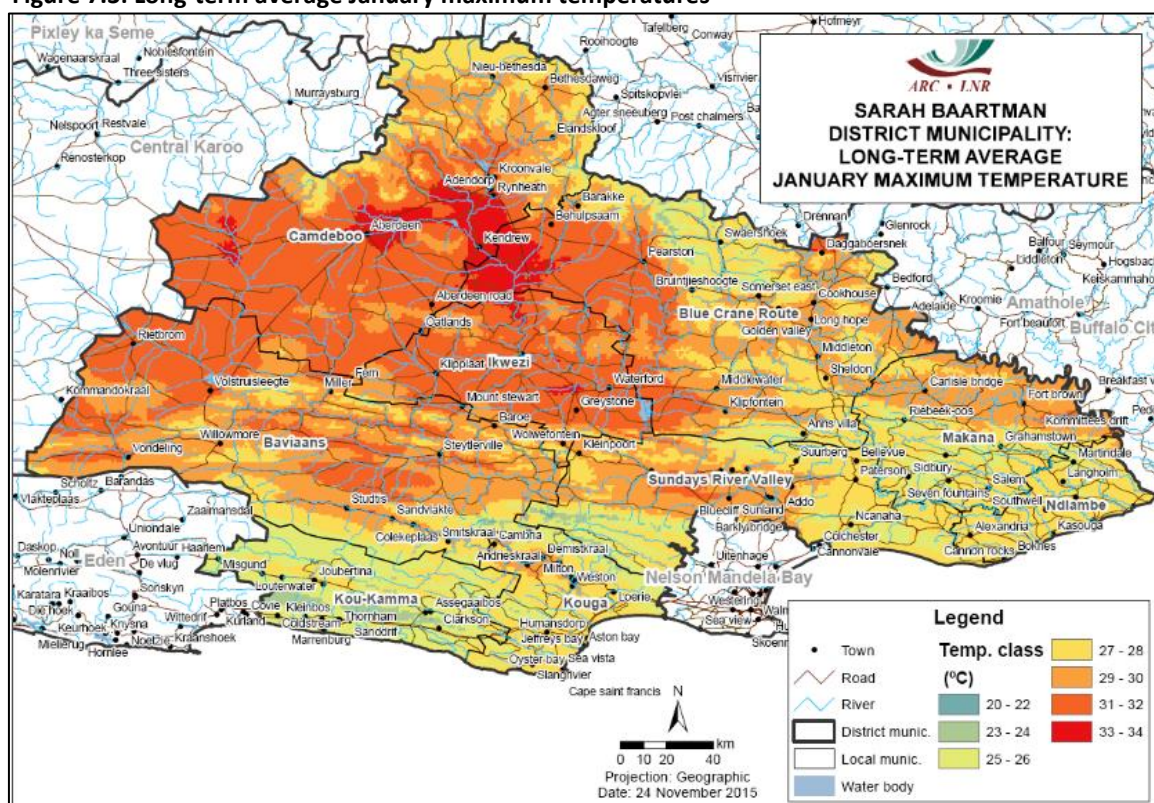
Decadel (ten day period) 1km X1km surfaces were created from temperature data (1920 to 1999) obtained from the AgroMet databank at the ARC-ISCW (South African Weather Service and ISCW weather stations) from stations with a recording period of 10 years or more. Regression analysis and spatial modelling were utilised taking into account topographic indices such as altitude, aspect, slope and distance to the sea during the development of the surface. Monthly averages were calculated (Malherbe & Tackrah, 2003). The SAWS in Nelson Mandela Bay indicated that Sarah Baartman DM is the DM with the best distribution of meteorological data available in the Eastern Cape.

The Tsitsikamma forest in Kou-Kamma municipality has a mean temperature of 23°C during summer and a winter mean temperature of 17°C, while temperature in Graaff-Reinet in Camdeboo municipality rises to the mid 40°C with a mean summer temperature of 31.5°C and mean winter temperature of 19.4°C (SBDM, 2015).

The long-term average maximum temperatures for Sarah Baartman are mostly between 29°C and 32°C for January (Figure 7.3) and the long-term average minimum temperatures between 3°C and 4°C inland and near the coast between 9°C and 10°C for July (Figure 7.4).

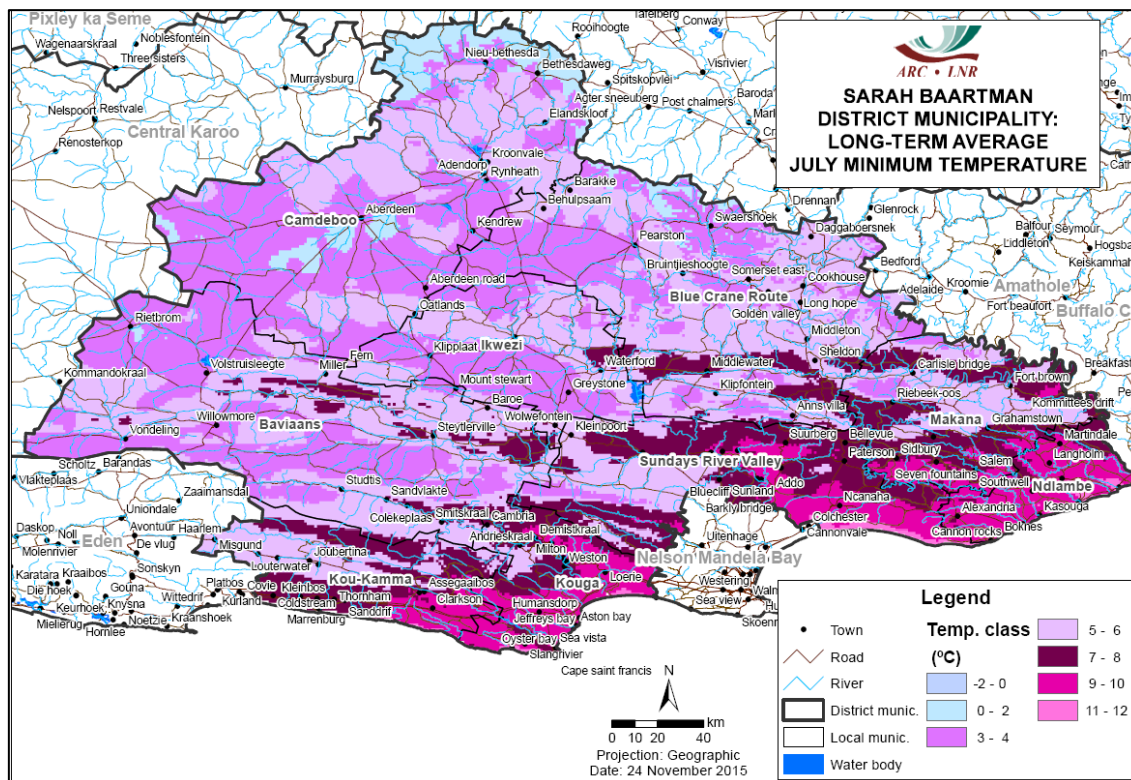
According to Schulze (2008) the heat units (0 days) for January for the area is between 320 and 360. The July values is between 100 and 120. The positive chill units for July is mostly between 50 and 150 PCUs for the Sarah Baartman DM. For citrus production the average minimum temperature for the coldest month should not be below 2°C to 3°C if no protection is provided. The very low minimum temperatures in winter is for certain inland areas are problematic for vegetable production.

Figure 7.3: Long-term average January maximum temperatures



Source: Agricultural Research Council - LNR, 2015

Figure 7.4: Long-term average July minimum temperatures



Source: Agricultural Research Council - LNR, 2015

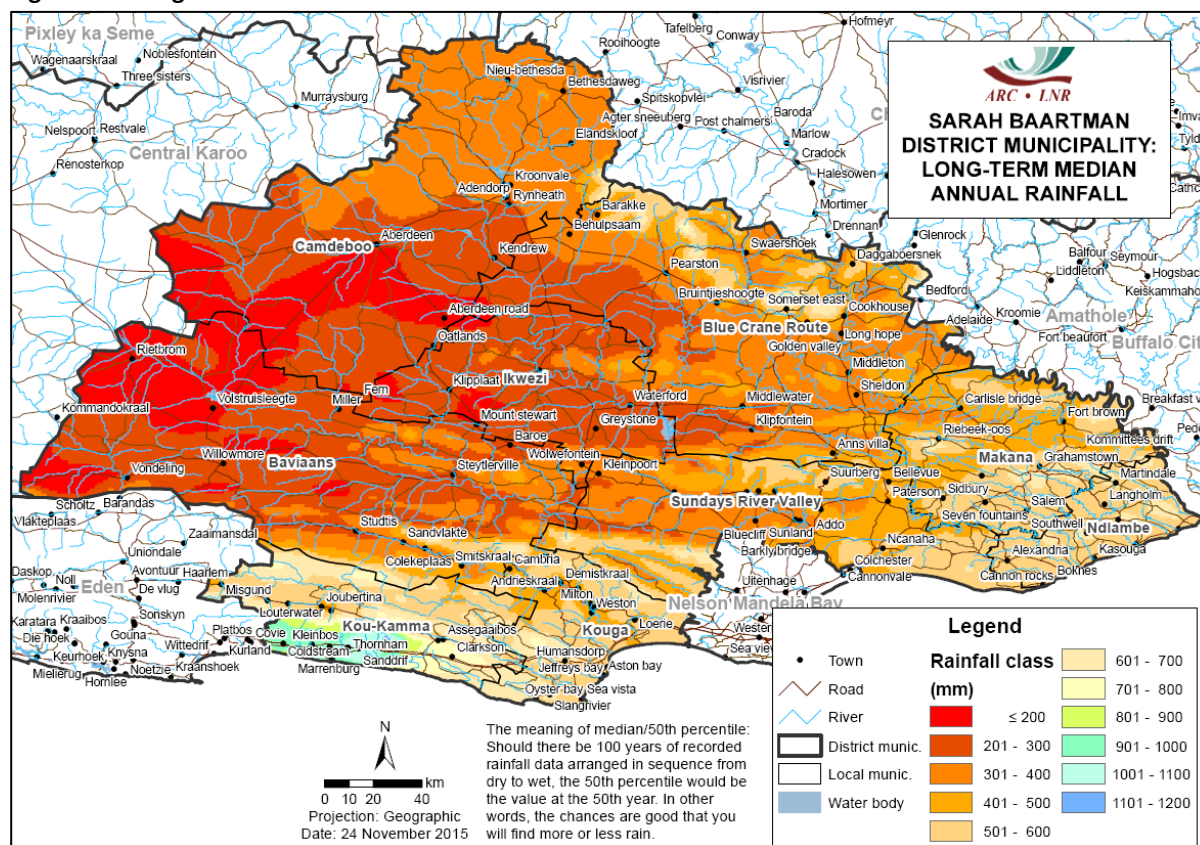
7.3.2 Rainfall, hail risk, humidity and water availability for irrigation or animal watering

Climate in Sarah Baartman DM vary from mild conditions and moderate rainfall along the coast to harsh and arid conditions in the Karoo. Rainfall varies from 900 to 1 000mm in the Tsitsikamma forest in the most southern part of the district to less than 200mm in the Karoo in the western part of the district. The eastern part of the district receives about 600mm per annum with approximately 400mm per annum in the central part of Sarah Baartman DM (Figure 7.5). Intensive crop production in the Sarah Baartman DM is not possible without irrigation.

From the long-term 33rd and 67th percentile annual rainfall (Figures 7.5 and 7.6) it can be seen that the Tsitsikamma has the highest probability of high rainfall (900 mm) even during drought conditions.

Drought is a regular phenomenon in Sarah Baartman DM. Of critical and in national interest is the shortage of water during dry periods in the Nelson Mandela Bay Metro (NMBM). Water shortages are regularly experienced in Willowmore, Steytlerville (Baviaans), Jansenville (Ikwezi) Graaff-Reinet (Camdeboo) and Port Alfred (Ndlambe). The Paterson area (Sundays River Valley) has a particular water shortage problem in that groundwater exploration yielded no returns and the town experience regular water crisis, which is exacerbated by the influx of people (Jordaan, 2013). This however will be partially alleviated when Paterson is supplied with pumped water from water treatment works near Kirkwood.

Figure 7.5: Long-Term Median Annual Rainfall

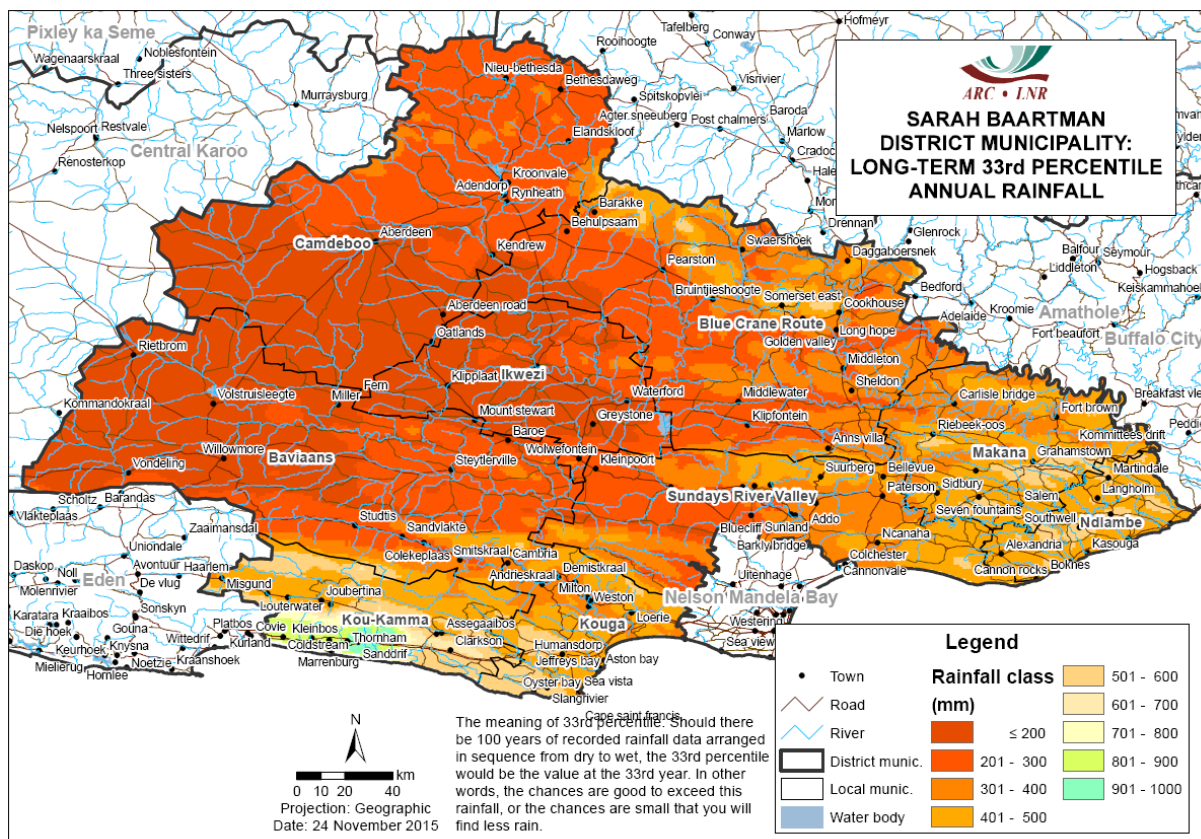


Source: Agricultural Research Council - LNR, 2015

Sarah Baartman DM depends predominantly on groundwater for human consumption as well as for agricultural activities. The low inland rainfall toward the west of the province results in sporadic dry periods and consequently drying up boreholes and disrupt water supply to towns and human settlements. As a result of these, there is a competing demand for the scarce water resources between agriculture and the communities (SBDM, 2015).

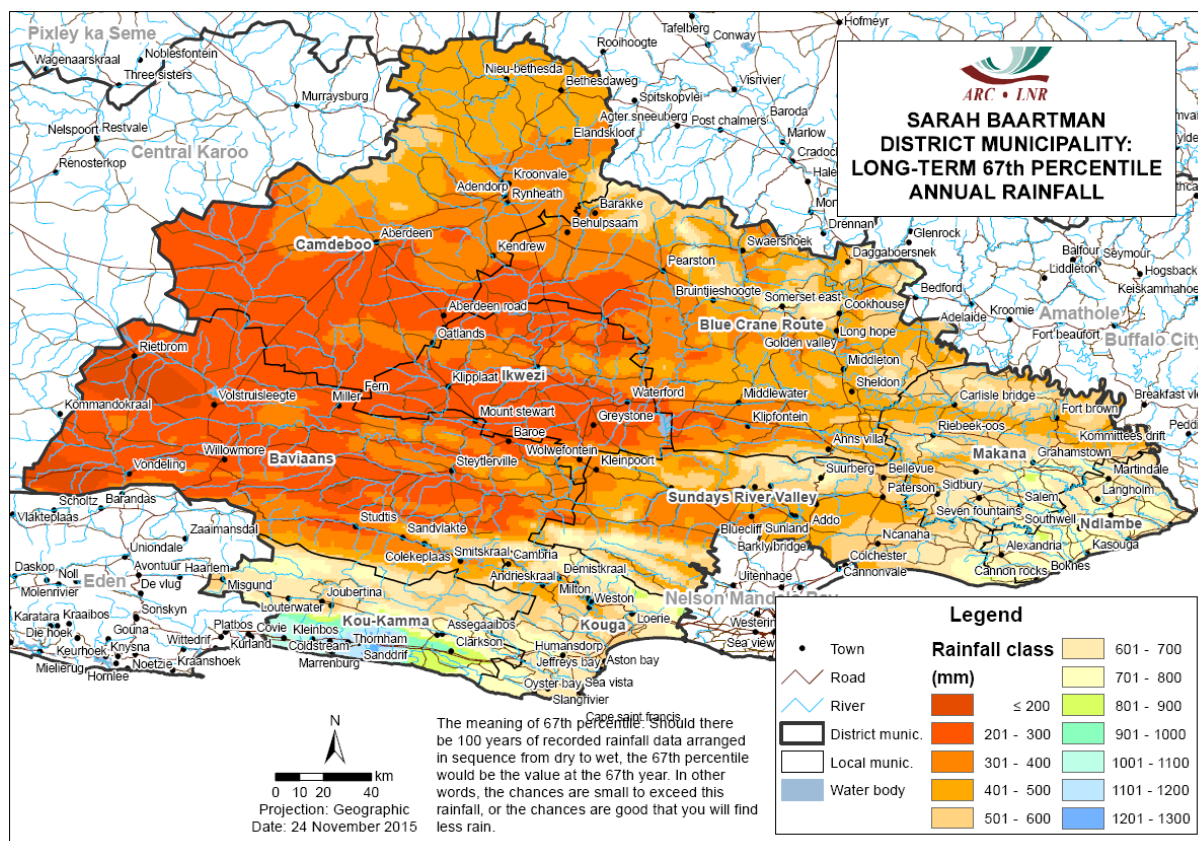
The three major dams, Churchill, Impofu and Loerie are situated in Kouga and Kou-Kamma Municipalities, and predominantly serve the Nelson Mandela Metro, with limited supply to Humansdorp, Jeffreys Bay and St Francis Bay. The transfer schemes were developed predominantly to serve the agriculture sector in the District. There is one water board in Ndlambe Municipality, the Albany Coast Water Board that services Bushmans River Mouth and Kenton-on-Sea. All nine Local Municipalities in Sarah Baartman District are Water Services Authorities (SBDM, 2015).

Figure 7.6: Long-term 33rd Percentile Annual Rainfall



Source: Agricultural Research Council - LNR, 2015

Figure 7.7: Long-term 67 Percentile Annual Rainfall



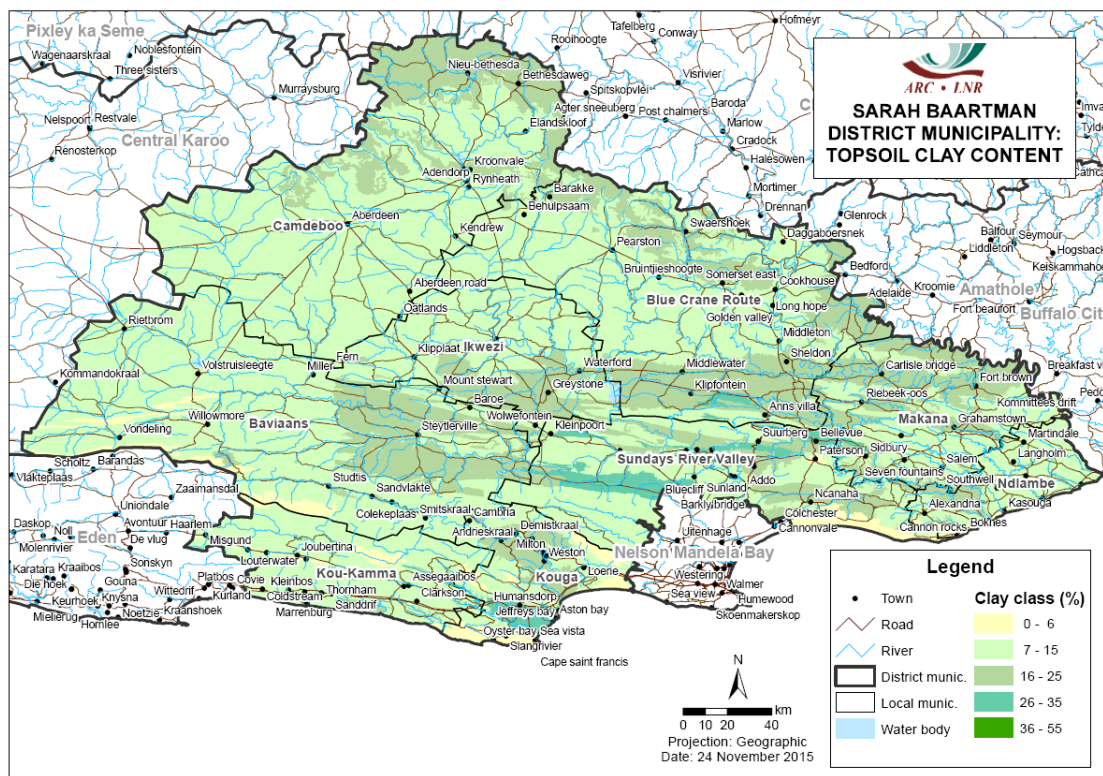
Source: Agricultural Research Council - LNR, 2015

7.3.3 Land and Soil Resources

Digital Land type information and the spatial component were used to determine the top soil clay content and the soil depth. Soil depth is recorded as a range for each soil entry. A weighted average was calculated for each land type unit (Land Type Survey Staff, 1972 to 2006).

The topsoil clay is mostly between 16 and 25% (Figure 7.8) in the DM, an indication of a low infiltration rate and high water-holding capacity.

Figure 7.8: Sarah Baartman Topsoil Clay Content



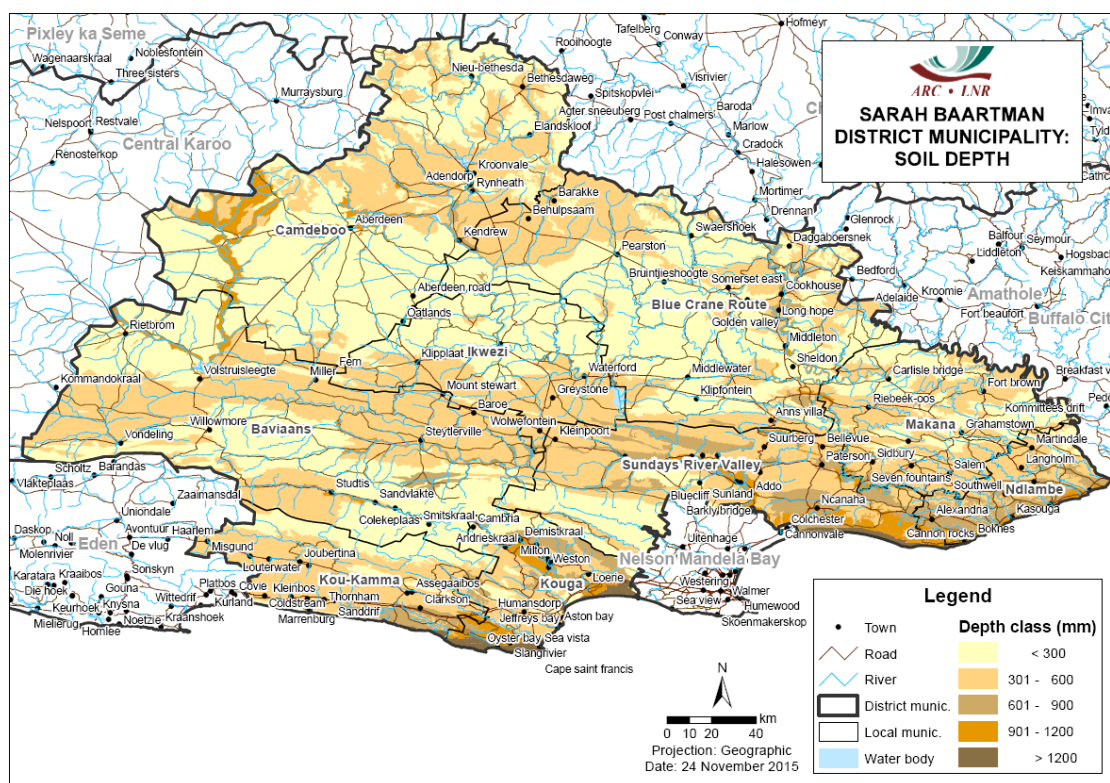
Source: Agricultural Research Council - LNR, 2015

The majority of the area has a relatively shallow soil depth between 300 and 600 mm (Figure 7.8), which is problematic for the production of most crops. The deep alluvial soils in the valleys of the Sundays River, Great Fish River and Gamtoos River have a high irrigation potential, although salinity and sodicity problems are common.

The total area of permanent cultivation under irrigation add up to approximately 39 600 ha (high value crops and feed and fodder for dairy cows) with temporary cultivation (mostly for animal feed and fodder) at about 60 000 ha. Carrying capacity for extensive livestock varies from 10 ha per LSU in the south near the coastal region to 40 - 60 ha per LSU in the west. Sarah Baartman DM is also the largest producer of mohair in the country with more than 2, 9 million kg of mohair annually; that is more than 50% of total mohair production in South Africa. The coastal belt of the district, particularly the Kou-Kamma, Ndlambe and Kouga local municipalities are the centre of the dairy industry in the EC and are responsible for producing more than 20% of total milk production in SA. Citrus production is concentrated in the Sundays River valley with Kirkwood regarded as the citrus capital in the Eastern Cape. Kirkwood is also surrounded by one of the largest citrus areas in SA with 12 000 ha of citrus orchards (SBDM, 2015 and Jordaan, 2013). Other areas in the Sarah Baartman district are only marginally suited to citrus production under irrigation and include areas to the east of the Sundays River Valley, the northern parts of Camdeboo, south of Klipplaat in Ikwezi, the Aberdeen Plain west of Willowmore and in the Kou-Kamma Municipality around Kareedouw. Other marginally suitable soils also include limited areas of the Blue Crane Route Municipality around Somerset East and Cookhouse and scattered areas of the Makana Municipality (Jordaan, 2013). This being said there is a significant citrus industry located in the Gamtoos Valley around Patensie and Hankey which produces oranges, lemons, grapefruit and soft citrus. Most of what is produced in the Gamtoos Valley is also exported as with the Sundays River Valley. Gamtoos has two packhouses which operates under the Patensie Citrus organisation.

Cattle and dairy farming are dominant in the areas around Grahamstown, Cookhouse, Alexandria and Humansdorp. Stock production has seen a decline in the past decade, primarily as a result of game farm establishment and the expansion of the Addo National Elephant Park. Commercial forestry is established around Tsitsikamma and Grahamstown (Jordaan, 2013).

Figure 7.9: Sarah Baartman Soil Depth



Source: Agricultural Research Council - LNR, 2015

7.4 APAP Commodity selection criteria

The Agricultural Policy Action Plan (APAP) proposed 5 criteria for the assessment of agriculture 'sectoral interventions', referred to in this report as 'commodities'. These criteria were developed to support outcomes 4, 7 and 10 and the associated objectives set out in the New Growth Path (NGP), National Development Plan (NDP) and the Industrial Policy Action Plan (IPAP). The APAP criteria were used as a basis for the criteria in this document.

The 2015 – 2019 APAP report stated the following:

"For APAP to effectively speak to Outcomes 4, 7 and 10, and to the objectives set out in the NGP, NDP and IPAP, it needs to unlock the productive potential of agriculture, forestry and fisheries by considering the nature of their binding constraints, whether these be at the level of primary production, beneficiation, or marketing, or indeed a combination of these. However, different subsectors within agriculture, forestry and fisheries operate according to different dynamics and face distinct challenges, thus there is a need to be selective as to which subsectors or value chains to focus upon in the short and medium term, while also recognising that agricultural commodities in particular are often inter-related, in which case it is more helpful to speak of 'integrated value chains'. Using the following general selection criteria, this first APAP focuses on a discrete number of value chains identified as strategic in meeting the objectives of the NGP, NDP and IPAP"

The APAP criteria are listed below:

- ☒ Contribution to food security

- ☑ Job creation
- ☑ Value of production
- ☑ Growth potential
- ☑ Potential contribution to trade balance

7.5 Agri-Park Commodity Prioritisation Matrix

The Agri-Hub will predominantly support three main commodities with services, implements, training and various expertise. In order to choose the three main commodities a selection matrix was designed in order to fulfil this role. These criteria were adapted from the APAP commodity selection criteria. These criteria were weighted and prioritised based on their importance and placed into a matrix. All of the currently operational agricultural activities in the area were included in the matrix and the top three were selected. In this case the top four were selected as beef cattle and other red meat (lamb, mutton and chevon) have very similar value chains and could be combined. The criteria used to select the top three commodities were as follows:

- Biophysical Criteria
- Enterprise Viability Criteria
- Economic Development Criteria
- Political/ Institutional, Social and Food Security/ Sustainability criteria

Each of these criteria, which were used to select the top three commodities, were broken down into sub groups according to each of the parent criteria.

7.5.1 Biophysical Criteria

Some of the most important criteria to consider is the biophysical criteria. If crops or livestock cannot cope in a certain area then the entire project will not be effective and may be too costly to continue. It is important to select crops and livestock that can cope with biophysical environment and use strains and breeds that are already present in the area.

❖ Temperature

Temperature is important to consider as it directly relates to how livestock and crops may grow. Some crops and animals cannot cope in certain temperatures e.g. certain types of grains and cereals cannot have extreme temperatures during their early growth periods and need a temperate climate.

The prioritisation matrix examines the:

- growth temperature during the months of the growing season as required by the particular crop
- frost risk and frost sensitivity or tolerance of the crop
- temperature ranges through the year
- ability of the animal to cope with heat and chills

❖ Water/ Moisture

Livestock and crops need to have sufficient water in order to support growth. A reliable source of water or moisture either in the form of precipitation or irrigation needs to be adequate in order for the growth of commodity to be successful. The matrix examined the following sections with regards to water and moisture:

- sufficient rainfall during the months of the growing season;
- sufficient quantity of irrigation water potentially available from surface and/or groundwater resources that can be sustainably abstracted;
- water quality for crops and animals;
- sufficient irrigation infrastructure or schemes already available in the area;
- sufficient quantity of water available from surface and/or groundwater resources for animal watering purposes

❖ Land Type, Capability and Soil

The soil section attempts to ascertain the quality and carrying capacity of the soil for the given commodity. It essentially determines if there are extensive patches of land covered by suitable soil in terms of:

- Texture
- Drainage
- Depth

It also determines land type and capability of the crop and given the land capability of the area is there enough land capable of supporting the crop or animal. Low scoring crops and animals may require finishing or feedlots before they are sold.

❖ Weed, Pest, and Disease Resilience

Weeds, pests, and disease resilience is an important aspect in determining the crops and animals that are chosen. The matrix determines the competitiveness of the crop compared to weeds, if the crop requires extensive pest and disease control or if disease is common in the area. The matrix examines if certain livestock can be maintained in the area based on their resilience to pests and disease and if bush encroachment and unpalatable/poisonous plants are infesting an area that livestock occupy.

❖ Adaptability to adverse conditions

The crops and livestock that were chosen need to be adaptable to adverse conditions. The biggest threats to the long term sustainability of the commodity will be climate change and associated weather conditions. The solution to this is to obtain naturalised varieties and breeds that can compete with exotic breeds and be adaptable to the threat of changing climates.

7.5.2 Enterprise Viability Criteria

❖ Transport, Market Access and Demand Criteria

- Distance to Markets and Transport Costs

This section asks the questions: “is the enterprise compatible with the general rule that it is not economically viable to transport bulky, large volume, heavy or low value products over large distances to markets, while high value products can be transported over much larger distances, even tens of thousands kilometres away, considering modes of transport, transportation infrastructure, travel friction, road conditions etc.?” and “Is the enterprise compatible with the general rule that it is not economically viable to transport highly perishable products over long distances unless fast, cost efficient cold chains are available?”

- Current Demand

This section tries to determine the current demand for the product and if it is sufficiently strong or large. It also asks if there is an established market for the product, including existing marketing channels and demand amongst customers already having a strong preference for the product. Finally it determines if there is a possibility of creating a demand as the current demand may not be fulfilled.

- Future Market Growth Potential

This section attempts to determine the future growth of the commodity given global and local market trends and further marketing potential for example the future of poultry growth in the South African market may be extremely limited based on the recent changes to the AGOA act between South Africa and the USA as cheaper USA imports may flood the market.

- Market Openness

Determines the willingness of buyers of the product to purchase goods from new and emerging small-scale farmers. An example of an open market is the wool and mohair industry where the current buyers (BKB and Cape Wool and Mohair) purchase directly from small-scale farmers.

❖ **Human, Physical and Financial Capital Requirements**

- Familiarity and Local Knowledge and Skills

This section determines if the crop or livestock is already familiar amongst farmers in the area or if significant awareness creation be needed. It also attempts to ascertain if local farmers and workers are likely to have the required skills or could fairly easily obtain the required skills to farm with the crop and to add value to it.

- Labour Cost and Productivity

This section asks whether or not the local labour cost is competitive and whether the labourers would be willing to perform farm and agro-processing work. It also attempts to decide how productive a labourer would be in this sector.

- Implements and Infrastructure

This section ascertains the availability and difficulty the process of obtaining required implements and infrastructure would be for example dairy farming is noted for being a practice that requires large number of complex implements in order to be competitive and to produce enough milk in one day. Thus this activity would score low in the matrix.

- Ease to Finance

Determines the ease of obtaining financing for the commodity. It asks the question whether or not an enterprise would be able to secure funding through various means e.g. g be fairly easy, e.g. through tight value chain financing mechanisms, contract farming, equipment leasing rather than ownership etc.

❖ **Business strategy, payback period and profitability criteria**

- Business strategy and positioning

Determines where or not a business or enterprise can be aligned to a viable business strategy for small scale farmers in order to remain competitive e.g. being a low cost vs good value vs high quality vs highly differentiated producer, and various other competitive and business strategies.

- Payback Period

This section determines if there will be a long payback period once the crops or livestock are in in place and how long this may take to pay back any investments. This is particularly important to emerging and small-scale farmers who may not have the funds or access to funds to last a long period without a payback to the farmer e.g. forestry will have an extremely long payback period while vegetables may be a lot less.

- Profitability

Attempts to ascertain if the enterprise can become profitable in its particular area. For example a game or flower farm can become exceptionally profitable if managed correctly as there is a large demand abroad for their goods. Maize and Lucerne farming can also become extremely profitable as there is a demand locally for the products produced from them.

7.5.3 Economic development criteria

❖ **Forward and Backward Economic Linkages and Argo-Processing Opportunities**

- Forward and Backward Economic Linkages

Considered the economic linkages of the commodity and whether or not they were high or low. A commodity with high economic linkages will be less vulnerable to changes in economy and can adapt to changes. A commodity with a high number of forward and backward linkages is the forestry industry which has many uses for the products that are produced.

- Agro-Processing Opportunities at District Level

This section considers the ability of the district to value add to the product being produced in the area. This includes both primary and secondary agro-processing opportunities to be exploited. These activities will most likely take place at the Agri-Hub.

❖ Job Creation

- Direct On-Farm Job Creation

This category explains how labour intensive the activity may be. It was considered important to have activities that are sufficiently labour intensive rather than capital intensive as this contributes directly to on farm job creation and rural development.

- Direct, Indirect and Induced Job creation through the Value Chain

This category considers whether or not jobs are created or induced through the value chain. Once again it was important to have a commodity that was creating a sufficient number of jobs throughout the value chain e.g. forestry has a very high degree of jobs that it creates throughout the value chain as the product that is produced is used extensively throughout society while lucerne does not have a large number of induced jobs as it has a limited value chain.

- Job Decency

Job decency is the category that examines the quality of the job that would be created by the farm and value adding process. This category attempted to identify the most skilled positions and rank them higher than semi-skilled or unskilled jobs. Generally quality jobs are created when labourers are integrated in the business and management of the farm in order to create buy in and develop skills around the commodity being farmed.

❖ Local Development

- Business Opportunities, Agglomeration Effects and Job Creation at Local or District Level

This category determines the ability of the commodity to create business opportunities and job creation down the value chain and on the farm which could lead to local and economic development. This section asks whether or not the commodity has the ability to create economic opportunities for local small emerging entrepreneurs or will the opportunities be available for distant overseas companies. In this situation wool is an example where once it is sheered and baled it is then exported for use overseas with very little production occurring in South Africa

- Agricultural Intensification and Increased Local GDP

Determines if the enterprise is characterised by a relative high level of agricultural intensification, and high income per surface area unit. In this situation it was preferred that low intensity agriculture be prioritised as it is associated with higher local GDP due to higher income directly from the enterprise, as well as higher associated incomes from indirect opportunities.

❖ Global Competitiveness and Trade

- Global Competitiveness

This section considers if the region is truly globally or at least regionally competitive to produce the crop/animal, or if “cheap imports” likely to be or become a threat. In this category, owing to the recent changes to AGOA, poultry would rank low in this section as it would not be very competitive globally.

- Export Potential

Export potential ascertains if the crop and its value added products have strong export potential. This section essentially considers if a crop, once successfully grown and value added, has the possibility of being exported

e.g. flowers produced in the Western Cape are produced almost exclusively for the export market and have a high export potential if grown in the Eastern Cape.

- Import Substitution Potential

This section determines if the crop or its value adding products present an opportunity to contribute to import substitution, at local, regional or national level e.g. South Africa is a net importer of maize so any maize grown in the country would substitute any maize imported into the country.

7.5.4 Political/ Institutional, Social and Food Security/ Sustainability Criteria

❖ Political and Institutional Criteria

- Government Priority Including APAP

Considers if the particular enterprise is regarded as priority by APAP and other policies, strategies, plans or programs. These programmes are given greater scores on the matrix as they align to policy and existing programmes which can be included in the Agri-Parks concept and can be promoted simultaneously.

- Existing Successful or Planned Projects

Attempts to ascertain if there already projects in place in the area that the farms with the particular animal/ plant, or are there plans for establishment in place that are likely to be successful. Existing successful projects may indicate that the enterprise already “proofed itself” under local circumstances, and additional production may utilize existing marketing channels, infrastructure and may benefit from increasing scale efficiency.

- State or Communal Land Suitability of the Likely Business Model

Determines if there are state or communal parcels of land that can be used or if collective models of production can be marketed and applied to the enterprise. Obviously land tenure and availability is a large issue and needs to be examined in detail on a per farm basis.

❖ Social Criteria

- Acceptability (Local “buy-in”)

This criteria considers if the farmers will be willing to grow the particular crop/livestock and adopt associated best practices and new technologies, or if they would be resistant to the idea of adopting the product e.g. if an area is already used to production of poultry then adoption of flower production may be resisted by the community.

- Income Equality

Considers the economic factors described above and if it will provide significant income associated with the particular enterprise. Attempts to determine if the economic benefits will flow to low income as opposed to higher income households.

- Smallholder Suitability

Attempts to ascertain if the enterprise be considered suitable for small farmers. This tries to identify which commodities would be suitable to emerging farmers.

- Crime and Vandalism Resilience

This sections determines if the commodity, implements, property and all associated infrastructure is vulnerable to theft and vandalism given the local crime levels. Theft and vandalism is an important consideration to determine as many emerging farmers face this challenge daily. Stock theft is an important aspect in the Eastern Cape as well as vandalism of infrastructure.

❖ Food Security and Sustainability Criteria

- Contribution to Food Security

This section of the prioritisation matrix examined the ability of the crop to contribute to food security nationally, provincially and at a district level. It examined the affordability, distribution of the commodity, biomass production, nutrient density, stability throughout the year and minimisation of food losses. Commodities chosen should provide food security for the community.

- Sustainability

Ascertains if the commodity is likely to be sustainably produced, thereby conserving the ability of the region to produce food over the long term and contributing to other social and economic services provided by the landscape.

7.6 Prioritisation Matrix Results

The three commodities with the highest scores were selected and are discussed below. It should be noted that the categories of “Other Red Meat” and “Beef Cattle” are combined in the following section as the value chains of the two are extremely similar and can be combined and supported in the Agri-Hub. They were selected as they scored the highest on the prioritisation matrix. They will be discussed according to the prioritisation matrix criteria as discussed in the chapter above. Table 7.2 indicates the top three chosen commodities as well as a list of other commodities examined for consideration.

Table 7.2: Commodity Prioritisation Matrix

Possible crop/livestock for District	A. Biophysical criteria																														B. Enterprise viability criteria										C. Economic development criteria										D. Political and institutional issues										Sub-totals				Biophysical total				Enterprise viability total				Economic development total				Political and social total				Overall total																																																																																																																																																																																													
Weight→	Temperature					Water/moisture					Land type, capability and soil					Weed, pest and disease resilience					Adaptability to adverse conditions					B.1 Transport, market access and demand					Distance to markets and transport cost					Current demand					Future market growth potential					Market openness					B.2 Strategy, payback and profitability					Business strategy and positioning					Payback period					Profitability					B.3 Human, physical and financial capital					Familiarity and local knowledge/skills					Labour cost and productivity					Implements and infrastructure					Ease to finance					C.1 Linkages and processing opportunities					Forward and backward economic linkages					Processing opportunities at district level					C.2 Job creation					Direct on-farm job creation					Indirect and induced job creation					Job quality/decency					C.3 Local development					Local opportunities and agglomeration					Agro-intensification and local GDP growth					C.4 Global competitiveness and trade					Global competitiveness					Export potential					Import substitution potential					D. Political and social criteria					D.1 Political and institutional issues					Government priority including APAP					Shortlisted by the district					Existing successful or planned projects					State/comunal land suitability					D.2 Social issues					Acceptability (Local "buy-in")					Income equality					Black smallholder suitability					Crime and vandalism resilience					D.3 Food security and sustainability					Contribution to food security					Sustainability					Sub-totals					Biophysical total					Enterprise viability total					Economic development total					Political and social total														
Beef cattle		3	3	2	1	1			3	3	2	1			3	3	3	3			3	2	3			3	2	3			2	3		1	1	1		3	1		3	2	3			3	3	3	1		3	2	2	2		3	2		26	62	42	47		177																																																																																																																																																																																																														
Vegetables		3	3	3	2	2			2	2	2	3			3	3	2			3	2	3	3			3	2		2	2	2		3	3			3	3	2	3			3	3	2	3		2	2	3	2		3	3		28	53	43	50		174																																																																																																																																																																																																																	
Citrus		3	3	3	2	2			1	2	2	2			2	1	3			3	2	1	3			2	3		3	3	2		2	3			3	3	3	3			3	2	2	2		2	3		28	46	49	47		170																																																																																																																																																																																																																						
Other Red Meat (Lamb, Mutton, Chevron)		3	2	3	2	2			1	2	2	3			3	3	2			3	2	2	3			2	3		2	2	1		2	2			3	3	2	1			3	2	3	2		3	3		25	49	45	48		167																																																																																																																																																																																																																						
Game, Ostrich		3	3	3	3	3			3	2	3	1			2	1	3			2	2	2	2			1	2		2	2	3		3	1			3	3	2	1			1	2	1	1		2	2	2	2		2	3		30	50	48	35		163																																																																																																																																																																																																																	
Pork		2	2	2	2	2			2	2	3	3			2	2	3			2	2	1	2			2	2		2	2	2		2	3			2	2	2			3	2	2	3		3	3		20	49	39	50		158																																																																																																																																																																																																																							
Maize		2	2	2	2	2			2	2	3	3			2	2	2			2	2	2	3			3	1		1	2	1		2	2			2	2			3	2	3	2		3	3		20	49	34	50		153																																																																																																																																																																																																																								
Forestry		2	3	2	2	2			3	2	2	2			2	1	2			3	2	1	3			3	2		2	3	3		3	1			2	2	2			3	2	3	3		2	2	1	1		1	3		23	49	43	36		151																																																																																																																																																																																																																		
Dairy		2	2	3	2	2			3	2	2	2			2	3	2			3	2	1	2			3	3		3	3	3		2	2			1	1	2			3	2	1	2		2	2	2	2		2	2		22	49	40	39		150																																																																																																																																																																																																																		
Honeybush		2	2	2	3	3			1	3	3	3			2	2	2			2	2	3	2			2	2		2	2	2		2	1			3	3	2			2	2	3	2		2	2	3	2		1	2		22	48	42	38		150																																																																																																																																																																																																																		
Chicory		3	2	3	2	2			3	2	2	2			2	3	2			3	2	2	2			2	2		3	2	1		2	1			3	1	2			2	2	2	2		2	2	2	2		1	3		25	50	38	36		149																																																																																																																																																																																																																		
Floriculture (Protea, Greens, Ferns)		2	3	2	2	2			2	2	3	2			2	2	3			3	2	2	3			1	2		2	2	3		3	1			1	3	1			2	2	1	3		1	2	2	2		2	3		23	53	36	37		149																																																																																																																																																																																																																		
Deciduous fruit and Stone fruit		2	3	2	2	2			1	2	2	2			2	1	3			3	2	1	2			2	3		3	2	2		2	2			2	3	2			1	2	2	2		3	1	2	2		2	3		23	44	44	36		147																																																																																																																																																																																																																		
Wool (Merino and Mohair)		2	2	3	3	2			1	2	2	3			3	3	1			3	2	2	2			2	2		2	3	2		2	2			3	3	1			3	3	3	1		2	1	3	2		1	2		23	44	41	39		147																																																																																																																																																																																																																		
Honey		2	3	2	2	2			3	2	2	2			3	3	2			1	1	3	3			1	2		1	1	2		2	1			1	1	3			2	3	2	3		2	2	2	2		1	3		23	49	32	39		143																																																																																																																																																																																																																		
Poultry		1	2	3	1	2			3	3	1	1			2	1	1			2	2	1	1			2	2		1	2	1		2	2			1	1	3			3	2	2	3		3	2	3	1		3	3		18	40	34	49		141																																																																																																																																																																																																																		
Lucerne		3	3	3	3	2			3	2	2	3			2	3	2			2	2	2	1			2	1		1	1	1		2	1			1	1	3			1	3	2	2		1	2	2	2		1	3		29	47	29	34		139																																																																																																																																																																																																																		
Aquaculture (Fresh and Saltwater)		2	3	3	2	2			2	2	3	2			2	2	2			1	2	1	1			1	1		2	2	2		1	3			2	2	2			3	3	2	3		1	2	2	1		2	2		25	41	32	40		138																																																																																																																																																																																																																		
Pineapples		2	2	2	2	2			3	2	1	2			2	1	1			3	2	1	1			1	1		2	2	1		2	1			1	1	1			1	2	2	1		2	2	1	2		1	1		20	40	24	28		112																																																																																																																																																																																																																		

Source: Urban Econ, 2015

7.6.1 Red Meat (Beef, Mutton, Lamb, Chevron)

Red meat emerged as the highest scoring commodity from the prioritisation matrix particularly with regards to beef and other red meat (lamb, mutton and chevon). Pork is not as suitable as beef and other red meat as it is not suited to the environment as the other meats are.

Generally the biophysical environment is well suited to the red meat industry especially around the Blue Crane Route, Sundays River LM, Makana and certain parts of the Camdeboo LM. Red meat scored well in the temperature, land type, capability and soil, and adaptability to adverse conditions. Certain varieties of crops and breeds of animals that are more suitable to the arid areas of the SBDM. It must be noted that animals which are suited to the region should be utilised to minimise pests and diseases.

Beef scored well in the enterprise viability criteria particularly in the transport, market access and demand. This is largely as a result of the close proximity of the N10 as well as other regional roads running through the beef areas. There is also market demand for beef and profitability of beef is generally high. Farmers in these areas also have the knowledge and skills to be able to operate farms as red meat is a familiar commodity throughout the region. Other red meats scored lower on distance to market as they are farmed in more remote areas that have poor road infrastructure.

According to the economic development criteria red meat scored one of the higher scores as largely because the livestock farming has good development potential. Red meat scored well in processing opportunities as there are numerous value adding services that can be established around the red meat industry. On average for every R 1 million of production of citrus 2.07 jobs are created directly on farm with a further 1.61 in the downstream economy and 1.88 is induced. Indirect job creation for red meat is fairly high and scored well in the matrix as the red meat value chain is large and numerous opportunities exist for employment. Export potential also scored high as there are opportunities to export products such as chevon, mutton and lamb to Middle East and African countries because of the well-established Karoo lamb and mutton brand.

Red meat scored well in the social and political criteria as it is well suited to the projects that are run by the DRDLR, DAFF, etc. These projects are supported at a departmental and a district level through various programmes to improve food security and income equality. Red meat was well placed in terms of the Government Priority section as the government is currently supporting these projects. Red meat is an essential part of the diet in many communities as it is a valuable source of protein. It thus scored highly in this section.

Overall red meat was the highest commodity to emerge from the prioritisation matrix as it scored well throughout all of the subsections. The commodity is well established in region and there is support for the commodity. There is already a well-established network of farmers that can benefit from the Agri-Park concept.

7.6.2 Vegetables

Vegetables was amongst the most popular commodities in the prioritisation matrix. Vegetables is made up of various crops ranging from cabbages, onions, spinach beetroot, pumpkin, carrots etc. These were examined in a general sense in the prioritisation matrix as vegetables. Vegetables in this situation refer to field grown vegetables and not those vegetables grown in hydroponic tunnels.

Biophysically vegetables are very well suited to certain areas of the district. These areas are largely around the towns of Hankey and Patensie in Kouga, Kirkwood and Addo in Sundays River Valley and various other locations spread across the District. Various backyard and community vegetable gardens exist in the District and are an important part of food security in the region. In the regions where vegetables are grown, the temperature, water supply, and land type are very suitable and scored well on the matrix.

In the enterprise viability section vegetables scored well in market openness, business strategy, payback period, familiarity implements and infrastructure, and ease of finance. The market openness for vegetables is generally good as small holders are able to sell at fresh produce markets and to various smaller chain outlets. The payback period for vegetables is very low and thus scored high on the matrix. Vegetables do not take an extended period to grow and thus income can be generated after a season. On average for every R 1 million of production of citrus 2.49 jobs are created directly on farm with a further 1.37 in the downstream economy and 1.89 is induced. Vegetables scored well in the economic development criteria especially in the forward and backward economic linkages. Vegetables have good forward and backward linkages and a very large value chain. Vegetables scored high for local opportunities and agglomeration as well as agro-intensification and GDP growth as they provide opportunities for agglomeration in the District which will increase support and thus potentially increase GDP of the region. Production of vegetables will also substitute imports into the District which can lower costs of the goods that consumers buy, thus vegetables scored well for this criteria.

In the political and social criteria vegetables scored extremely well as they are well supported at all levels of government. National Government sees vegetables as the solution to food insecurity and is seen as a way of increasing agricultural skills. There is support at a district and local municipal level as well as there are numerous vegetable projects being funded especially cabbage in the Sundays River Valley area. Numerous backyard and community vegetable gardens are being encouraged and funded as well. Vegetables are an important component of the human diet and are grown world-wide at a range of scales from small backyard vegetable gardens to commercial farms. Vegetables are an integral part of food security.

Overall vegetables performed well as they are versatile biophysically, there is an opportunity in the market for them and they have good support from local communities and government.

7.6.3 Citrus

Citrus emerged as the second highest commodity from the prioritisation matrix as it scored well in all of the subsections. While not as well scoring as red meat, it is an extremely well supported commodity in the district and an important part of agricultural production for the Eastern Cape.

Citrus scored well based on the biophysical criteria. Citrus is well suited to the areas that it is grown in as the soil, temperature and irrigation are very good for the production of citrus. While citrus cannot be extensively grown throughout the district, large quantities are produced in the spaces available for it. It is also well placed near the Agri-Hub and thus in a good position to receive support from the Agri-Park.

Citrus scored well in familiarity and knowledge as labourers and farmers are knowledgeable about citrus production as this region has been the focus of the citrus industry for many years. It is believed that once the emerging sector is established it will become a profitable venture. The citrus growing regions of SBDM are relatively close to the markets but poor road conditions mean that citrus score low according to the matrix. Payback period also scored lower as the trees take longer to grow than other crops and thus there is a 3-5 year lag in income.

In the economic development criteria, citrus scored well largely as a result of the processing opportunities, on-farm job creation, global competitiveness and export potential. There are a number of opportunities available for processing of citrus at a local level and thus scored well. On average for every R 1 million of production of citrus 3.49 jobs are created directly on farm with a further 1.34 in the downstream economy and 1.91 is induced. The citrus industry is also a labour intensive industry and requires a large number of workers to pick, sort, package, and do day to day running of the farm. Downstream employment from citrus is also high as the value chain for citrus is fairly large. The production of citrus based products also requires more skilled labourers. Thus

citrus scored high in these regards. The citrus industry in the Eastern Cape is globally competitive and the export potential from these areas are large as there is already an established export orientated market in the area.

In the political and social sections citrus scored well and it well supported by the District and the Sundays River LM. There are numerous projects aimed at providing infrastructure, skills, and trees in order to promote farmers to create viable enterprises. The Enon Besheba project is an example of one such project where the Sundays River Municipality is attempting to support the creation of a citrus farm. This project is supported by various government departments such as DRDLR, DAFF etc. Citrus is also well supported by the local community as they are familiar with the commodity and there is buy-in from local communities. Citrus, while not being a staple food such as rice and potatoes or red meat can contribute greatly to food security. The nutrients and vitamins provided from citrus are valuable and are not easily available in other vegetable produced. Citrus also form an essential part of the diet and can lead to improved health among a community. Money earned by employees in the industry can also be used to secure food.

Overall citrus is a well-established in the District and has scored well on the prioritisation matrix largely as a result of citrus performing well in the biophysical criteria, economic development criteria and the political and social criteria.

7.7 Summary

The above section gives insight as to why the top three commodities were chosen. They are generally better placed than any other products to perform well in the Agri-Park context as they are close to the hub, have an established infrastructure, enjoy support from the locals and the government and there are recognised opportunities that can be exploited by emerging farmers.

Red Meat

Chapter 8

8. Red Meat / Livestock

8.1 Market Analysis

The South African red meat market covers several commodities, most important to the local market being: beef (cattle), lamb (sheep), and chevon (goat). This section will discuss the commodity of red meat that was selected from the prioritisation matrix. It will discuss the market, production and value chain of red meat. In this section red meat is used interchangeably with livestock. It is suggested that wool and mohair are supported in the Agri-Park because the wool and mohair industry is closely related to the livestock/ red meat industry. This is done because increasing animal wellness and farming methods can improve the quality of wool and mohair obtained from an animal. This is also important to consider as there are numerous programmes in place which take place in the District to assist emerging and small holder farmers in the region. Wool and mohair market related information are presented in the section below.

8.1.1 Global Markets

Global red meat production was 191 million tons (including beef, pork, mutton and chevon) in 2013. With red meat production per region as follows:

- Asia 87 million tons (45.5%).
- North America 25 million tons (13.3%).
- Central America 4 million tons (2.3%).
- South America 21 million tons (11.2%).
- Europe 39 million tons (20.2%).
- Africa 10 million tons (5.2%).
- Oceania 5 million tons (2.4%).

Table 8.1 provides global livestock production figures by region and heads of stock for 2013. African livestock producers are a significant contributor to global mutton and chevon production. The main global regional producers of beef are South America and Asia. Whilst the main pork producer globally is Asia (Table 8.1 – 8.2).

South Africa leads Southern Africa production, producing 1.2 million tons of red meat, or 12.5% of Africa's total. Other notable producers of red meat across the continent are Ethiopia (5.0%), Egypt (6.0%), and Nigeria (11.3%), with these three countries contributing 31.5% of Africa's total population. In Table 8.3 – 8.4 the production of red meat in South Africa is compared to neighbouring trading partners in SADC, namely Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe.

South Africa is a major red meat producer within SADC, dwarfing its neighbours in terms of beef, mutton, and total production. Mozambique produces a relatively large amount of pork, almost 10% of the African total. Southern African chevon production is relatively small compared to its production of other red meat products. The African continent is the 2nd largest producer of chevon globally, behind Asia, and chevon produced within South Africa is primarily for the export market.

Table 8.1: Global Red Meat Production (2013)

	Beef		Pork		Mutton		Chevon		Total	
	(Tons)	%	(Tons)	%	(Tons)	%	(Tons)	%	(Tons)	%
Africa	5 694 271	8,9%	1 304 128	1,2%	1 687 934	19,7%	1 301 339	24,2%	9 987 672	5,2%
Asia	14 373 105	22,5%	64 448 557	57,0%	4 254 075	49,5%	3 805 643	70,8%	86 881 380	45,5%
Europe	10 140 072	15,8%	27 121 641	24,0%	1 130 148	13,2%	112 260	2,1%	38 504 121	20,2%
North America	12 754 389	19,9%	12 486 933	11,0%	90 280	1,1%	2	0,0%	25 331 604	13,3%
Central America	2 502 264	3,9%	1 804 085	1,6%	74 155	0,9%	52 342	1,0%	4 432 846	2,3%
South America	15 617 999	24,4%	5 371 205	4,8%	242 076	2,8%	73 491	1,4%	21 304 771	11,2%
Oceania	2 901 429	4,5%	498 264	0,4%	1 110 589	12,9%	27 329	0,5%	4 537 611	2,4%
World	63 983 529	100,0%	113 034 814	100,0%	8 589 257	100,0%	5 372 407	100,0%	190 980 007	100,0%

Source: FOASTAT, 2015

Table 8.2: Global Livestock Populations (2013)

	Cattle		Pigs		Sheep		Goat		Total	
	Heads of Cattle	%	Heads of Pigs	%	Heads of Sheep	%	Heads of Goat	%	Heads of Livestock	%
Africa	304 746 910	20,8%	35 732 880	3,7%	328 450 262	28,2%	347 957 726	35,7%	1 016 887 778	22,2%
Asia	494 982 171	33,7%	589 902 648	60,4%	511 796 697	44,0%	571 051 689	58,5%	2 167 733 205	47,3%
Europe	122 048 722	8,3%	184 006 466	18,8%	129 945 891	11,2%	16 527 388	1,7%	452 528 467	9,9%
North America	101 515 311	6,9%	77 654 800	7,9%	6 246 750	0,5%	2 841 350	0,3%	188 258 211	4,1%
Central America	55 632 189	3,8%	24 735 788	2,5%	11 744 464	1,0%	12 367 813	1,3%	104 480 254	2,3%
South America	348 401 875	23,7%	60 060 193	6,1%	68 340 324	5,9%	21 096 760	2,2%	497 899 152	10,9%
Oceania	40 221 546	2,7%	5 181 471	0,5%	106 351 147	9,1%	3 960 537	0,4%	155 714 701	3,4%
World	1 467 548 724	100,0%	977 274 246	100,0%	1 162 875 535	100,0%	975 803 263	100,0%	4 583 501 768	100,0%

Source: FOASTAT, 2015

Table 8.3: African Red Meat Production (2013)

	Beef		Pork		Mutton		Chevon		Total	
	(Tons)	% of Total	(Tons)	% of Total	(Tons)	% of Total	(Tons)	% of Total	(Tons)	% of Total
South Africa	851 000	14,9%	216 000	16,6%	143 750	8,5%	35 450	2,7%	1 246 200	12,5%
Botswana	47 000	0,8%	500	0,0%	1 876	0,1%	5 760	0,4%	55 136	0,6%
Lesotho	13 500	0,2%	3 700	0,3%	4 250	0,3%	2 240	0,2%	23 690	0,2%
Mozambique	25 500	0,4%	129 600	9,9%	1 008	0,1%	22 200	1,7%	178 308	1,8%
Namibia	35 800	0,6%	4 675	0,4%	13 200	0,8%	3 840	0,3%	57 515	0,6%
Swaziland	17 100	0,3%	1 310	0,1%	526	0,0%	1 782	0,1%	20 718	0,2%
Zambia	197 827	3,5%	35 244	2,7%	882	0,1%	9 000	0,7%	242 953	2,4%
Zimbabwe	103 750	1,8%	31 900	2,4%	448	0,0%	13 200	1,0%	149 298	1,5%
Africa	5 694 271	100,0%	1 304 128	100,0%	1 687 934	100,0%	1 301 339	100,0%	9 987 672	100,0%

Source: FOASTAT, 2015

Table 8.4: African Livestock Populations (2013)

	Cattle		Pigs		Sheep		Goat		Total	
	Heads of Cattle	% of Total	Heads of Pigs	% of Total	Heads of Sheep	% of Total	Heads of Goat	% of Total	Total	% of Total
South Africa	14 000 000	4,6%	1 600 000	4,5%	25 000 000	7,6%	6 200 000	1,8%	46 800 000	4,6%
Botswana	2 500 000	0,8%	13 500	0,0%	290 000	0,1%	1 700 000	0,5%	4 503 500	0,4%
Lesotho	665 000	0,2%	81 000	0,2%	1 230 000	0,4%	850 000	0,2%	2 826 000	0,3%
Mozambique	1 690 000	0,6%	1 800 000	5,0%	250 000	0,1%	4 350 000	1,3%	8 090 000	0,8%
Namibia	2 370 000	0,8%	72 500	0,2%	2 930 000	0,9%	2 235 000	0,6%	7 607 500	0,7%
Swaziland	635 000	0,2%	35 000	0,1%	36 000	0,0%	270 000	0,1%	976 000	0,1%
Zambia	4 026 658	1,3%	1 098 951	3,1%	240 000	0,1%	2 500 000	0,7%	7 865 609	0,8%
Zimbabwe	5 150 000	1,7%	650 000	1,8%	375 000	0,1%	2 750 000	0,8%	8 925 000	0,9%
Africa	304 746 910	100,0%	35 732 880	100,0%	328 450 262	100,0%	347 957 726	100,0%	1 016 887 778	100,0%

Source: FOASTAT, 2015

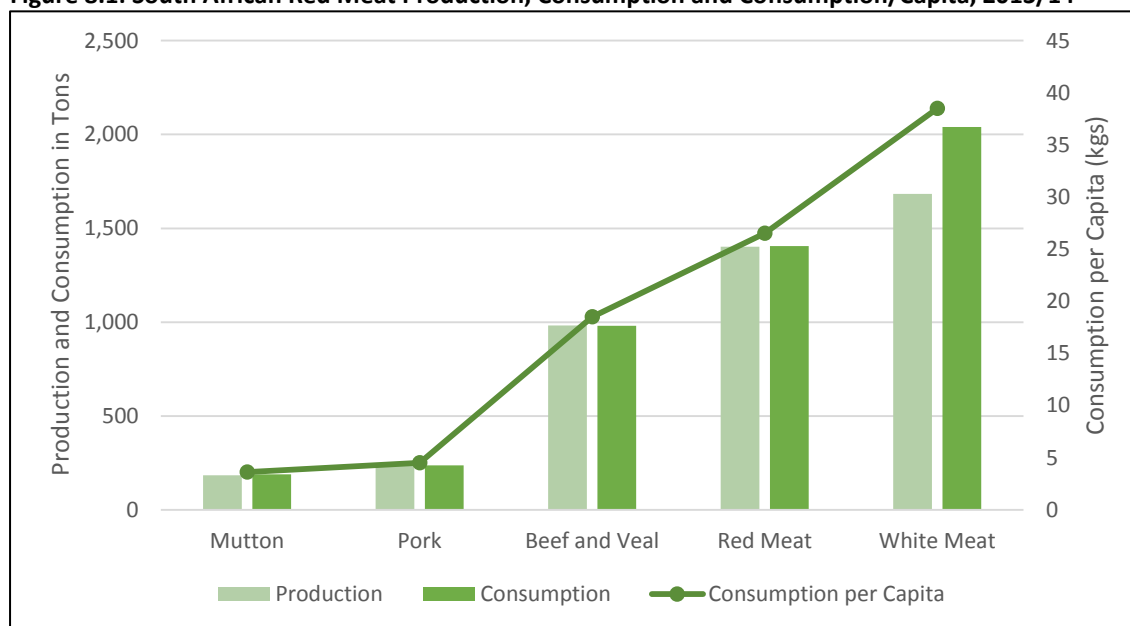
8.1.2 National Market

The South African red meat industry is well established and remains one of the most important agricultural sub-sectors in the country. It contributed approximately 14.0% to the gross value of agricultural production in the SA during 2013/14. It is estimated that the total number of cattle, pigs and sheep slaughtered increased by 9.5%, 3.1% and 11.2% respectively from 2012/13 to 2013/14.

The cattle and calves slaughtered market earned R 25.449 billion between April 2014 and March 2015, with the sheep slaughtered market earning R6.008 billion over the same period. In comparison, poultry meat earned R35.573 billion, and the animal product market as a whole earned R105.420 billion.

South African red meat production is largely in line with red meat consumption, with the short fall imported into the country. This is presented graphically in Figure 8.1 below. In recent years, the quantity of red meat imported for consumption has been on the decline, especially in the 2013/14. Mutton imports have declined over the 10 year period from 34 800 tons to a mere 7 100 tons, while beef imports have likewise dropped considerably from 56 000 tons to 20 000 tons. Pork import figures were unavailable, however South Africa produced 300 tons more pork than was consumed in 2013/2014. Imports of red meat decreased from 43 120 tons in 2012/13 to 23 010 tons in 2013/14, a decrease of 46.6%.

Figure 8.1: South African Red Meat Production, Consumption and Consumption/Capita, 2013/14

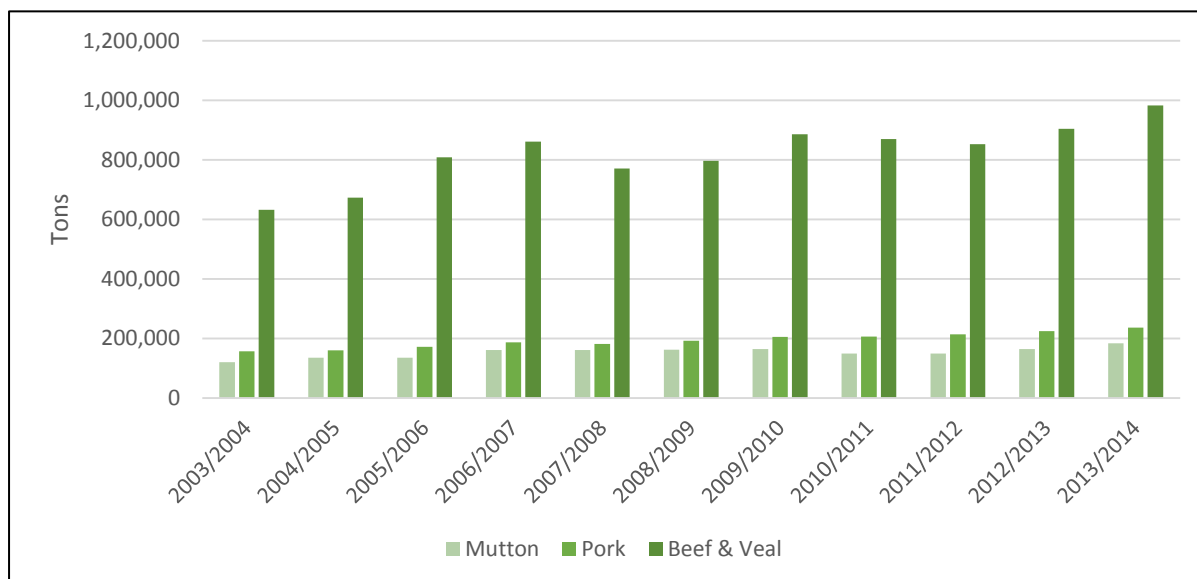


Source: DAFF, 2015A

8.1.3 Production

Figure 8.2 illustrates the growth in production of beef, pork and mutton⁷ since the 2003/04 season. Red meat production has increased steadily year on year over the 2003/04-2013/14 period, with mutton production increasing by 52.5%, pork production increasing by 50.7%, and beef & veal production increasing by 55.5%.

⁷ Chevon, while produced within the country, is primarily for export and is not included in the statistics for consumption and production. Goat populations peaked in 1987, with 2 989 000 goats in the country, and has since been on a general decline, with average annual growth of goat herds between 2005 and 2014 as low as -0.7%. Goat herds have dropped below 2 million animals in 2014, to 1.987 million, the lowest value in the provided record (1980 to 2014).

Figure 8.2: South African Red Meat Production

Source: DAFF, 2015A

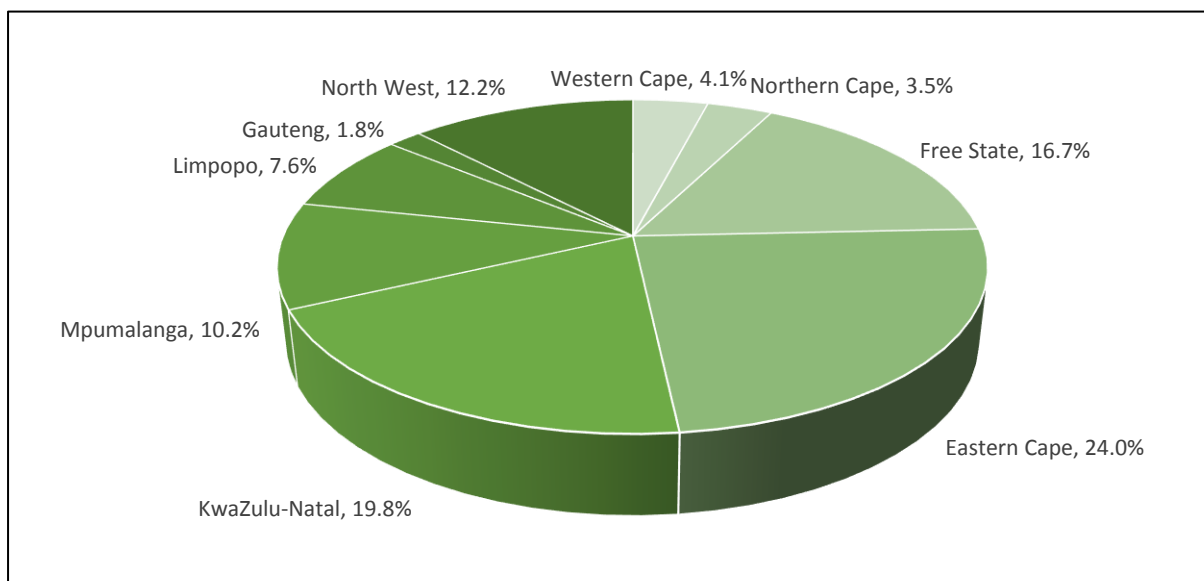
8.1.4 Production by Province

Major production of certain livestock is concentrated in certain provinces, and the provincial production dynamics are discussed in this section.

Cattle

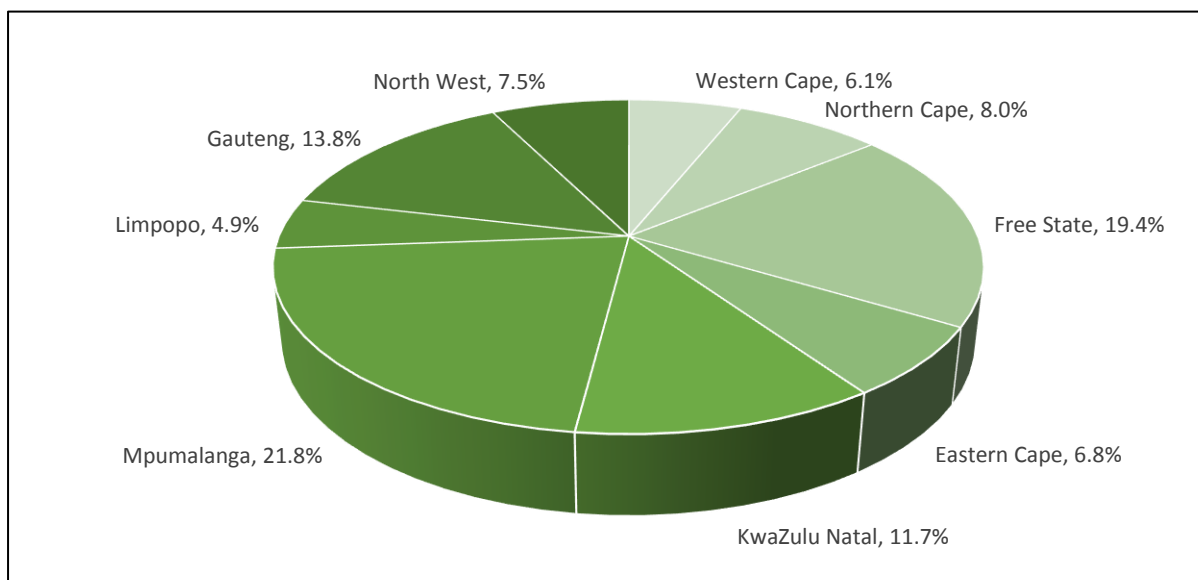
Cattle populations are found throughout the country, but predominantly within the Eastern Cape (24.0%), KwaZulu-Natal (19.8%), Free State (16.7%) and North West (12.2%) provinces. Herd sizes vary according to type of cattle. Beef cattle herds range from fairly small herds of less than 20 heads of cattle, to large farms and feedlots environments with well over 1 head of cattle. The production of weaners for the feedlot industry is the most frequent form of cattle farming in South Africa, such that feedlots account for approximately 75% of all beef produced in the country.

The total number of cattle in South Africa at the end of August 2014 is estimated at 13.81 million, comprising various international dairy and beef cattle breeds as well as indigenous breeds such as the Afrikaner and the Nguni. Beef cattle contribute approximately 80% of the total number of cattle in the country, translating into an estimated 11.04 million animals, while dairy cattle make up the remaining 20% (Figure 8.3).

Figure 8.3: Distribution of cattle by province

Source: DAFF, 2015B

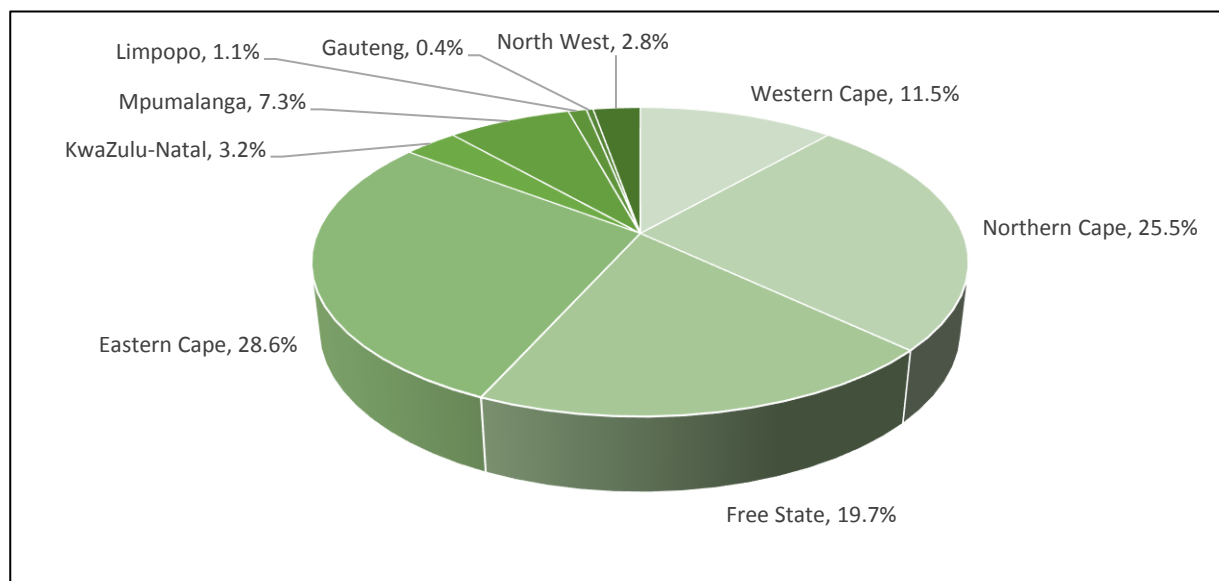
In terms of production, 2.707 million cattle were slaughtered in the 2014 season, with the 1.116 million of these slaughtered in Mpumalanga and Free State. Cattle slaughtering statistics, when compared to those of sheep and pigs indicate that the slaughtering of cattle is shared somewhat evenly, especially when compared to sheep, between provinces. The provincial breakdown can be seen in Figure 8.4 below.

Figure 8.4: Slaughtering of Cattle by Province

Source: Red Meat Levy Admin, 2015.

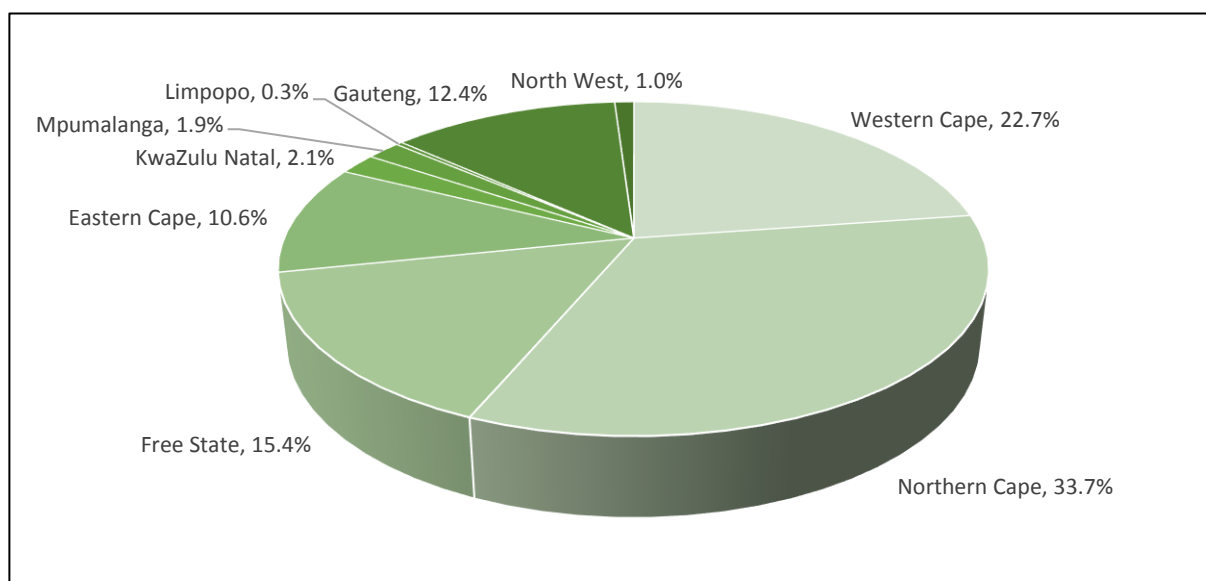
Sheep

Sheep farms are found in all provinces, however, the majority are concentrated in the more arid regions of the country. The total number of sheep (Figure 8.5) in South Africa at the end of August 2014 was estimated at 24.38 million, 0.6% lower than the previous year. The provinces with the largest sheep populations are the Eastern Cape (28.6%), Northern Cape (25.5%), Free State (19.7%) and the Western Cape (11.5%).

Figure 8.5: Distribution of Sheep by Province

Source: DAFF, 2015B

In terms of production, 5.492 million sheep were slaughtered in 2014, with main provinces in which this was undertaken the Northern Cape, the Western Cape and the Free State. The provincial breakdown can be seen in Figure 8.6.

Figure 8.6: Slaughtering of Sheep by Province

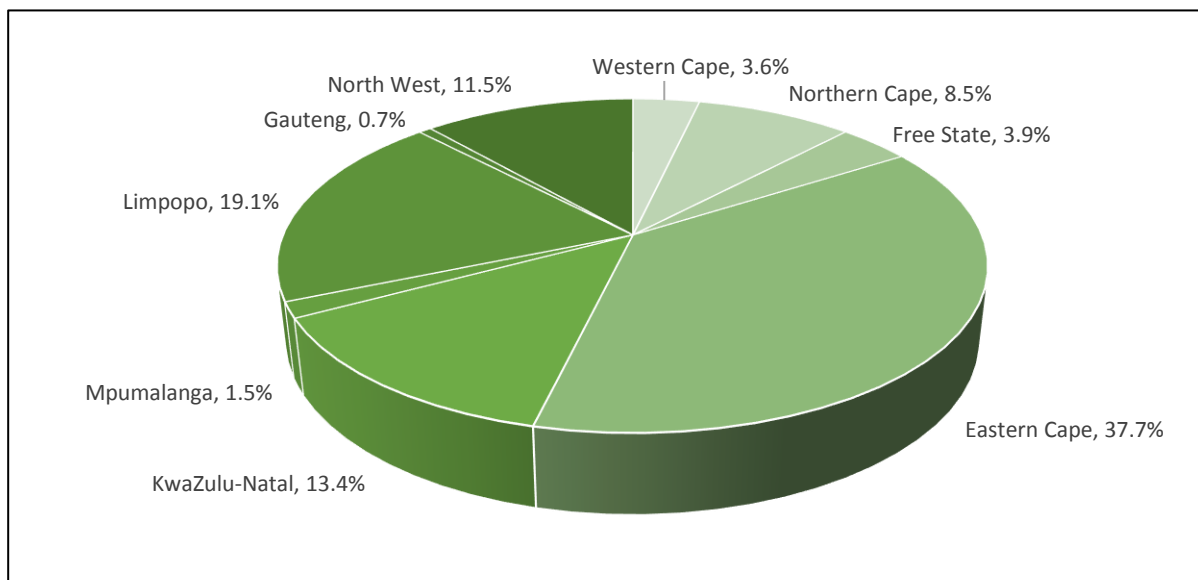
Source: Red Meat Levy Admin, 2015.

Flock sizes vary between less than 50 and 1 800 animals, with the larger herds found in the Eastern, Western and Northern Cape provinces.

Goats

Goat populations are found mainly in the Eastern Cape (37.7%) followed by Limpopo (19.1%), KwaZulu-Natal (13.4%) and North West (11.5%) provinces. Estimates indicate that there was a decrease of 0.9% in the number of goats between August 2013 and August 2014, to 5.976 million in August 2014 (Figure 8.7).

Figure 8.7: Distribution of goats by province



Source: DAFF, 2015B

Flocks of goats intended for meat production are usually smaller than sheep flocks, averaging approximately 300 goats per farm. Angora goats are kept primarily for mohair production, while Boer goats are for meat production, and both are included in the above statistics. Some producers have adopted a market differentiation strategy by producing goat's milk and these producers are increasing in numbers. Chevron is not consumed in significant quantities locally, however there is a large export market contained within the African continent, that South African goat producers cater towards.

8.1.5 Local Consumption

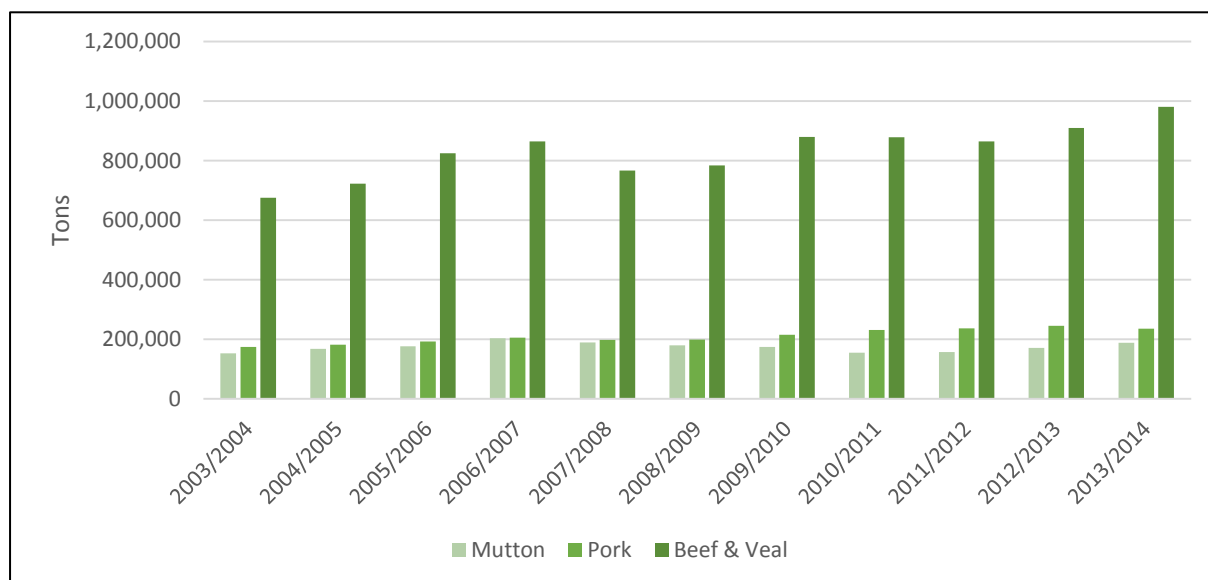
The industry is experiencing pressure from various sources, most notably increased competition from overseas producers and changes in consumer preferences towards poultry and other substitute goods. This has resulted in red meat consumed per capita remaining relatively stagnant over the last few years, fluctuating between 24kg and 26kg per capita. This can be linked to the declining per capita disposable income, which encourages the substitution of red meat for other products, such as poultry.

Although per capita consumption is stagnant, total consumption in tons has increased over the 2003/04-2013/14 period. In 2014 national consumption of red meat totalled 1 405 000 tons, including 188 000 tons of mutton, 236 000 tons of pork and 981 000 tons of beef & veal. The consumption of white meat is 45% higher than that of red meat, with 2 040 000 tons consumed in South Africa in 2014.

Figure 8.8 provides red meat consumption over a ten year period. Mutton consumption was higher than production by some 32 700 tons in 2003/04, with consumption increasing to 188 000 tons in 2013/14, with a deficit of only 4 600 tons. Mutton consumption grew 9.9% between 2012/13 and 2013/14, whilst production increased by 11.6% in the same period.

Pork production increased by 5.4% over the 2012/13 to 2013/14 period, whilst consumption decreased by 3.7%. Beef & veal production increased by 8.6% whilst consumption grew 7.6% in the same period. Since 2003/04 consumption has grown on all products with mutton, pork, beef & veal growing by 22.9%, 35.6% and 45.3% respectively.

Figure 8.8: South African Red Meat Consumption



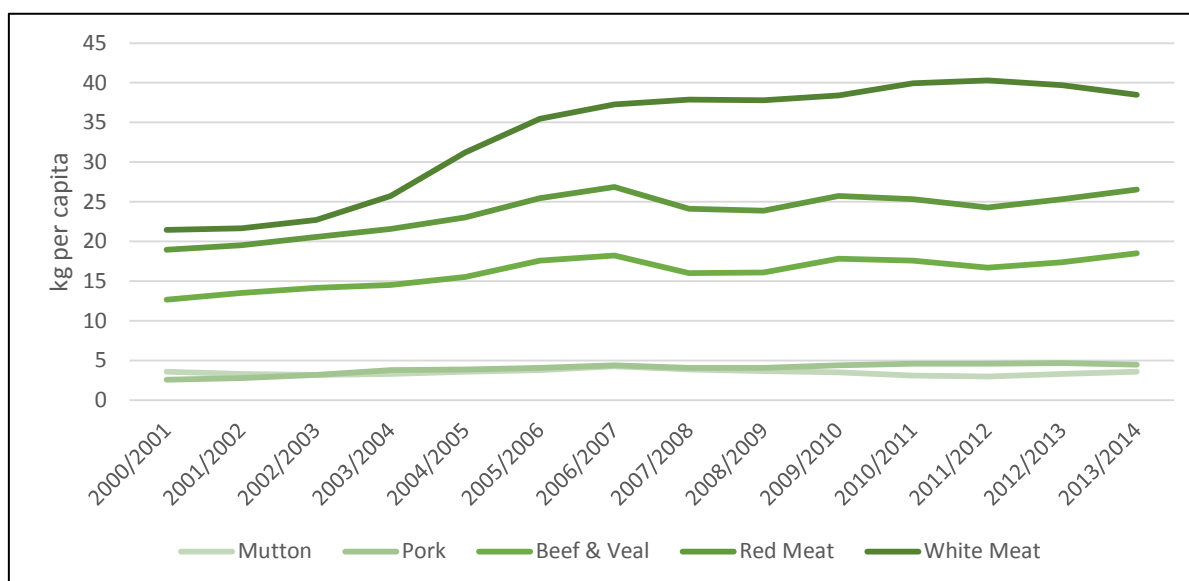
Source: DAFF, 2015A

South African per capita consumption of meat products shows consumption relative to the population size, as indicated in Figure 8.9. The changes in the red meat per capita consumption were largely attributed to changes in consumption of beef & veal, which increased by 45.9% since 2000. In comparison white meat consumption per capita increased by 79.2% over the same period. Red meat consumption per capita can be seen to mirror the beef graph line very closely, also increasing by 39.9% over the 2000/01 – 2013/14 period. Red meat consumption per capita peaked at 26.87kg per capita in 2006/2007, higher than the current consumption per capita in 2014 at 26.53kg per capita.

Mutton consumption per capita has remained fairly stable, with 3.6kg per capita consumed in both 2000/2001 and 2013/2014, a zero percentage change. Pork consumption per capita increased by 73.1%, from 2.6kg to 4.5kg over the 2000/01 – 2013/14 period.

In 2014 consumption per capita grew for that year by 6.4% for beef & veal, 9.1% for mutton and -4.3% for pork. Red meat consumption per capita in total grew by 4.7% in 2014, in contrast to white meat, which dropped by 3.0%.

White meat consumption per capita has increased sharply since 2004/05 as can be seen when compared to the earlier years. Per capita consumption of white meat started to deviate significantly from the red meat consumption trends during that year and this trend has continued since that point. Indicating the increased competition Red Meat has received from substitute products.

Figure 8.9: South African Meat Consumption per Capita*Source: DAFF, 2015A***8.1.6 Local Market Developments**

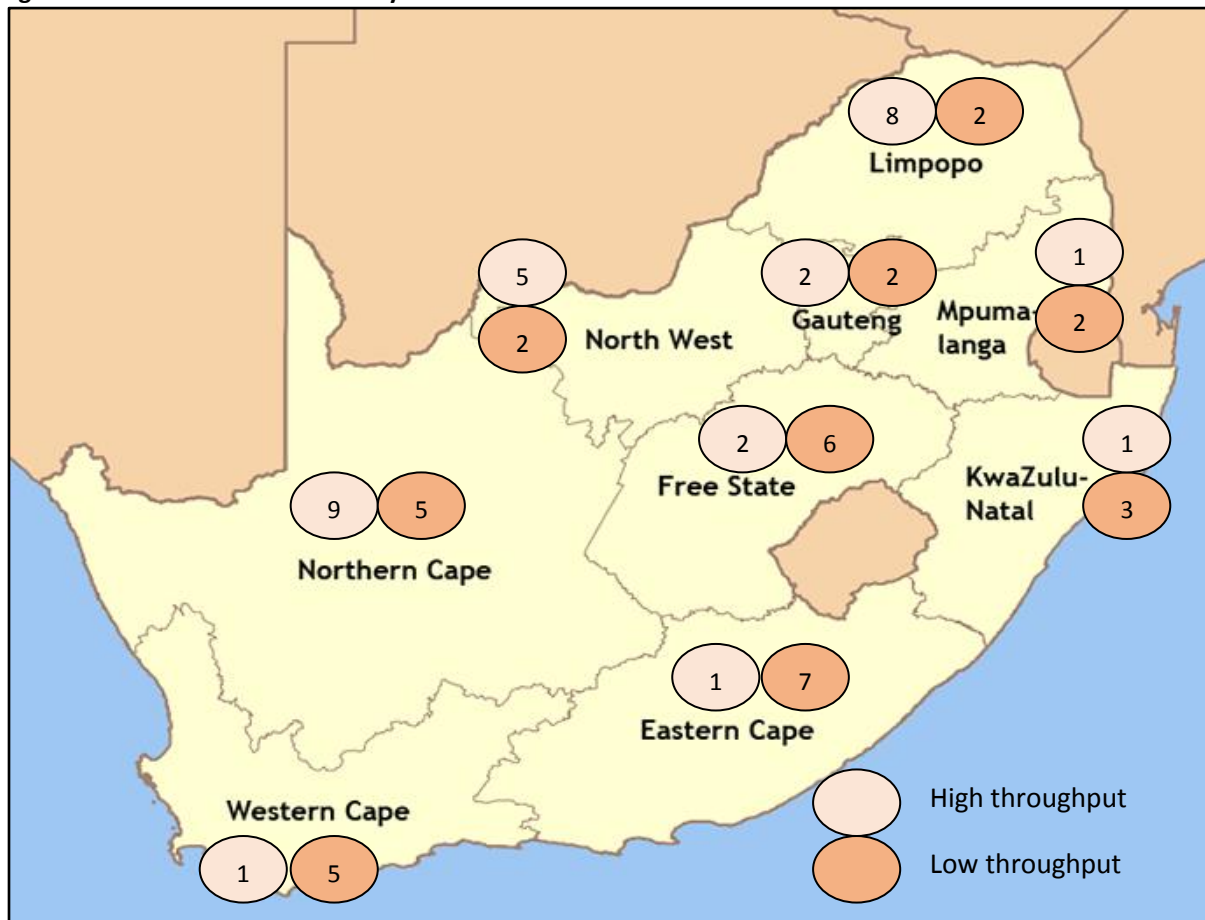
The most significant development in the red meat industry has been vertical integration, occurring through feedlots entering the red meat market; the marketing regime; and the major expansion of the abattoir industry. Vertical integration has characterised the industry over recent years, mainly through larger feedlots establishing their own abattoirs. Furthermore, some feedlots have included further integration down the value chain and sell directly to the customer through their own retail outlets, for example Eskort.

The previous market regime only allowed meat wholesalers to purchase carcasses on a wholesale system. Now, wholesalers can source live animals (excluding weaners) directly from farmers and feedlots on a willing buyer/willing seller basis. This allows the wholesaler to take ownership of the animal prior to slaughtering. The animals are then distributed to an abattoir of the wholesalers' choice from which point the carcasses are distributed to various retailers.

The deregulation of the red meat industry in the early 1990s has seen a significant expansion in the number and capacity of abattoirs. The industry can be further divided into those abattoirs linked to feedlots, the wholesale sector, or municipal owned, and those that are owned by farmers and small, medium and micro-sized enterprises (SMME's).

Approximately 449 red meat abattoirs currently operate in South Africa. According to the Department of Agriculture, Forestry and Fisheries (DAFF) approximately 60% of all slaughtering is carried out by abattoirs that are highly regulated with a high throughput capacity. Other large-scale abattoirs, known as low throughput abattoirs also operate within the province, with approximately 34 spread throughout the country. Many of these abattoirs have linkages with feedlots. Approximately 60% of the 80% of livestock that go through feedlots are slaughtered by abattoirs that are vertically integrated. The remaining abattoirs are considerably smaller, servicing small livestock producers and localised population centres, most commonly known as butchers and rural throughput abattoirs (Figure 8.10).

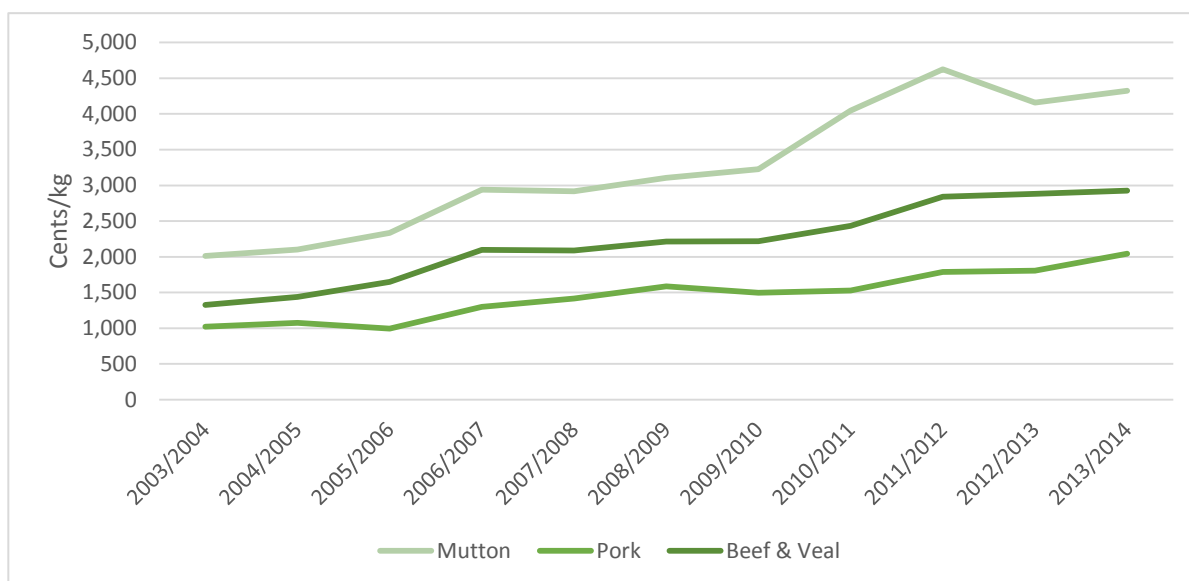
Figure 8.10: Abattoir Distribution by Province



Source: RPO, 2015

8.1.7 Price

South African market price is measured through the price per kilogram of the chilled carcass post slaughter (Figure 8.11). As can be seen within the graph below, all three commodities have seen an increase in their price over the 2003/04 to 2013/14 period. Prices increased for all products in 2006/07 and 2011/12. Mutton prices have been the most vulnerable to these price increases. Pork prices are the most stable of the three, with beef and veal prices performing between the two. In terms of total growth, cattle carcasses experienced the greatest increase in value between 2003/04 and 2013/14, increasing by 120.9%. Sheep carcasses increased by 114.8%, while pig carcasses increased by only 100.5% over the same period. In the most recent period, of 2012/13 – 2013/14, the inverse is true, with pork prices increasing by 13.2%, mutton by 4.0%, and beef & veal by only 1.6%.

Figure 8.11: South African Price per Chilled Carcass

Source: DAFF, 2015A

Abattoirs generally purchase livestock from producers or feedlots at a price that is based on the cold carcass weight of the animal. The price paid for the carcass further depends on the age and type of slaughtered animal, as well as fat content. The carcass is first classified according to a classification system, and a price is then determined.

The classification system is derived from two characteristics, namely age and carcass fat content. Animal carcasses are classified into four different groups according to age which is determined by the number of permanent incisors. The carcasses are then further classified according to subcutaneous fat content on a scale of 0 to 6 (i.e. 0 = no fat, 6 = high fat content).

The below table summarises the South African carcass classification described above. Animal suppliers are penalised with lower prices for older aged animals with high fat contents.

Table 8.5: South African Carcass Classification System

Trait	Beef/Sheep/Mutton							
Age	A		AB		B		C	
# Permanent Incisors	0		1-2		3-6		>6	
Roller Mark	AAA		ABAB		BBB		CCC	
Colour	Purple		Green		Brown		Red	
Tenderness	Most Tender		Tender		Less Tender		Least Tender	
Fat Grade	0	1	2	3	4	5	6	
Beef (Fat thickness mm)	0	<1	>1<3	>3<5	>5<7	>7<10	>10	
Sheep (Fat thickness mm)	0	<1	>1<4	>4<7	>7<9	>9<11	>11	

Source: Olivier, 2004

Abattoirs and meat processors sell products that are priced according to meat cut and quality. Typically, A-grade meat products fetch a higher price than C-grade products do. Lower grade products, however, can go through a value adding process in order to increase margins. For example, lower grade meats marinated, spiced, pre-cooked, or minced to produce burger patties and meat balls.

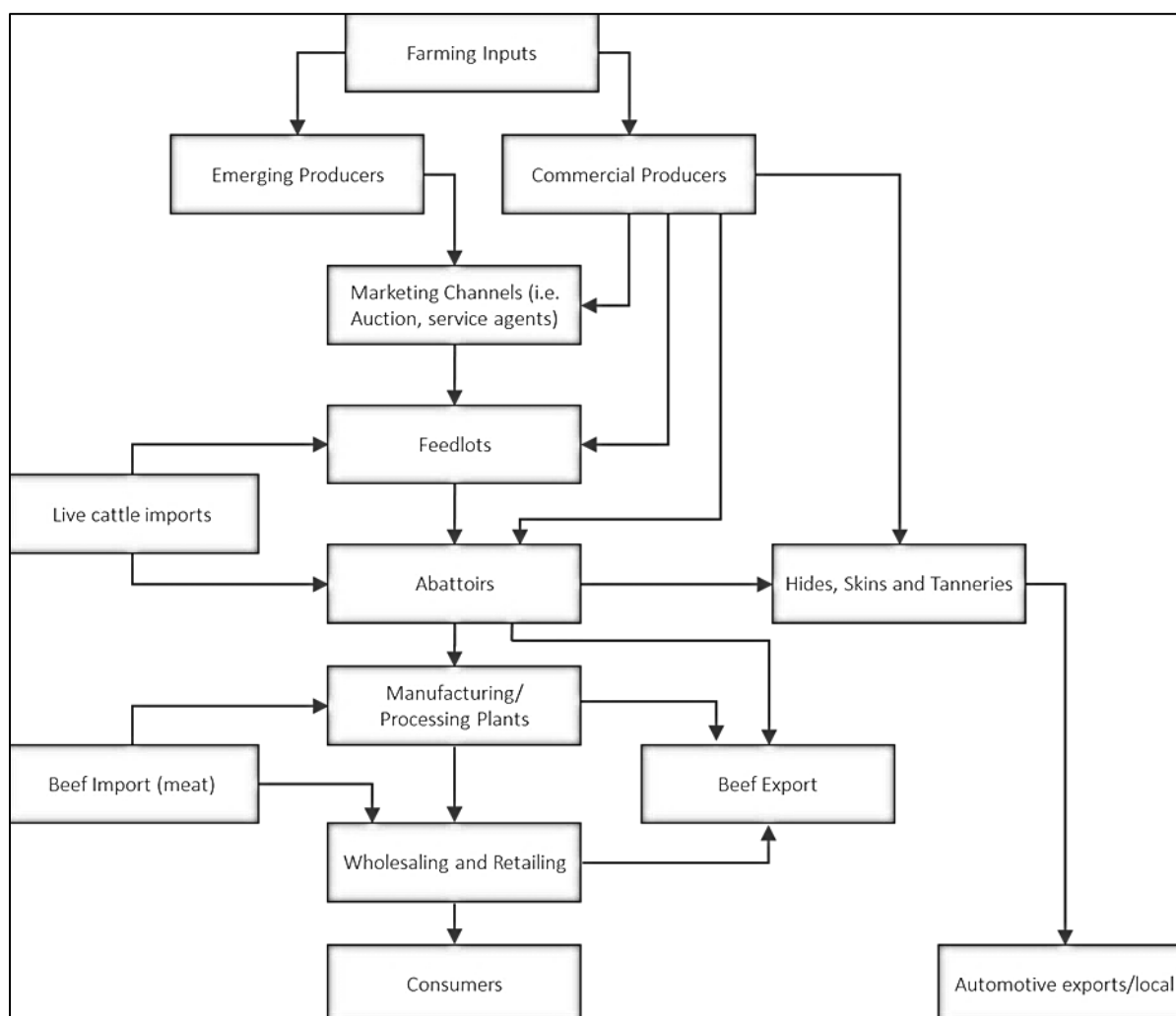
Hides are also produced from the abattoir, predominantly cattle hides, although a few sheep, goat and pig skins will also be produced. The prices for the hides are determined by hide quality and weight. Cattle hides currently trade at between R14.00 and R15.00 per kilogram, while sheep pelts trade for between R70.00 and R120.00.

8.2 Value-Chain Assessment

8.2.1 Beef

The following section will discuss the Beef value chain in which upstream and downstream activities will be analysed.

Figure 8.12: Beef Value Chain



Source: Urban Econ, 2015

Upstream activities

As beef production is classified as primary production the Up-stream activities relevant to the value chain are primarily the input supplies used in the production system. The major inputs for livestock production include animal genetic resources, feeds and forages, veterinary drugs, vaccines, machinery equipment as well as knowledge. Most of these inputs are supplied by Agricultural Co-operatives in the respective areas. The Eastern Cape Province has three major Agricultural Co-operatives namely:

- OVK – TRADE
- Humansdorp Ko-op

- East Cape Agri – Co-op Ltd / BKB LTD

Primary production activities

Beef is produced throughout South Africa. The amount of beef produced depends on the infrastructure such as feedlots and abattoirs, not necessarily by the number of cattle available in those areas. South Africa has highly developed transport infrastructure that allows movement of cattle and calves from one area to another, even from other countries such as Namibia. For these reasons, Mpumalanga commands the greatest share of beef production in South Africa accounting for 23% of the beef produced in 2009 followed by Free State and Gauteng taking up 20% and 13% respectively.

Despite all the challenges, cattle form an integral part of the economy within the communal farming sector. To unlock this potential to its fullest, the first step would be to recognize that cattle-ownership for many people remain a culturally resonant, economically rational and socially acceptable option for strategies of production and accumulation. This being the case, the role players in this sector should be safeguarded and their investments enhanced with targeted interventions that expressly increase both the productivity and overall rand value of the herds. To be successful, the focus should be on increasing both the capacity and the options of poor people to enable them to make strategic investments in their own future.

Future research should address the incomplete picture that exists of the overall distribution of cattle across livelihoods in the province. A research void exists regarding herd productivity in situ, including reproductive rates, weaning rates, mortality rates, growth rates and present marketing patterns. The average age and composition of individual herds, which has a direct influence on productivity, is also largely unknown. Research and development into the effective utilization and enhancement of the grazing resource becomes a more pertinent issue as far as cattle is concerned as they tend to react faster to and recover slower after drastic changes in the grazing resource.

It is a reality that by unlocking the potential of cattle within the communal areas of the Eastern Cape Province, it is possible to become a net exporter of beef.

Downstream activities

The market players in the beef industry are vertically integrated. They have their own feedlots, abattoirs, processors and distributors. It is estimated that there are approximately 50 000 commercial farmers currently farming with livestock. This includes producers that keep livestock as their main enterprise and those that keep livestock as a secondary enterprise. They own around 8.2 million cattle. There are 240 000 small-scale farmers and 3 million subsistence farmers that own around 5.69 million cattle.

The beef supply chain has become increasingly vertically integrated. This integration is mainly fuelled by the feedlot industry where most of the large feedlots own their own abattoirs, or at least have some business interest in certain abattoirs. In addition, some feedlots have integrated further down the value chain and sell directly to consumers through their own retail outlets. Some abattoirs have also started to integrate vertically towards the wholesale level. Under the previous marketing regime, wholesalers mostly bought carcasses through the auction system. Currently, many wholesalers source live slaughter animals (not weaners) directly from farmers or feedlots on a bid and offer basis, i.e. they take ownership of the animal before the animal is slaughtered. The animal is then slaughtered at an abattoir of the wholesaler's choice, where after the carcass is distributed to retailers. In some instances, the public can also buy carcasses directly from wholesalers. The abattoir industry has expanded tremendously in number and in capacity.

Major beef feedlots active in the in the Eastern Cape Buying Markets

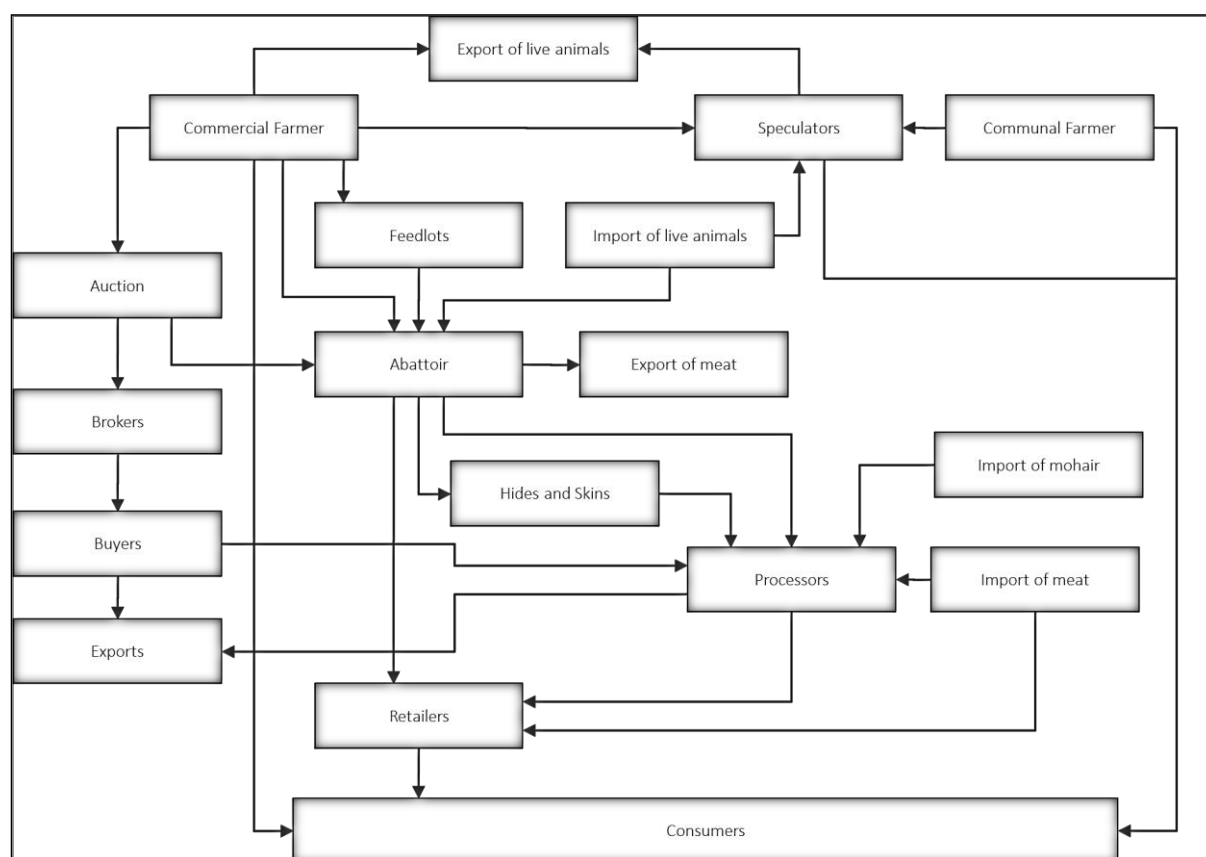
- Austin Evans Feedlot – Somerset East
- Adam Agri – Colesburg
- Beefcor – Bronkhorstspuit
- Beefmaster – Christiana
- Chalmar Beef – Wingate Park
- Dc Louw Feedlot – Adelaide
- Karan Beef – Heidelberg
- Sparta Beef – Marquard

Abattoir: Although an abattoir is the processing opportunity for the beef, there are several existing abattoirs in Sarah Baartman that are currently not running at full capacity. It should therefore be taken in consideration before establishing a new abattoir.

8.2.2 Mutton & Chevon

The following section will discuss the sheep and chevon value chain in which upstream and downstream activities will be analysed.

Figure 8.13: Lamb and Chevon Value Chain



Source: Urban Econ, 2015

The Eastern Cape is regarded as South Africa's livestock province with significant numbers of cattle, sheep and goats. Domestic and foreign markets are available in terms of organic livestock production, product beneficiation and livestock bi-products (leather). The agricultural opportunities in the province for livestock, if harnessed, could yield significant returns in terms of the following:

Organic meat production - organic meat supply is becoming a global trend. The Eastern Cape provides opportunities for investment in primary and secondary organic meat farming for both the domestic and international market.

Livestock farmers - the province is looking to establish new commercial livestock enterprises. Interested investors can partner with community-based organisations and agricultural co-operatives to utilise local skill and knowledge around livestock farming in the Eastern Cape.

Sheep and goat breeding - sheep and goat breeding, as part of community agricultural development, has significant opportunities in the rural areas. Opportunities exist in supply of young sheep and goats to rural farmers, meat production, hide beneficiation and the provision of alternative breeding stock.

Upstream activities

As sheep and goat production is classified as primary production the upstream activities relevant to the value chain are primarily the input supplies used in the production system. The major inputs for livestock production include animal genetic resources, feeds and forages, veterinary drugs, vaccines, machinery equipment as well as knowledge. Most of these inputs are supplied by agricultural co-operatives in the respective areas. The Eastern Cape has three major Agricultural Co-operatives namely:

- OVK – TRADE
- Humansdorp Ko-op
- East Cape Agri – Co-op Ltd / BKB LTD

Primary production activities

Goats

Goats are farmed throughout South Africa. In regions where bush encroachment is rife goats are farmed together with cattle. The robust Boer goats and hardy African goats fare well in these combined production systems. In the dry North West region, extensive ranching of goats is done together with Karakul, Persian and Dorper sheep. Angora goats are an important industry in the Eastern Karoo. Farming with Angoras extends into the temperate regions and to the Lesotho highlands. Milk goat farming is not a major industry. However, given the high occurrence of cow milk allergy, there are considerable opportunities for this industry to expand.

Goats make a valuable contribution to the livestock industry in southern Africa. In the rural, economically deprived regions goats are a ready source of cash-income and food and social security. The greatest need for research into the constraints in livestock production lies in these regions. Agriculture can no longer afford inefficiency in any form. Whilst traditional livestock production is a part of cultural life, inefficiency can no longer be part of it and cannot be afforded.

There are various marketing channels

- Auctions
- Production sales
- Contract Selling
- Direct Sales

Goat Lambs are marketed at between six months and two years in order to obtain the best prices for quality animals. The slaughter market generally requires an animal weighing between 30kg and 45kg on the hoof.

Sheep

The 5 most common breeds of wool sheep in South Africa are, the Merino, the Dohne – Merino, Letelle, the SA Mutton Merino, and the Landsheep. The most common mutton breeds are Dorper, Dormer, Meatmaster, Damara and Ile de France. Most of the sheep breeds in South Africa are not seasonal breeders. The best results are achieved with autumn parings. The choice of breeding times is determined by the availability of feed at mating, lambing and weaning. The gestation period of a sheep is five (5) months. It is important that the lamb drinks colostrum within two hours of birth in order to build up immunity against disease. If this doesn't happen the lamb will weaken and get sick.

Fertility is the most important economic factor with sheep farming. A high fertility rate will ensure high lambing and weaning percentages if management is good. The ewe should have good mothering skills and produce enough milk to feed her lamb or lambs until old enough to wean. The percentage of lambs born does not ensure the success of the farmer, but rather the percentage of lambs weaned.

Ewes usually have one or two lambs. The lambing percentage ranges between 80 – 130% amongst the different breeds. This percentage is worked out by dividing the number of ewes mated by the number of lambs weaned multiplied by 100. Loss of lambs must be limited because this affects the profit of the farm. Loss of lambs is usually due to predators, cold, rain, poor mothering or poor nutrition. Special attention should be given to these aspects during lambing. Ewes usually lamb every year, but with good management and nutrition, Ewes can lamb every 8 months. At mating, 3-4% rams are placed with a flock of ewes for a period of 34 – 42 days.

Nutrition of the sheep is very important as it is the determining factor of the growth, lambing and weaning percentages. Good nutrition is also important in the preparation of sheep for shows. It is also important to make sure the sheep is not overweight. Not only is it frowned upon by the judges, but it also undermines the breeding capacity of the sheep thereafter.

Drastic increase or decrease of the feed causes a fault in the wool which negatively influences the price of the wool. Increase in the feed causes an increase in the mass of the wool, as well as a stronger wool, while poor feeding results in a lesser mass of wool, as well as a reduction in fibre quality (finer wool). Nutrition is also the single determining factor of a successful wool sheep business. Pregnant and lactating ewes should be kept on a highly nutritious feeding programme to ensure healthy and fast growing lambs. In the above mentioned breeds, castrated rams, cull rams and ewes are sold with a live weight of 25 - 45 kg's at 100 – 150 days either to the feedlots or the abattoir.

Downstream activities

Goat Products

The main products from goats are meat, milk, hides and fibres.

Goat Meat products

The Boer goat is regarded as the only breed of goat on earth that is bred exclusively for meat. Slaughter-masses vary from 35 to 40 kg for rams, and from 30 to 35 kg for ewes and adult animals.

Goat Milk production

- It is claimed that goat's milk is better than cow's milk for human consumption.
- A comparison of goat's milk and human breast milk shows the following:
- The protein content of goat's milk is higher than that of breast milk - 25% in the case of goat's milk, against 7% for humans.
- The total fat content in both cases is virtually identical.
- Goat's milk contains more than the required amounts of calcium and phosphate for babies, but without any detrimental effects on the child.
- As in the case of cow's milk, untreated goat's milk can also transmit diseases such as brucellosis, but not tuberculosis, since goats do not readily succumb to tuberculosis.
- Goat's milk tends to be more suitable for the treatment of stomach ulcers.
- In poor countries where the consumption of meat is low, goat's milk provides for an important daily intake of protein, phosphorus and calcium which would not otherwise have been available due to the severe shortage of cow's milk.

Goat Fibre production/ Mohair

Boer goats produce both fine and coarse fibre. A very fine fibre known as cashmere, develops on the skin beneath a longer type of hair. The long hair is combed. Any long-tooth comb may be used. Comb downwards

by holding the head of the goat in the standing position. A woolly neck gives an indication that the goat has the potential to produce more cashmere.

The lighter (whiter) the colour and the lower the thickness of the fibre, the higher the price it will fetch. The downy hair grows from December until June to provide protection against the winter's cold, while moulting takes place during the early spring. All animals in a herd or flock do not moult simultaneously. Cashmere can be harvested from the age of six months.

The most important goat fibre is in fact mohair that is produced from the Angora goat that is common in the SBDM. Mohair is a fibre from the Angora goat and is shorn twice a year in a process that does not harm the animal. The natural fibres in mohair are well sought after both in China and in Europe. Most of the mohair fibre is exported overseas to China and Europe through Nelson Mandela Bay. Mohair in SBDM is a key export and accounts for 47.5% of the share of mohair produced in 2013 in the Eastern Cape. The Table below indicates mohair production in SBDM in

Table 8.6: Mohair Production in Sarah Baartman

Area	Mohair (Kg)		% Growth (2012-2013)	% Share (2013)
	2012	2013		
Sarah Baartman	1 308 712	1 119 840	-14.4%	47.5%
Camdeboo	421 312	350 160	-16.9%	14.59%
Blue Crane Route	219 240	193 920	-11.5%	11.32%
Ikwezi	160 544	154 560	-3.7%	6.44%
Makana	123 192	102 720	-11.5%	1.89%
Baviaans	384 424	318 480	-16.6%	13.27%

Source: Urban-Econ calculations based on Mohair SA, 2014

Mohair fibres have unique qualities that make them attractive to garment manufacturers particularly:

- Lustre – The fibre has a natural sheen which is attractive to garment manufacturers
- Weight – The fibre is lightweight and fairly versatile.
- Dye responsiveness – Mohair responds well to different dyes which allows a broad range of garments to be manufactured.
- Climate control – Mohair is adequate at allowing garments to “breathe” and allows extra comfort to wearers
- Durability – The pliability of mohair makes it resistant to tearing
- Crease resistance – The elasticity of mohair reduces creasing in garments.
- Non-flammable – the nature of mohair fibres gives it a non-flammable nature (Mohair SA, 2015)

Sheep Wool Production

Wool contributes approximately 30% towards the income derived from woolled sheep. Meat contributes therefore approximately 70% towards the economic value of woolled sheep. These figures are quoted for commercial farming operations where best practice management and marketing is applied. Wool sheep are sheared according to their breed standards, usually with a wool growth of 8 – 12 months. Adult ewes usually produce fleece weighing 3 – 6 kg with a length of 65 – 110 mm. Price of wool is determined by:

- Thickness of the fibre – this determined by a wool testing laboratory, and is measured in microns. 18 microns is finer than 22 microns
- A clean Yield
- Length of the wool
- Strength of fibres

Finer wool usually gets a better price than stronger wool. Quality of the wool plays an important role where the hand and eye method is used to value the wool, e.g. at shows, judges attach value to this characteristic.

As mentioned above The Sheep are sheared in periods ranging from 8 – 12 months where after wool is classed and baled on farm before being transported to the processing facilities in Nelson Mandela Bay where it is sold on to buyers on an open floor auction system.

Mutton Production from Woollen Sheep and haired sheep

Mutton production contributes to approximately 70% of revenue for woollen sheep breeds like Merino, Dohne Merino, Ile de France etc. Meat production is driven by optimal reproduction, weaning %, efficient and optimal growth and eventually by the marketing % (number of animals sold) as to total number of animals. Mutton sheep and lambs are sold on Auction or via buying agents to abattoirs and feedlots which slaughter and package carcasses and cuts for the retail industry. Sheep Breeds such as Dorper and Meatmaster are farmed entirely for their mutton production and are not sheared for commercial reasons. The price of meat is determined by:

- The age of the animal
- The distribution of fat on the carcass
- The conformation of the animal
- The size (body mass) of the sheep is decided by The length of the body, The depth of the body and The breadth of the body

Because meat is sold per kilogram, the body mass of the sheep, as well as the rate of growth of the animal plays an important role. Lamb is more tender than mutton, and therefore gets a better price per kilogram. The consumer does not want a lot fat and therefore it is important to sell lambs before the meat is downgraded for having too much fat. Meat on the rump and chops are the expensive cuts and therefore enjoy special attention from the judge. When the length of body is being shown, the judges judge the size of the sheep. When showing the back end of the sheep, the judges look at the grade of musculature of the sheep's outer and inner thighs

A broad chest is an indication an indication of adequate chest capacity which can house healthy lungs. The capacity of the animal for walking is important where they may have to graze in mountainous conditions. It's for this reason that the fetlock joints must be strong so that the sheep don't walk on their heels and cause lameness.

Agro-processing opportunities

Meat

Both woolled and non woolled sheep are processed through main stream Abattoirs. There are a number of abattoirs in the Eastern Cape (See section on Beef) The Distance from market is of extreme importance. Abattoirs in the Eastern Cape are generally not functioning at capacity and as such no immediate agro-processing opportunities exist at present in this sphere. A vast majority of goats are transported live to Indian markets in Kwa Zulu Natal where they are slaughtered and processed.

Wool and fibre

Sheep and goats are sheared in periods ranging from 8 – 12 months where after wool/mohair is classed and baled on farm before being transported to the processing facilities in Nelson Mandela Bay where it is sold on to buyers on an open floor auction system. A number of feasibility studies have recently been completed on Wool Washing facilities in Rural Eastern Cape but have not been proved viable and the existing facilities are functioning well below capacity. The large wool and Mohair processors in Nelson Mandela Bay (Cape Mohair and Wool & BKB) Dominate this sector and smaller rural processing plants cannot compete effectively due to processing volumes.

Abattoirs

The following table is a list of important abattoirs in the district (Note: there are other abattoirs in the district not accounted for in this table).

Table 8.7: Important Abattoirs in the District

Abattoir Name	Species (Bovine/Ostrich/ Sheep/Pigs)	Owner/Contact	Location
Witelsbos Abattoir	No Pigs	P S Ferreira	Witselbos
Du Preez Boerdery	Bovine	M du Preez	Patensie
Humansdorp Abattoir	B/O/S	Spitzbak Estate (Pty) Ltd	Humansdorp
Karnoor Abattoir	B/O/S	Kings Beach Investments	Jansenville
Grandview Abattoir	B/O/S	E Olivier	Aberdeen
Graaff Reinet Meat Processing Abattoir	B/O/S	W F Gouws	Graaff-Reinet
Kareedouw Abattoir		M A Strydom	Kareedouw
Karoo Wild Game Abattoir	Game	S Kleinhans	Jansenville
Rosedale Abattoir	Bovine	A le Roux	Grahamstown
Twee Riviere Abattoir	B/O/S	G Fourie	Joubertina
J C Steyn Correctional Services Abattoir		Dept of Correctional Services	Kirkwood
Fonte Abattoir	B/O/S	J du Plessis Family Trust	Humansdorp
Bosbok Abattoir	Sheep	J Strydom	Humansdorp
Fish River Abattoir	Game	J Coetzee	Grahamstown
Olyvenfontein Abattoir		D Taljaard	Jansenville
Lofdal Slagtery Abattoir	Sheep	A Strydom	Aberdeen
Walplaas Abattoir	Sheep	W R Pienaar	Graaff-Reinet
Rosedale Abattoir	Sheep	J P Zietsman	Humansdorp
Dowefontein Abattoir	Sheep	H T Marx	Aberdeen
Lentaba Meat	B/O/S		NMB
Alwynhoek Slaghuis	B/O/S		NMB

Source: RPO, 2015

8.3 Stakeholders

There are a number of organisations involved in the red meat value chain in South Africa. One of the key organisations is Red Meat Producers Organisation (RPO). RPO is service organisation that acts as mouthpiece for South African commercial red meat producers. It is an independent producer's organisation that strives to dynamically promote the sustainability and the profitability of the red meat industry in South Africa. Table 8.8 shows other key stakeholders in the red meat sector in South Africa. It is important to consider the buy-in of the relevant stakeholders into the Agri-Park as they can provide skills, expertise and advice to emerging farmers. Key wool and mohair stakeholders are also included in this table.

Table 8.8: Livestock Stakeholders

Stakeholder	Description
Red Meat Abattoir Association (RMAA)	The RMAA is an independent membership-based organisation. Its primary aim being training at all abattoirs in South Africa. The Association is a representative forum for red meat abattoir owners in South Africa and aims to establish

	communication and co-operation between the members of the Association.
Livestock registering federation	The principal business and purpose of the Livestock Registering Federation shall be to unite, promote and protect its members acting as Independent Registering Authorities (animal Improvement Act 62 of 1998), into an affiliated federation.
South African Meat Industry Company (SAMIC)	SAMIC is a quality assurance company which was created by the Red Meat Industry of South Africa to ensure the quality and safety of meat in South Africa.
National Emergent Red Meat Producers' Organisation (NERPO)	The primary aim of NERPO is to commercialise the developing agricultural sector and ensure meaningful participation of black individuals within the mainstream commercial agribusiness sector, hence ensuring the long term sustainability of the agricultural sector in South Africa.
Red Meat Industry Forum	The Red Meat Industry Forum of South Africa represents all the most nationally representative sector specific role player organisations within the red meat value chain.
South African Feedlot Association (SAFA)	The SA feedlot industry was started during the 1960s by a few entrepreneurial cattle farmers in the grain producing areas who were forced, due to a lack of grazing, to "over-winter" their stock on grain and/or potato by-products and hay of inferior quality.
International Quality Assurance Services (IMQAS)	IMQAS services the hygiene and quality needs of the meat industry in South Africa on an independent basis. Their services are available to primary producers, abattoirs and processing establishments.
South African National Halaal Authority (SANHA)	SANHA is a non-profit organisation promoting professionalism in the certification of Halaal products.
Red Meat Research & Development SA	The specific aim of the RMRD SA and its Project Committee is to co-ordinate and fund research projects.
Mohair SA	Mohair South Africa is a non-profit organisation that is responsible for the marketing and promotion of the mohair fibre along with other functions.
National Woolgrowers' Association of SA (NWGA)	The National Wool Growers Association is a national commodity structure formed by commercial and communal wool sheep farmers in South Africa with the purpose of collectively representing the wool farmers in the country and to integrate, in a single representative structure, the development requirements of the sector.
Wool Brokers and Traders	BKB Ltd Cape Mohair and Wool (CMW) Van Lill Woolbuyers Trust (CC) Junior Steenkamp - Wool & Mohair Lanata (Pty) Ltd Wool/Mohair Broker Bruce, Lappersonne & Saunders

8.4 Technology

Agri-Park farmers can make use of a wide variety of technology to improve their access to markets and the efficiency of their production. Emerging farmers in South Africa have traditionally lagged behind in the usage of

technology in their production and marketing activities. There is however more information and initiatives available today to connect emerging farmers with the latest technology. The areas in which innovation is improving efficiencies in small holder agriculture include nanotechnology, genetically modified crops, GIS and remote sensing, cellular phones, information technology and applications etc. As with any technology, it is important to strike a balance of mechanisation and job creation which improves skills and creates meaningful jobs.

To farm and manage livestock various equipment and infrastructure will be needed such as management and farming software, boreholes, water pumps and storage, animal reproduction, handling, feeding, watering & health equipment and training, veld management techniques to prevent soil erosion, security technology, and other innovations.

Recent developments in farming will have to be considered in order for any farming activity to be competitive in the future. Three areas in which technology is impacting on the livestock industry is in animal health practices, veld management and automated refilling water troughs.

Animal Health

Animal health practices are important in livestock farming to guarantee the survival of the animal and the quality and acceptability of the product for the commercialised market structures. There are two major methods in managing the health of animals: via vaccinations and via anti-biotics. Both of those methods are practiced within commercial operations, however the importance of these activities have not fully penetrated the small-scale market.

Vaccines contains inactive parts (usually the capsid) or molecules that resembles surface proteins of a pathogenic virus or bacterium, which are introduced into the animal's blood stream so that antibodies can be developed. This will enable the animal to develop immunity and to be protected against the pathogen when and if exposed to it later in life. New vaccines are constantly developed therefore it is important to consult with an animal health professional on the most appropriate vaccination program. Vaccines have a highly positive effect on disease control and even eradication. Vaccinated animals normally exhibit high returns on investment, as there is less likelihood of losing the animal during the raising process. Costs associated with vaccination are normally low, and they require low levels of training to implement successfully.

Anti-biotics have two main applications in agriculture. The first is to treat infections, which is an important application, but too specialised a field to discuss in detail. Infection treatments are predominantly taken care of by animal health professionals. Secondly, anti-biotics serve as a routine feed supplement to animals in intensive farming systems (feedlots, piggeries, chicken houses, fisheries etc.) which can be considered a dangerous and unsustainable practice. This second method occurs as anti-biotics encourage increased growth rates and resistances against disease. However, the cost to society could be large and devastating, due to extensive untested treatment of medication to animals not necessarily requiring prolonged exposure to the chemicals. Prolonged exposure to the anti-biotics encourage drug resistance strains to develop that can potentially be carried over to the human population via consumption. The drugs are cheap to acquire, however to correctly implement, via the trained veterinary profession, does require substantial service charges.

Veld Management

Veld management practices serve two primary functions. Firstly, they prevent the encroachment of indigenous brush onto grazing areas, and, secondly, they enable land rehabilitation to other purposes. Two ways in which this can occur is by brush removal for input into related markets, and land rehabilitation practices.

A good example of brush removal is the potential contained within bush-to-feed converters. Brush removal enables production feed pellets from shrubs and trees. It also enables minor forestry production with thick branches and tree stems that cannot be converted into feed, can be sold as fire wood or converted to biochar. The practice is centred on converting a liability (bushes that reduce the carrying capacity of the veld) into a valuable asset (feed for game and cattle). And could serve as an effective method of bush encroachment control. The process requires some skills training and is moderately expensive to obtain and operate.

Land rehabilitation covers a range of technological processes, that can differ in complexity from as simple as brush packing to as complex as production of biodegradable or long lasting soil cloths and mesh materials. The main purpose of the rehabilitation is to stabilise soil, control or reverse existing erosion damage and restore degraded land so that it can again be utilised for agricultural purposes. Land rehabilitation also serves as a preventative measure for future soil degradation, by enabling vegetation on the land, preventing future problems. Depending on the type, extent and location of the rehabilitation, the required expenditure skills range from low to moderately high.

Automated-refill watering troughs

Providing water for livestock can be a drain on communal water resources and put unnecessary strain on communities, especially in times of drought. If animals are scattered in rural areas, it may be time consuming or difficult to access their water troughs to keep refilling them. Automated-refill water troughs seek to manage livestock water usage, by utilising water troughs fitted with a small reservoir and low pressure floating valves to enable automated re-filling.

These water-provision systems would be more resilient to evaporation, and when properly maintained ensure sufficient levels of water provision of animals, by minimising water contamination and the risk of wastage. Furthermore, the systems are consistent, preventing livestock tampering, and easy to clean. The cost of the system is relatively low, requiring an investment of a few thousand rand, and are also relatively simple to operate.

ICT

ICT is possibly the biggest development in the agricultural sector for emerging and commercial farmers alike. The emergence of the internet and mobile phones has led to an exorbitant amount of data at the fingertips of the farmers. If they require information then it can be obtained immediately and problems solved sooner than before (e-Agriculture, 2015). ICT has allowed the emergence of training software and applications (Apps) which people can use for the benefit of the staff who work for them and for themselves. Training can be done outside of training centres and content directly displayed on smartphones. Smartphones have also allowed for greater access to market prices and market related news as it happens and sooner than what used to occur (e-Agriculture, 2015). This can allow farmers to make adjustments before they impacted negatively. This has also allowed access to online and cell phone banking and various finance facilities (e-Agriculture, 2015). This means that farmers have access to their finances from their phones and do not have to leave the farm to bank. Online banking has also made farming safer as large amounts of cash is no longer used to pay staff and instead can be paid into bank accounts or cell phone numbers. ICT has allowed for the effective design of farms around the land that is available to farmers and has allowed for farmers to be more efficient and handle finance and information related queries over a long distance instead of being at a physical location in person. This has also allowed for the effective management and understanding changing markets as they occur which allow farmers to react in a timely manner (e-Agriculture, 2015).

Numerous smartphone apps also exist for the convenience of the farmer. *Pantheon Farming* from App Lab allows farmers to enter all data directly on location, which is synchronized with a main database. This reduces the possibility of errors and eliminates duplicate data entries. *eFarmer* is a simple app designed for the agricultural

industry that allows users to construct an electronic map of fields to create a database of various crops in the fields. The app also allows users to take notes on the fields as points of interest, keep the location of specific objects on the farm and keep a diary of the operations for each field users own. *AgriApp* is an Android app that enables farmers to access large pool of relevant information related to agriculture and specific crops and animals.

Specifically for the livestock industry, the Merck Veterinary Manual Mobile App, is available for both Android and Apple and contains guidelines for the diagnosis, treatment, and prevention of animal disorders and diseases.

Online resources also exist which can be accessed through a phone, tablet or PC which is connected to the internet. Sites such as *FAO:Ecocrop* provides detailed crop requirement information for almost any crop that are cultivated throughout the world, including its uses and requirements for temperature, rainfall/water, soil type, soil depth, soil pH, salinity, altitude etc. It also include hundreds of forage crop species for extensive animal farmers. Another site *My Agriculture Information Bank* provides a variety of general agricultural information to farmers.

The Agri-Park needs to take cognisance of the technology that is available in order to assist the emerging farmers. By integrating technology into training regimes that are provided in the Agri-Park, emerging farmers will have access to the latest events in their respective fields.

Logistics

In order for the Agri-Park to be successful there needs to be an effective and well run logistics system. Logistics is an extremely important part of agriculture as it relies on transport of goods to and from the farm to the processing facilities and o to markets. Trucks and other large freight vehicles which transport goods are vitally important in any industry and is also important in the vegetable industry. Goods need to be transported in such a manner that they are not damaged. If goods need preservation then it is important to consider using refrigerated trucks to transport of produce. The second aspect of logistics is the medium of transport itself. Roads or the rail system need to be in good order and should be well connected in order to reduce the loss of produce and damage to trucks which can add on unnecessary costs to the farmers.

8.5 Demand and Needs Analysis

The following section outlines the demand for red meat in South Africa and the district and will discuss the opportunities that exist in the district. Opportunities exist for the following in the red meat market:

- Production/supply of animal feed
- Increasing existing capacity and development of new abattoirs
- Development of cattle feedlots
- Increasing herd size of beef cattle
- Long term opportunity for SMME cattle hide processing (tanneries) for the automotive industry

It is possible to provide an estimate for demand based on historical consumption figures and populations. The figure below provides a summary on estimated demand on a national and provincial level.

At an average per capita consumption for red meat of 25.5kg per person (beef at 17.6kg, mutton at 3.3kg and pork at 4.6kg), there is a clear demand for red meat products in South Africa. Demand for red meat on a national level is approximately 1.3 million tons. In Sarah Baartman the demand for red meat is approximately 11 490 tonnes annually as seen in Table 8.9.

Table 8.9: Annual demand for red meat (tons)

Area of Demand	Estimated Demand
South Africa	1 320 149
Eastern Cape	167 332
Sarah Baartman District	11 490
Camdeboo	1 300
Blue Crane	918
Ikwezi	269
Makana	2 050
Ndlambe	1 560
Sundays River Valley	1 390
Baviaans	453
Kouga	2 513
Kou-Kamma	1 037
Nelson Mandela Bay	29 379

Source: Quantec 2013, Census 2011

8.6 Competition

While there are numerous established commercial farmers in the District competition is seen as an advantage rather than a disadvantage in this situation. Commercial farmers have established contacts and networks that they can take advantage of. This information can be accessed through various government programmes which encourage mentorship of farmers. The benefits of farming in areas that already have a strong presence of farmers is possibly more of a benefit than a disadvantage. The largest form of competition will come in the form of cheaper imports of poultry from the USA as part of the AGOA act that was recently amended.

8.7 Socio-Economic (Job Creation)

The Agri-Park project vision, as discussed in Chapters 1 and 2, outlines the importance of socio-economic development as an objective of the Business Plan. Socio-economic progress and development can be measured in various ways, however the primary method of measurement selected for livestock commodity is Job Creation. Job creation is measured via the use of commodity labour multipliers, measuring the number of jobs created per R1 million produced directly into commodity production. The three relevant multipliers for the Sarah Baartman District Municipality red meat market are the:

- Direct Multiplier
- Indirect Multiplier
- Induced Multiplier

The three multipliers measure the total numbers of job created in an ideal economic environment for the red meat market. However as the economic environment diverges away from the ideal environment, so do the multipliers.

The table below displays the sectoral labour multipliers applicable to the red meat industry, i.e. the number of the job opportunities created at different levels for every additional R1-million production. The table below indicates that livestock creates 2.07 direct on farm jobs, 1.61 indirect jobs and 1.88 induced jobs for every R1 million produced. Livestock farming is not as labour intensive at small-scale production levels as such as vegetable production in the district, however, the cattle commodity specifically does have an extensive value chain with job opportunities at production, processing, retailing and service level. Numerous abattoirs exist in the District and thus indirect job multipliers can be expected to be marginally lower, until the need for additional abattoirs arise. Induced job creation from the income already received in the direct and indirect multiplier phases, however, could be increased, due to the receptiveness of the area to low-income earners.

Table 8.10: Direct, Indirect and Induced Jobs Created in the Red Meat Industry

Sector	Direct	Indirect	Direct + Indirect	Induced	Total
Livestock Products	2.07	1.61	3.68	1.88	5.57

BFAP (2015) agrees with this outlook and states that livestock farming is not very labour intensive and can vary from approximately 0.01 person per hectare to approximately 0.05 people per hectare. Sheep and cattle are non-labour intensive but do have high growth potential and the large value chains can be exploited to increase labour.

Information that is available on the District's livestock production and the potential number of hectares, together with the Bureau for Food and Agriculture Policy, have been used to estimate the employment opportunities that livestock production can contribute in the 10-year period. The Agri-Park can provide approximately 180 employment opportunities from the programme. It must be noted however that these figures are purely indicative and will change through the development of the Agri-Park.

8.8 Contribution to Food Security

One of the core concepts that the Agri-Park seeks to address is the issue of food security of communities. It is believed that the Agri-Park concept can assist in increasing food security and sustainability of communities' livelihoods. DAFF launched a Zero Hunger Policy in 2012 in order to curb poverty and improve food security for vulnerable communities who are in need of support. The Zero Hunger Policy was created to uphold Section 27,1 (b) of the bill of rights which states that every citizen has the right to food and water and Section 28,1 (b) which states that every child has the right to basic nutrition shelter and basic care and social services. The policy suggest that adult daily calorie should be 1792 kcal (7502kj) per day for an adult and sets a food poverty line of R260 per individual expenditure for food every month (DAFF, 2002). Meat consumption is based largely on availability, price and tradition. Meat production is a very complex operation depending not only on demand (which is usually based on price and income) but on many social and economic influences such as official policy, price support mechanisms, and interrelations such as the interaction between beef and milk production etc. (FAO, 2002). While it is clear that meat is not essential in the diet the inclusion of animal products makes it easier to ensure a good diet. Many diets in developing countries are based on cereals or root crops and are relatively bulky, especially where fats are in short supply, and this can limit the total energy intake (FAO, 2002). The importance of meat in the diet is as a concentrated source of protein which is not only of high biological value but its amino acid composition complements that of cereal and other vegetable proteins (FAO, 2002).

Meat is an adequate source of protein in the human diet and it is assumed that between 55g of meat per day provides enough protein. The quality of the meat however plays a role as the lower the quality, the more meat is needed to make up the 55g. Meat and meat products are important sources of all the B-complex vitamins including thiamin, riboflavin, niacin, biotin, vitamins B6 and B12, pantothenic acid and folacin (FAO, 2002). The last two are especially abundant in liver which, together with certain other organs is rich in vitamin A and supplies appreciable amounts of vitamins D, E and K. Meats are excellent sources of some of the minerals, such as iron, copper, zinc and manganese, and play an important role in the prevention of zinc deficiency, and particularly of iron deficiency which is widespread (FAO, 2002).

There are issues associated with consumption of large quantities of meat and having an unbalanced diet. Issues such as coronary disease and cholesterol are well known effects of eating an unbalanced diet of large quantities of red meat (FAO, 2002).

Income earned from the red meat industry can also be used to purchase food goods in order to be more food secure as well.

8.9 Regulatory Requirements

There are numerous legislation documents governing the production of red meat. These range from regulations as to the production inputs (National Water Act), to those governing production (Meat Safety Act) and to production standards and consumption. The most pertinent of the acts are contained in Table 8.11. It is extremely important to acknowledge the available legislature and policies as the Agri-Park must follow the rule of law as set out by the relevant departments. It will align itself to the legislature that is published.

Table 8.11: Red Meat Governing Legislation

Act	Description
The Meat Safety Act, 2000 (Act No. 40 of 2000)	<p>The abattoir is responsible for the conversion of livestock to meat. The process remains critical to ensure a safe and wholesome product reaches the consumer. The Meat Safety Act addresses measures to promote the safety of meat and animal products and to establish and maintain essential national standards in respect of abattoirs.</p> <p>Red meat regulations regulate processes and procedures under the Meat Safety Act.</p>
Animal Health Act, 2002 (Act No. 7 of 2002)	To provide for measure to promote animal health and to control animal diseases; to assign executive authority with regard to certain provisions of this Act to provinces; to regulate the importation and exportation of animals; to establish health schemes; and to provide for matters connected therewith.
Animals Protection Act, 1962 (Act No. 71 of 1962)	The act encompasses the prevention of cruelty towards animals. The act further encompasses the code of best practices for the handling and transport of livestock.
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947)	The act provides for the appointment of a Registrar of Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies; for the registration of fertilizers, farm feeds, agricultural remedies, stock remedies, sterilizing plants and pest control operators; to regulate or prohibit the importation, sale, acquisition, disposal or use of fertilizers, farm feeds, agricultural remedies and stock remedies; to provide for the designation of technical advisers and analysts; and to provide for matters incidental thereto.
National Water Act, 1998 (Act No.36 of 1998)	This act encompasses laws relating to water resources and the use thereof.
Occupational Health and Safety Act, 1993 (Act No.85 of 1993)	The act aims to provide for the health and safety of persons at work and the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.
Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983)	The act encompasses those regulations associated with fair labour practices.
Municipal By-Laws and Regulations, where relevant	Municipal by-laws will need to be investigated with regard to the establishment of the abattoir in a municipal area.
Marketing Act, 1968 (Act No. 59 of 1968)	The Act has authorised an establishment and enforcement of regulatory measures to intervene in the marketing of agricultural products, including the introduction of levies on agricultural products.
Agricultural Products Standards Act, 1990 (Act No. 119 of 1990)	The act controls and promotes specific product standards from mainly a quality point of view for local as well as export purposes. A list of

Act	Description
	products for which standards have been set through regulations is promulgated under the act by the minister of agriculture.
Stock Theft Act, 1959 (Act No. 57 of 1959)	This Act encompasses those laws associated with the theft of animal stock and produce.
Consumer Protection Act (Act No68 of 2008)	To promote a fair, accessible and sustainable marketplace for consumer products and services and for that purpose establish national standards relating to consumer protection.

8.10 Substitute Products and Services

Substitutes are products that can replace the product that is grown or produced. In the red meat value chain various products can be replaced. Red meat is often substituted by white meat products. This has increased as a result of the growth in popularity in white meat and the perceived benefits of white meat over red meat (FAO, 2014). Chicken and pork is often also eaten more as they are a cheaper source of protein compared to red meat. Some groups do not eat red meat at all and substitute red meat with vegetable rich diets and with soy based alternatives such as soya-mince (FAO, 2014).

Products such as leather and hides have been increasingly replaced by cheaper plastic based textiles. Leather has increasingly been used as a luxury item for textiles and the clothing industry (FAO, 2014).

8.11 Red Meat Barriers to Entry

Barriers to entry are obstacles that make entry into a given market difficult such as regulations, high infrastructure costs or competition in the given area. This section will discuss the barriers to entry of the red meat industry. The table below may provide some indications as the barriers that are faced by emerging farmers in the Agri-Park.

Table 8.12 Barriers to entry: Red Meat

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
CAPITAL, RAW MATERIALS AND PRODUCTION ISSUES		
Poor carrying capacity	In many parts of the district the natural carrying capacity of the veld has been reduced due to unsound grazing practices (mainly overstocking).	-
Input Costs	There has been an upward trend in input costs, over the last several years particularly feed and electricity. This has an adverse impact on farmers bottom-line.	-
Stock Theft	The theft of stock is an ongoing challenge for both commercial and emerging/small scale farmers.	Provincial, District
Start-up costs	There is a high capital cost associated with setting up fixed structures, installing requisite technology and also the financing of the first production and the initial stock of weaners	-
Poor breeding stock amongst emerging farmers	Poor quality breeding stock and a lack of quality weaners amongst emerging and small scale farmers means that they are not able to improve the overall level of their herd which in turn negatively impacts profits.	Provincial, District

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
Disease and high mortality rates	The expansion of game farming in the Eastern Cape has resulted in the spread of diseases that affect sheep and goats. Sheep must be dipped regularly to avoid catching diseases. Due to a lack of technical skills, emerging and traditional farmers especially have problems with disease and mortality rates.	Provincial
Availability of land for farming	There are good opportunities for sheep and goat production, however limited land availability. Sheep farming has to compete with ostrich, cattle, and goat farming for production space. The costs and returns on each should be considered sufficiently before engaging in any of the options.	Provincial
INFRASTRUCTURE		
Roads	The poor road network and lack of connectivity within the district hampers the cattle industry, particularly given that animals have to be transported out of the area for finishing.	Provincial, District
Fencing	The lack of fencing leads to an increased incidence of stock losses, theft and poorer quality products. The provincial government does have a programme in place to address the issue of fencing; however the resources of the Department of Agriculture are spread amongst a number of priority areas and are limited.	Provincial, District
COMPETITION AND ACCESS TO MARKETS		
Consumer preference	Red meat production faces stiff competition from poultry meat; per capita consumption in this sector is not rising as fast as in the poultry sector. Within the sector, pork production and consumption are generally growing faster than beef and lamb.	National
International (SADC) competition	Increasing competition from Southern African Development Community (SADC) and international producers with comparative advantage due to subsidies.	-
Compliance with international standards	Meeting international standards of sanitary and quality (especially proving that South Africa does meet the required standards). In short, the challenge is lack of a traceability system and a national quality assurance scheme.	Provincial
Popularity of chevon	Chevon is not as popular as beef or chicken amongst South African consumers which means that it has difficulty in finding a large domestic consumer base. It is a popular export, but the Eastern Cape currently does not contribute.	National

Source: Urban Econ, 2015

8.12 Societal and Cultural Trends

Beef cattle production remains spatially important and is a multifunctional livelihood strategy in rural South Africa. This is especially true in marginal and remote areas with poor agricultural lands and minimal economic opportunities.

It has been estimated that 5.6 million cattle (40 % of the total cattle population) are owned by 240 000 small-scale farmers and 3 million subsistence farmers. For the livelihoods of these small-scale producers, cattle farming has multiple functions. Non-commercial motives include economic functions (e.g. wealth storage), agro-economic functions (e.g. provision of draught power), agro-ecological functions (e.g. provision of manure), nutritional (e.g. provision of milk for infants) and socio-cultural functions (e.g. dowry) (Ndoro et al., 2014).

The sustainability of cattle-based livelihoods, however, is threatened by the competition for natural resources such as land and water, and decreasing grazing areas. Despite this, cattle production has increased by a million from 1994 to 2004 (Republic of South Africa, 2011). The increase owes to recent developments in breeding, nutrition and animal health that has contributed to potential production, efficiency and genetic gains (Ndoro et al., 2014).

Goats have long been seen as a culturally important animal in southern Africa. They are specifically used as ceremonial animals and have various connotations attached to them based on different cultural groups. Goats also have a negative connotation with consumers based on various cultural backgrounds (Roets, 2014). The goat is seen by consumers to represent cultural and traditional practices and is not eaten unless for a specific ceremony. Today these perceptions are changing but at a slow pace (Roets, 2014). Goat meat consumption is far more acceptable outside of South Africa. Thus goats and goat meat products may be difficult to sell to local consumers in South Africa.

The reason for the lack of awareness of goat consumption stems from multiple sources including the lack of research into goats during apartheid (Roets, 2014). Other livestock such as sheep and cattle were far more researched and studied. Research that was completed was not done in conjunction with commercial farmers which led to slow adoption of new farming practices. For the cultural aspects of goat's weight, milk, or meat production quality may not be as important as the goat itself, its colour, sex, or the use to which it will be put traditionally (Roets, 2014).

8.13 SWOT

A SWOT analysis is an examination of the strengths, weaknesses, opportunities and threats of the red meat industry in the Sarah Baartman District. The strengths and weaknesses refers to internal positive and negative factors affecting the growth of the industry; whereas threats and opportunities refer to the external factors affecting the commodity.

8.13.1 Strengths

Biophysical

- The eastern portions of the SBDM exhibit good temperatures for rearing of livestock
- The land is capable of carrying livestock used in red meat production
- Local breeds of cattle goats and sheep are more resilient to many common diseases and droughts and are suitable for small and emerging farmers

Enterprise Viability

- The main beef farming area is along the N10 and has good connectivity to major markets in Nelson Mandela Bay
- Red meat has a fairly open market structure and small and emerging farmers can easily sell their meat to local buyers of the product

- Red meat is a fairly profitable endeavour and can be very profitable for an emerging farmer
- The area is known for red meat farming and thus there is already knowledge and familiarity
- Finance for this commodity would be fairly easily available
- Payback period for mutton, lamb and chevon is fairly low and income can be generated in a season
- Infrastructure requirements are relatively small for new livestock farmers

Economic Development

- Karoo lamb and mutton is a known brand throughout the world for its quality and thus the brand is a strength of the red meat market
- All livestock classes contribute to the reduction on the reliance of imported meats into the District
- Indirect and induced job creation for red meat is fairly high as there are many impacts on employment in the local economy

Political and Social

- Government departments and the SBDM are already active in supporting commercial and emerging farmers in the area
- State and communal land is already being used for projects run by the government
- Livestock farming is highly suitable for communities and emerging farmers
- Livestock farming contributes greatly to food security in the SBDM and Eastern Cape as a whole
- Local breeds of animals should make the project more acceptable and more resilient thus it will be sustainable in the long run

8.13.2 Weaknesses

Biophysical

- The area is prone to drought and water shortages
- Introduction of game has brought new diseases into the area

Enterprise Viability

- The main goat and sheep farming areas have poor connectivity and poor internal roads
- These areas under sheep and goat production are located fairly far away from the main markets
- Current demand for chevon meat is very low locally
- The payback period for beef is longer than that of chevon, mutton or lamb

Economic Development

- On-farm job creation for cattle and goat farming is very limited. There are not many opportunities for employment
- The jobs that are on offer are relatively low skilled and do not contribute significantly to skills development.
- Cattle and goat farming do not contribute significantly to the local GDP

Political and Social

- Suitable state land is not readily available throughout the District and may be an issue if there is a will to expand the red meat industry in the area

8.13.3 Opportunities

Biophysical

- The suitability of the land area gives opportunities to expand the red meat industry at an emerging or commercial scale

Enterprise Viability

- Current demand for red meat is fairly high and has outstripped production in the local markets

- The future market growth potential is expected to be higher than current figures so there is an opportunity to expand red meat production
- Emerging farmers should be able to access funding for red meat relatively easily
- There are opportunities to expand the fat lamb industry as there is currently a gap in the market
- National shortage of 340 000 head of cattle
- Shortage of feedlots and finishing lots in the District which can be exploited by emerging farmers
- Opportunity for farmers to change from rearing traditional cattle breeds, to local indigenous breeds such as Nguni or Bonsmara
- Long term opportunity for SMME hide processing (tanneries) for the automotive industry

Economic Development

- Good opportunities exist for agglomeration in the District specifically for emerging owners to enter the SBDM red meat market
- Opportunities exist for the expansion of agro-processing at a district level through initiatives such as packaging, rendering, etc.

Political and Social

- Increased potential for emerging farmers to compete in the agricultural sector
- Increased opportunity for private public partnerships in the agricultural sector

8.13.4 Threats

Biophysical

- The threat of new diseases brought in by the game industry is ever present. The Eastern Cape has a history of disease among livestock
- Climate change poses a significant threat to the agriculture sector particularly in terms of rainfall and access to water
- Carrying capacity of the land has been reduced due to poor farming practices (mainly overstocking)
- Poor quality breeding stock and a lack of quality weaners amongst emerging and small scale farmers means that they are not able to improve the overall level of their herd which in turn negatively impacts profits.

Enterprise Viability

- There has been an upward trend in input costs, over the last several years particularly feed and electricity. This has an adverse impact on farmers bottom-line.
- There is a high capital cost associated with setting up fixed structures, installing requisite technology and also the financing of the first production and the initial stock of weaners

Economic Development

- The poor road network and lack of connectivity within the district hampers the red meat industry, particularly given that animals have to be transported out of the area for finishing.
- Red meat production faces stiff competition from poultry meat; per capita consumption in this sector is not rising as fast as in the poultry sector. Within the sector, pork production and consumption are generally growing faster than beef and lamb.
- Increasing competition from Southern African Development Community (SADC) and international producers with comparative advantage due to subsidies.
- Meeting international standards of sanitary and quality (especially proving that South Africa does meet the required standards). In short, the challenge is lack of a traceability system and a national quality assurance scheme.

Political and Social

- The theft of stock is an ongoing challenge for both commercial and emerging/small scale farmers.

Vegetables

Chapter 9

9. VEGETABLES

9.1 Market Analysis

This section deals with vegetables which was selected through the prioritisation matrix. It discusses the global production, value chain and Sarah Baartman examples of vegetable farms. Vegetables are produced in most parts of the country. However, in certain areas farmers tend to concentrate on specific crops; for example, green beans are grown mainly in Kaapmuiden, Marble Hall and Tzaneen, green peas mainly in George and Vaalharts, onions mainly in Caledon, Pretoria and Brits, and asparagus mainly in Krugersdorp and Ficksburg regions.

9.1.1 Production

The production of vegetables in South Africa for the period 2009/10 to 2013/14 compares as summarised in Table 9.1.

Table 9.1: Production volumes of vegetable types

Year July to June	2009/10	2010/11	2011/12	2012/13	2013/14
	'000 tons				
Potatoes	1 955	2 165	2 205	2 202	2 193
Tomatoes	575	523	545	527	525
Pumpkins	234	237	244	247	245
Green mealies	339	340	347	361	362
Onions	489	563	625	596	592
Sweet potatoes	60	63	55	57	69
Green peas	17	12	8	11	12
Beetroot	67	62	66	68	61
Cauliflower	25	16	16	14	12
Cabbage and red cabbage	141	153	141	136	145
Carrots	151	152	178	183	184
Green beans	23	25	25	24	19
Other	400	406	421	420	416
Total	4 476	4 717	4 876	4 846	4 835

Source: Abstract of Agricultural Statistics, 2015

From 2012/13 to 2013/14 (July–June), the total production of vegetables decreased by 0.22%, from approximately 4 846 000 tons to 4 835 000 tons. Concerning the major vegetable types in terms of volumes produced, the production of green mealies rose slightly from approximately 361 000 tons to 362 000 tons and sweet potato's increased by approximately 12 000 tons or 21.2%. Most of the vegetable crops, however, decreased over the period.

Relative importance of major vegetable types:

The relative importance of the major vegetable types, according to gross value of production, during the 2013/14 season, is depicted in Table 9.2:

Table 9.2: Relative importance of vegetable types

Rank	Product	% Share
1	Potatoes	42%
2	Tomatoes	16%
3	Cabbages	13%
4	Onions	4%
5	Pumpkins	3%
6	Carrots	3%
7	Gem squashes	2%
8	Sweet potatoes	1%
9	Cauliflower	1%
10	Green beans	1%

Source: Abstract of Agricultural Statistics, 2015

Table 9.2 indicates that potatoes are clearly a vegetable of high relative importance, with an approximate gross value of production equal to 42% of the total for vegetables. Tomatoes and onions are the also important vegetable crops with a combined gross value of 29%.

The relative importance of the major vegetable types, according to gross value of production, during the 2013/14 season, is depicted in Table 9.3

Table 9.3: Relative importance of vegetable types (excluding Potatoes)

Rank	Product	% Share
1	Tomatoes	28%
2	Cabbages	23%
3	Onions	7%
4	Pumpkins	5%
5	Carrots	5%
6	Gem squashes	3%
7	Sweet potatoes	2%
8	Cauliflower	2%
9	Green beans	2%
10	Hubbard squashes	2%

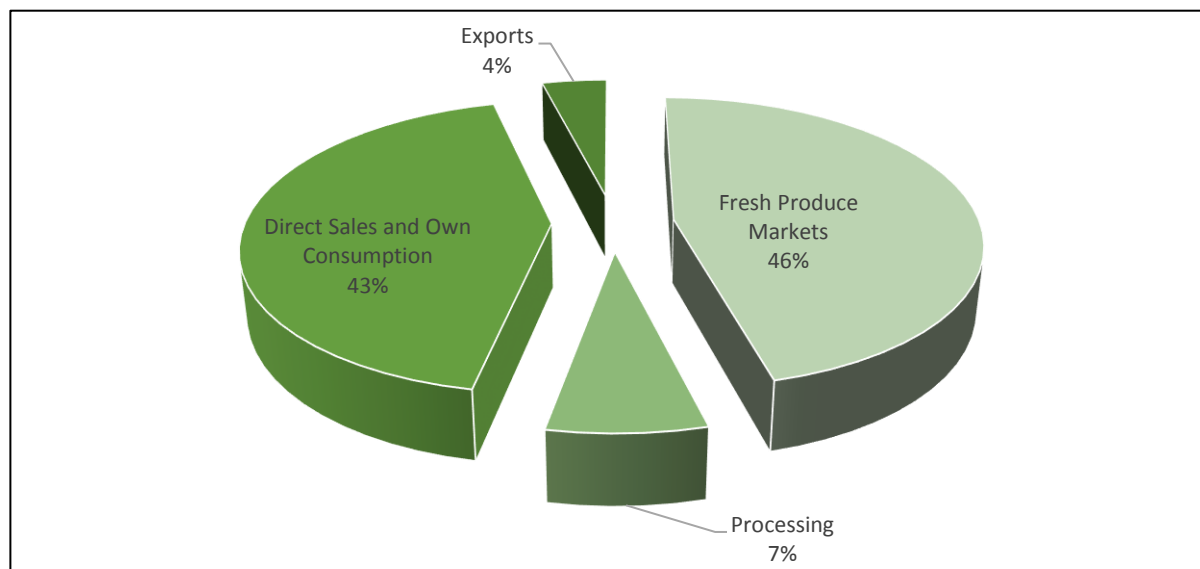
Source: Abstract of Agricultural Statistics, 2015

Table 9.3 indicates that tomatoes and onions are clearly a vegetable of high relative importance, with an approximate gross value of production equal to 51% of the total for vegetables when potatoes are excluded. Squashes, such as butternut and pumpkins, and also cabbages are also important crops with over 10% of the production.

9.1.2 Distribution channels

Figure 9.1 indicates the volume of vegetables that are traded through various distribution channels that are available to farmers.

Figure 9.1: Distribution channels for vegetables



Source: Abstract of Agricultural Studies, 2015

It is clear from Figure 9.1 that approximately 46% of the volume of vegetables produced is traded on the major fresh produce markets. The total volume of vegetables sold on these markets during 2014 amounted to 2 293.6 thousand tons, compared to the 2 107.8 thousand tons that sold during 2010, an increase of approximately 9%.

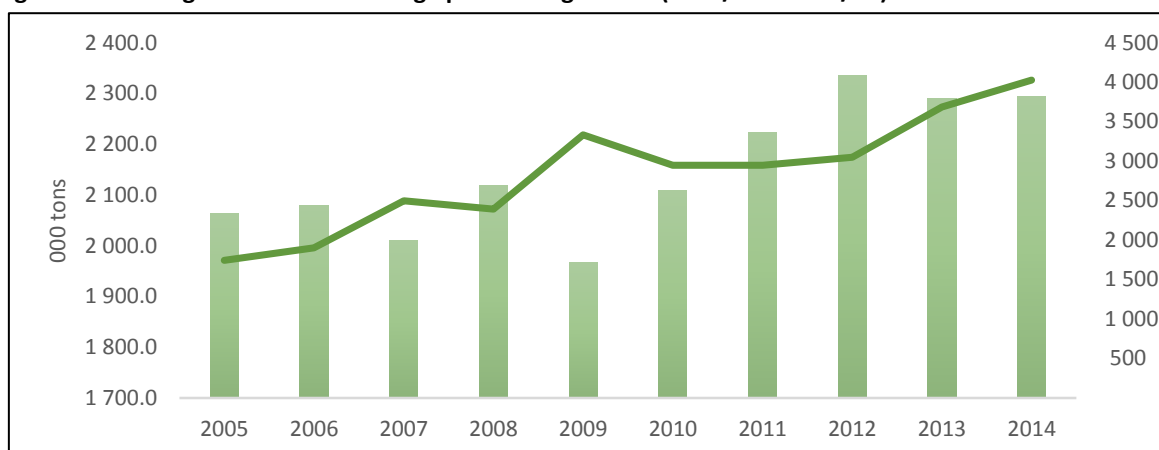
Table 9.4: Quantity of important vegetables sold on the major fresh produce markets

Year	2010	2011	2012	2013	2014
Total ('000 tons)	2 107.8	2 222.1	2 334.4	2 290.2	2 293.6

Source: Abstract of Agricultural Statistics, 2015

The values of sales of vegetables on the major South African fresh produce markets for the period 2008/09 to 2012/13 are as follows:

Figure 9.2: Average volume and average price of vegetables (2005/06 – 2013/14)



Source: Abstract of Agricultural Statistics, 2015

9.1.3 Prices

The average prices of vegetables realised on the fresh produce markets for the period 2008/09 to 2012/13 were as follows (Table 9.5):

Table 9.5: Average price of vegetable types

Product	2011	2012	2013	2014	Average Price Increase (%)
	R/ton				
Potatoes	2 591	2 645	3 379	3 428	10%
Tomatoes	4 339	4 407	4 847	6 082	12%
Cabbages	1 516	1 772	2 109	2 180	13%
Onions	2 221	2 587	3 433	3 334	15%
Pumpkins	1 675	1 617	2 156	2 128	10%
Carrots	2 815	2 633	3 154	3 644	10%
Gem squashes	2 615	2 702	2 666	3 248	8%
Sweet potatoes	2 995	3 636	2 798	3 724	10%
Cauliflower	4 145	4 960	5 066	8 380	29%
Green beans	6 572	6 815	7 263	8 454	9%
Hubbard squashes	1 880	1 844	1 954	2 283	7%
Beetroot	2 821	2 365	3 858	4 335	20%
Cucumbers	5 862	7 337	7 320	8 487	14%
Lettuce	4 263	4 828	4 573	5 508	9%
Green peas	21 035	27 516	23 923	37 621	25%
Green mealies	9 471	11 409	8 344	13 089	17%
Marrows	8 575	7 648	9 085	10 718	9%
Turnips	3 651	2 728	3 527	4 052	6%
Butternut squashes	2 420	2 408	2 871	3 227	10%
All vegetables	2 944	3 047	3 683	4 024	11%

Source: Abstract of Agricultural Statistics, 2015

Table 9.5 indicates that, on average, prices of vegetables have increased by 11% annually between 2011 and 2014. Of the vegetables above, cauliflower, beetroot, and green peas increased the most over the period, with increases of 29%, 20% and 25% respectively.

Households participating in vegetable production

According to the agricultural census survey conducted in 2011, a total of 1 123 520 households are involved on the production of vegetables. The summary of findings are summarised in Table 9.6 below.

Table 9.6: Number of agricultural households in a specific activity by province

Province	Livestock Production	Poultry Production	Vegetable Production	Production of other crops	Fodder/ grazing production	Other
Western Cape	28,334	29,176	39,337	22,725	16,516	23,804

Eastern Cape	330,354	334,665	246,412	99,052	24,335	33,493
Northern Cape	28,040	25,853	9,334	11,324	4,518	5,415
Free State	45,207	51,414	106,809	63,193	11,106	13,811
KwaZulu-Natal	268,656	356,881	340,743	109,580	27,393	45,715
North West	88,633	117,453	36,620	42,923	16,013	25,301
Gauteng	62,047	82,403	147,870	89,167	50,650	78,847
Mpumalanga	72,896	127,759	91,214	59,885	11,439	20,595
Limpopo	172,683	173,681	105,181	161,888	13,995	31,067
South Africa	1,096,850	1,299,285	1,123,520	659,737	175,965	278,048

Source: Abstract of Agricultural Statistics, 2015

Table 9.6 suggests that KwaZulu-Natal has the largest number (30%) of households involved in vegetable production, followed by Eastern Cape (22%) and Gauteng (13%). Gauteng has approximately 147 870 households that are involved in vegetable production. Table 9.7 summarises gender of household heads of the vegetable producers.

Table 9.7: Number of agricultural households in vegetable production by sex of household head and province

Province	Male	Female	Total
Western Cape	11,618	27,719	39,337
Eastern Cape	132,952	113,460	246,412
Northern Cape	3,370	5,963	9,333
Free State	50,914	55,895	106,809
KwaZulu-Natal	184,361	156,381	340,742
North West	12,869	23,750	36,619
Gauteng	51,082	96,788	147,870
Mpumalanga	41,581	49,633	91,214
Limpopo	52,159	53,021	105,180
South Africa	540,906	582,610	540,906

Source: Abstract of Agricultural Statistics, 2015

Table 9.7 indicates that, overall, 70% of the households involved in vegetable production are headed by female members. Limpopo has an even split of male and female household heads, while Western Cape has the highest number of households lead by women in vegetable production. Within Gauteng 65% of the households are female headed households.

9.1.4 Consumption

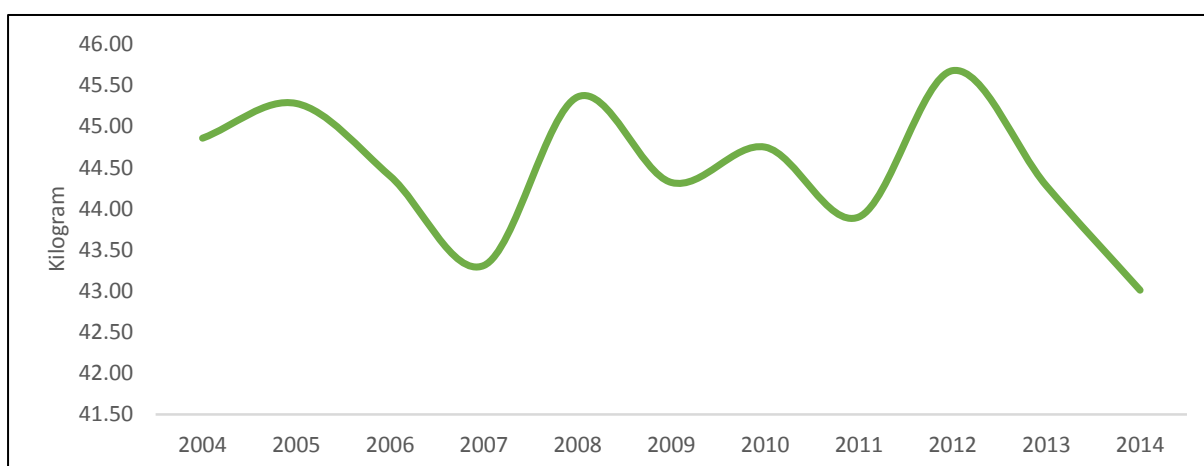
The importance of vegetables in a healthy diet is being strongly promoted by all the stakeholders in the fresh produce marketing chain. The per capita consumption of fresh vegetables was 43.01kg during 2014, approximately 2.8% lower than the previous year. Table 9.8 summarises consumption of vegetables (excluding potatoes) between 2010 and 2014.

Table 9.8: Per capita consumption

Year	2010	2011	2012	2013	2014
Vegetables (potatoes excluded) (Kg/Year)	44.75	43.90	45.68	44.28	43.01

Source: Abstract of Agricultural Statistics, 2015

Per capita consumption of vegetables has remained relatively stable over the last 10 years, ranging between 43.01kg per year to 45.68kg per year. Figure 9.3 illustrates the fluctuations in per capita consumption of vegetables between 2004 and 2014.

Figure 9.3: Per Capita Consumption Trend

Source: Abstract of Agricultural Statistics, 2015

Consumption patterns with respect to vegetable have remained predominantly stable at just over 40kg per capita within South Africa. Fluctuations in per capita consumption figures may vary due to population figures as well as production figures for the year in question.

9.1.5 Vegetable Production in Sarah Baartman

Various variety of vegetables are produced in the Sarah Baartman District with varying degrees of success. The largest vegetable variety that is produced is the potato. Other varieties produced include cabbages, carrot, spinach and onions.

Potato production is confined to the eastern parts of the Sarah Baartman District Municipality, with the Kouga and Kou-Kamma Local Municipalities, and parts of the Baviaans and Makana Local Municipalities being best suited for production. Potatoes are bought, or produced, in a seed format before planting. The crop requires the loamy soil with good mineral content and water retention, good water management and accurate measurement of atmospheric conditions to ensure good harvests. After harvesting, potatoes are sent to various value adding facilities.

In some of these facilities, potatoes are washed, processed and packaged for retail consumption, in others they are sold directly to fresh produce markets or informal traders. Processed potatoes are more popular in the hospitality and caterers industry, (particularly potato wedges and chips), and form the basis of many restaurants and catering companies' menus. Currently, the Sarah Baartman District Municipality does not produce seeds, process potatoes, nor export any of its production to international markets. Production in the Sarah Baartman District is on the decline due to poor crop rotation capabilities, and attractiveness of the citrus sector.

The municipality has shortlisted farms for future development of the vegetable industry. The Table 9.9 indicates the farms, the total extent of production and the area to be developed in the future. These farms are planned to be integrated into the Agri-Hub located in Addo.

Table 9.9: Vegetable Projects

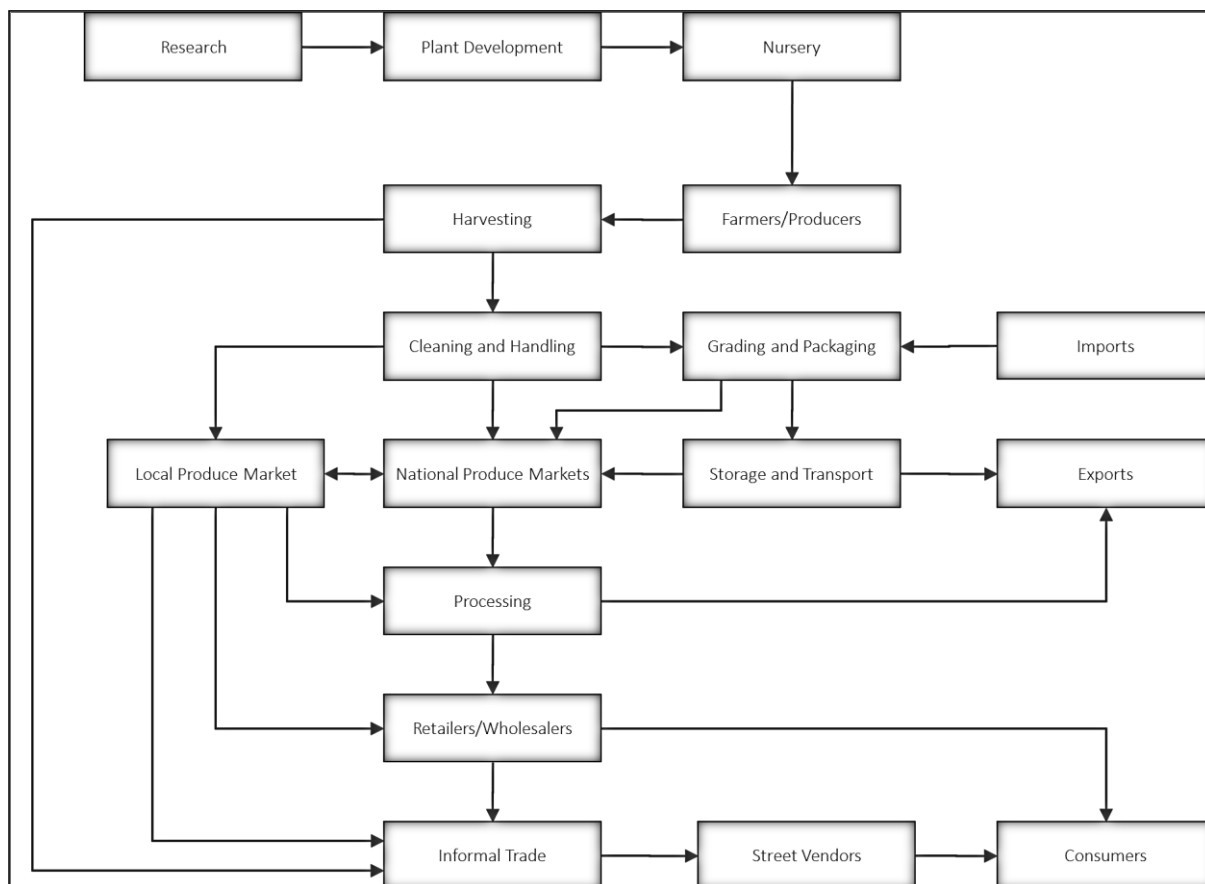
Farm Name	Total Extent (Ha)	Ha Under Production	Tunnels	Ha To Be Developed	Land tenure
Vukaphile Farm	6	0		3	Municipal
Cleveland Farm	8	0	6(30mX14m)	3	Private
KK113					Municipal
Santa Clara					
Enon Besheba	10200	0		120	
Total	10213	0	6	126	-

Source: DRDAR, 2015

9.2 Vegetable Value Chain Assessment

The following section will discuss the vegetable value chain in which upstream and downstream activities will be analysed.

Figure 9.4: Vegetable Value Chain



Source: Urban Econ, 2015

Upstream activities

As vegetable production is classified as primary production the upstream activities relevant to the value chain are primarily the input supplies used in the production system. The major inputs for vegetable production include seedlings, fertilizing, weed, pest and disease control, irrigation equipment, machinery equipment as well as knowledge. Most of these inputs are supplied by Agricultural Co-operatives in the respective areas. The Eastern Cape Province has three major Agricultural Co-operatives namely:

- OVK – TRADE
- Humansdorp Ko-op
- East Cape Agri – Co-op Ltd / BKB LTD

Primary production activities

The vegetable industry of South Africa accounts for nearly one-third of total gross farm income in the country. There are 17 major fresh produce markets throughout South Africa, the largest being the Johannesburg Fresh Produce Market (JFPM) which comprises a 34% market share with a total turnover of nearly 900,000 tons valued at over R2.0 billion in 2006 (NAMC Section 7 Report, 2006). In 2007, tomato volumes sold at the JFPM were 107 000 tonnes (JFPM Statistics, 2008) at a value of over R300 million. Potatoes, onions, and cabbages are the other major vegetables sold nationwide. Between 2005 and 2006, gross income from vegetable products increased by 1.3%, from R20 388million to R20 648 million. Income from vegetable production rose by 13.9% to R7 229

million. In general, the South African vegetable industry is growing in both quantities produced and prices received.

In 2005-2007, total production of vegetables produced were 2 157 579 tons. Production of major vegetables such as tomatoes, potatoes, onion and carrots increased annually for vegetables and approximately 56% of potatoes produced in South Africa are traded on the fresh produce markets. The total volume of vegetables and potatoes sold on these markets during 2006/07 amounted to 1 119 646 tons and 950 000 tons respectively. The per capita consumption of fresh vegetables was 38, 74 kg during 2006/07, approximately 4.7% lower than the 40, 64 kg of 2006/06. The promotion of a healthy diet by various stakeholders in fresh produce could be attributed to high consumption of fresh products. The total gross human consumption of potatoes during 2006 is 1.58 million tons and the per capita consumption estimated at 33 kg per annum.

Using the gross farm income for vegetable production as a ranking yardstick, the most important district municipalities in Eastern Cape are Amathole, Sarah Baartman, and Chris Hani, generating R6.5 million, R4.8 million, R3.5 million and R1.3 million respectively to the gross farm income of the province (Table 1-a; 1-b). In this province, the gross farm income from vegetables runs into millions in all district municipalities except for Alfred Nzo and OR Tambo. Vegetables mainly produced are potatoes and tomatoes each contributing to a provincial gross farm income of R9.5 million and R4.3 million respectively.

Downstream activities

Agro-processing opportunities

Harvesting, handling, washing, trimming, grading, packing, packaging, labelling and transporting are all important practices aimed at preserving the quality of the produce, and presenting it to the best advantage. Prices achieved, and thus differences in income obtained, can be greatly affected by the emphasis placed on these practices. They must, therefore, be considered as important elements in the marketing strategy.

Most commercial producers consider only one or two of the major national markets as marketing outlets, to the exclusion of all other possibilities. The larger producers will supply even some of the far-distant national markets, provided better prices prevail there. Nationally linked information networks can supply daily prices to producers. These national markets, in all the big centres, must remain the major outlets for many of the large vegetable growers, because of the scale of their operations, but even these growers should investigate other possibilities. Smaller producers may possibly be able to dispose of the bulk of their produce more profitably through outlets other than the national markets. Outlets to consider are:

- Direct sales to hawkers or consumers on the farm. Savings may be made on packaging, agents' fees, market commission and transport and so on.
- Farm stalls. Savings as above, but require suitable reliable staff.
- Direct sales to wholesalers, retailers, consumer groups or individual consumers. Delivery costs may be disproportionately high for small consignments.
- Small municipal markets or farmers' markets. Usually not very different to the national markets, more easily glutted, and lower throughput.
- Export.

Critical points are the generally high quality specifications, chemical residue tolerances, possible pre-chilling or cooling requirements, specific packaging requirements, high transport costs (particularly air transport), the prevailing demand for the product and expected prices, specific market needs, sales agents, and so on.

Processing companies cannot compete with the premium prices paid for out-of-season produce, but are usually highly competitive with prices in peak season. However, some processing, or value-added practices, such as

pre-packing of certain crops, could be done on the farm. Special markets might need to be developed for such products

Significant Points of Sale for Vegetables produced are listed below:

- Fresh Produce Markets
- Prisons and school feeding schemes
- Retailers
- Significant informal trade
- Significant Marketing Considerations of Vegetables produced are:
 - Size of outlet, and cost of servicing it.
 - Transport availability and cost. Distances, which affects cost, as well as deterioration of the product. Condition of the roads.
 - Packaging required, e.g. pre-packs, cartons, boxes, pockets and their relative costs in relation to prices attained.
 - Market or consumer preferences.
 - Product quality or specifications.
 - Contact person or agents.
 - Seasonal price trends.
 - Market commission and agents' fees.
 - Possible delays in payment for consignments.
 - Various other possible requirements for the specified outlet.

Approximately 46% of the volume of vegetables in South Africa is traded on the major fresh produce markets and 43% are direct sales and for own consumption. Roughly 7% are destined for processing.

The Global Fruit and Vegetables Processing industry includes all businesses that alter fresh fruit or vegetables to create a higher, valued-added food product for human consumption.

Even though Fresh Vegetables poses stiff competition for Frozen Vegetables the latter experiences major growth due to the increase of the global urban population, which has less access to fresh fruits and vegetables than rural populations .

According to IBISWorld (2015), "Sales of frozen fruit and vegetables represent the Global Fruit and Vegetables industry's second most important source of revenue, accounting for an estimated 36.0% of revenue. Within this segment, frozen potatoes, the popularity of which is growing across the world, account for the most important specific product type. Other popular frozen vegetables are peas, carrots, beans and vegetable mixes for stir-fries. In the developed nations of the Organisation for Economic Co-operation and Development (OECD), consumers have become more health consciousness and increasingly time-poor, which has driven demand in these countries for frozen fruit and vegetable products. In the developing world, the expansion of middle-classes has led to increased durable good ownership rates. This includes expanded freezer ownership, which are necessary for storing frozen fruits and vegetables. As a result, economic growth and rising incomes have led to expanding demand for products within this segment from the developing world. As a result of this widespread increase in global demand for products within this segment, this product segment has expanded as a share of overall industry revenue over the past five years".

This phenomenon is underlined by the growth of frozen vegetables exports that worldwide grew with 37% from 2005 to 2014 and with 23% for dried vegetables over the same period.

The development of sustainable supply and value chains in the vegetable sector from production through processing to markets, where there are unequal power relationships between large retailers/wholesalers and agro processors, and primary vegetable producers is a constraint. Producers are vulnerable to demand volatility and price fluctuations and are "price takers" because of the buyers' market power. The major vegetable processing players in South Africa are:

1. Fresh
2. Canning and Pickling
 - Rhodes
 - Langeberg Food Processors Ltd
 - Giants Canning - Everyday
 - Koo
 - All Gold
 - SA Fruit & Vegetable Canners' Association (SAFVCA)
3. Frozen
 - McCain Foods SA
 - Just Veggies
 - Nature's Choice Products
 - Lamberts Bay Foods
 - Tender Harvest
 - Findus Foods
4. Slice and Dice
 - Retailers own products
 - Drying & Dehydration
 - Just Veggies
 - Carbocraft (Pty)Ltd

9.3 Stakeholders

Vegetable associations are largely based off of what commodity is grown by the farmers such as potatoes (Potatoes South Africa) and onions (Onion Producers' Organisation). Industry specific organisations assist farmers growing those crops in providing information on the markets and recent developments in the industry. They provide valuable support networks which farmers can take advantage of in order to solve problems or further expand their business. Other general stakeholders are provided in the table below. It is important to consider the buy-in of the relevant stakeholders into the Agri-Park as they can provide skills, expertise and advice to emerging farmers.

Table 9.10: Vegetable Stakeholders

Stakeholder	Description
The South African Society of Crop Production	The SASCP is a science-based organisation which provides leadership in crop science to promote training, research and technology transfer involving all crops.
South African Fruit and Vegetable Canners Association	SAFVCA was founded in January 1954 with 20 members representing the 3 main industry sectors with regards to Deciduous Fruit, Pineapple, Vegetables and Tomatoes. The Association is a voluntary grouping of fruit and vegetable canning industry members and its mission is to protect and promote their interests and provide its members with synergistic services of value.

Stakeholder	Description
Potatoes South Africa	Potatoes South Africa is an association incorporated under the South African Companies Act No 71 of 2008 whose main objective is to serve, protect and promote the interests of the South African potato industry. In terms of its role in the potato industry, Potatoes South Africa operates as an organisation and its structure represents a network of participating role players and individuals.
Onion Producers' Organisation	OPO is an association whose main objective is to serve, protect and promote the interests of the South African onion industry.
Consumer Goods Council of South Africa	The Consumer Goods Council of South Africa (CGCSA) is a member organisation that acts as the representative body of the entire consumer goods industry. Established in 2002, the CGCSA has more than 12 000 member companies across the consumer goods value chain – including the retail, wholesale and manufacturing sectors.

9.4 Technology

Technology is an important aspect to consider in the Agri-Park. Despite the increasing mechanisation of agriculture and decrease in reliance on manual labour, it is important to strike a balance of mechanisation and job creation which improves skills and creates meaningful jobs.

It will vitally important to acquire the correct equipment needed to create a successful Agri-Park. To produce vegetables various equipment will be needed such as tractors, trailers, ploughs, planters (seeds), irrigation, fencing, basic farming implements (spades, hoes etc.) and trucks or LDVs for transporting goods.

Recent developments in farming will have to be considered in order for any farming activity to be competitive in the future. Three such changes have occurred in the vegetable industry: hydroponic tunnels, vertical farming and multi-layered farming.

Hydroponic Agriculture

Hydroponic agriculture is a system where plants are grown in growth media other than natural soil. All the nutrients are dissolved in the irrigation water and are supplied at a regular basis to plants. In a South African context hydroponic systems are always grown under protection (ARC, 2015). The advantages of such a system are numerous namely;

- Hydroponically produced vegetables can be of high quality and need little washing.
- Soil preparation and weeding is reduced or eliminated.
- It is possible to produce very high yields of vegetables on a small area because an environment optimal for plant growth is created. All the nutrients and water that the plants need, are available at all times.
- Soil quality is of limited importance.
- Water is used efficiently.
- Pollution of soil with unused nutrients is greatly reduced (ARC, 2015)

Some of the disadvantages however, include;

- Hydroponic production is management, capital and labour intensive.
- A high level of expertise is required.
- Daily attention is necessary.
- Specially formulated, soluble nutrients must always be used.

- Pests and diseases remain a big risk.
- Finding a market can be a problem (ARC, 2015).

Vertical Farming

Similarly to hydroponic agriculture is the idea of vertical farming. Vertical farming is the act of growing plants using hydroponics but stacked vertically on top of each other (AVF, 2015). It utilises LED lights to simulate sunlight and thus can be placed in doors in old buildings and underutilised spaces. Crops can grow 40% faster than in a field and often do not require poisonous substances as pest are kept at bay (AVF, 2015). The exact nutrients and minerals are provided through the irrigation system with little to no use of soil. The overall impact is that more plants can be grown in a limited space with little concern for the outdoor temperature or soil conditions. The pioneers of this industry are the USA, Japan and Singapore. The biggest negatives of this system is that it utilises a large amount of electrical power (AVF, 2015). Additionally, depending on the method used to produce electricity then it could be possible that vertical farming is more dangerous to the environment than field farming.

Multi-layered farming

Although not a novel concept multi-layered farming has emerged as important part of the global livelihoods strategy and a possible way forward for emerging farmers. While commercial farmers have the opportunity to grow extensive amounts of a single crop, emerging farmers may not have the luxury of large tracts of land and need to utilise the land as much as possible while maintaining the soils integrity (Agricultures Network, 2015). Multi-layer farming is using the different layers of soil to grow different crops. Tubers can be grown deep in the bottom layer of soil, carrots or other bulbs in the mid layer and lettuce or cabbage in the top layer of soil. It should be noted that it is important to choose crops that are complimentary and not choose crops and that use the same minerals (Agricultures Network, 2015).

This method of farming was used extensively in the Himalayas and is seen as a solution to not having extensive tracts of land to grow crops. It provides emerging and small farmers with many marketable options and sustainability as well as livelihood resilience. If one crop is undesirable or is not successful then other crops can cover any losses experienced. The biggest pitfalls of this system is that it requires extensive knowledge of the area and of the crops that can be grown together (Agricultures Network, 2015).

The Agri-Park needs to take cognisance of the technology that is available in order to assist the emerging farmers. By integrating technology into training regimes that are provided in the Agri-Park, emerging farmers will have access to the latest events and changes in their respective fields.

ICT

ICT is possibly the biggest development in the agricultural sector for emerging and commercial farmers alike. The emergence of the internet and mobile phones has led to an exorbitant amount of data at the fingertips of the farmers. If they require information then it can be obtained immediately and problems solved sooner than before (e-Agriculture, 2015). ICT has allowed the emergence of training software and applications (Apps) which people can use for the benefit of the staff who work for them and for themselves. Training can be done outside of training centres and content directly displayed on smartphones. Smartphones have also allowed for greater access to market prices and market related news as it happens and sooner than what used to occur (e-Agriculture, 2015). This can allow farmers to make adjustments before they impacted negatively. This has also allowed access to online and cell phone banking and various finance facilities (e-Agriculture, 2015). This means that farmers have access to their finances from their phones and do not have to leave the farm to bank. Online banking has also made farming safer as large amounts of cash is no longer used to pay staff and instead can be paid into bank accounts or cell phone numbers. ICT has allowed for the effective design of farms around the land that is available to farmers and has allowed for farmers to be more efficient and handle finance and information

related queries over a long distance instead of being at a physical location in person. This has also allowed for the effective management and understanding changing markets as they occur which allow farmers to react in a timely manner (e-Agriculture, 2015).

Numerous smartphone apps also exist for the convenience of the farmer. *Pantheon Farming* from App Lab allows farmers to enter all data directly on location, which is synchronized with a main database. This reduces the possibility of errors and eliminates duplicate data entries. *eFarmer* is a simple app designed for the agricultural industry that allows users to construct an electronic map of fields to create a database of various crops in the fields. The app also allows users to take notes on the fields as points of interest, keep the location of specific objects on the farm and keep a diary of the operations for each field users own. *AgriApp* is an Android app that enables farmers to access large pool of relevant information related to agriculture and specific crops and animals.

Online resources also exist which can be accessed through a phone, tablet or PC which is connected to the internet. Sites such as *FAO:Ecocrop* provides detailed crop requirement information for almost any crop that are cultivated throughout the world, including its uses and requirements for temperature, rainfall/water, soil type, soil depth, soil pH, salinity, altitude etc. It also include hundreds of forage crop species for extensive animal farmers. Another site *My Agriculture Information Bank* provides a variety of general agricultural information to farmers.

Logistics

In order for the Agri-Park to be successful there needs to be an effective and well run logistics system. Logistics is an extremely important part of agriculture as it relies on transport of goods to and from the farm to the processing facilities and o to markets. Trucks and other large freight vehicles which transport goods are vitally important in any industry and is also important in the vegetable industry. Goods need to be transported in such a manner that they are not damaged. If goods need preservation then it is important to consider using refrigerated trucks to transport of produce. The second aspect of logistics is the medium of transport itself. Roads or the rail system need to be in good order and should be well connected in order to reduce the loss of produce and damage to trucks which can add on unnecessary costs to the farmers.

9.5 Demand and Needs Analysis

Per capita consumption of vegetables has remained relatively stable over the last 10 years, ranging between 43.01kg per year to 45.68kg per year. Figure 9.11 illustrates the fluctuations in per capita consumption of vegetables between 2004 and 2014.

With respect to the importance of, and opportunities posed by the specific marketing channels, the following market segments are the most promising that should be focused on:

- National Fresh Produce Markets during the initial start-up phase.
- Street hawkers including bakkie traders, however, it is essential to establish a logistical and supply coordination system as discussed.
- Government institutions, as soon as the farmers become reliable suppliers.
- Large retail chains should become a major priority after the farmers have gained experience in production and the Agri-Parks system successfully established quality control and streamlined logistical arrangements
- Packhouses (vegetable packers and wholesalers) and processors in case of farms that are situated near packers or processors that handle cabbages.

It is possible to provide an estimate for demand based on historical consumption figures and populations. The figure below provides a summary of estimated demand on a national and provincial level. At an average per

capita consumption of vegetables at 43kg, there is clear demand for vegetables in South Africa. Demand for vegetables is approximately 2.2 million tons per year. In Sarah Baartman the demand for vegetables is approximately 19 375,12 tonnes as seen in Table 9.11. The areas of highest demand are Kouga and Makana.

Table 9.11: Annual demand for vegetables (tons)

Area of Demand	Estimated Demand
South Africa	2 226 134,09
Eastern Cape	282 168,28
Sarah Baartman District	19 375,12
Camdeboo	2 192,72
Blue Crane	1 548,08
Ikwezi	453,11
Makana	3 456,75
Ndlambe	2 630,57
Sundays River Valley	2 343,67
Baviaans	763,73
Kouga	4 237,99
Kou-Kamma	1 748,52
Nelson Mandela Bay	49 540,96

Source: Quantec 2013, Census 2011

9.6 Competitors

While the area has a few competing commercial farmers in the immediate area of Addo, there are a few commercial vegetable farmers located in the Hankey and Patensie area. Any competitors in the area however, will provide significant input in terms of skills and expertise in the municipality. The benefits of farming in areas that already have a strong presence of commercial farmers is possibly more of a benefit than a disadvantage. This in turn can lead to agglomeration and greater focus from the public sector in providing services that are needed.

9.7 Socio-Economic (Job Creation)

The Agri-Park project vision, as discussed in Chapters 1 and 2, outlines the importance of socio-economic development as an objective of the Business Plan. Socio-economic progress and development can be measured in various ways, however the primary method of measurement selected for livestock commodity is Job Creation. Job creation is measured via the use of commodity labour multipliers, measuring the number of jobs created per R1 million produced directly into commodity production. The three relevant multipliers for the Sarah Baartman District Municipality vegetable market are the:

- Direct Multiplier
- Indirect Multiplier
- Induced Multiplier

The three multipliers measure the total numbers of job created in an ideal economic environment for the vegetable market however, as the economic environment diverges away from the ideal environment, so do the multipliers.

The table below displays the sectoral labour multipliers applicable to the vegetable industry, i.e. the number of the job opportunities created at different levels for every additional R1-million production. From the table below

it can be determined that 2.49 jobs are directly created while 1.37 are indirectly created for every R 1million produced. Overall 5.75 jobs are created throughout the value-chain for every R 1 million produced.

Table 9.12: Direct, Indirect and Induced Jobs Created in the Vegetable Industry

Sector	Direct	Indirect	Direct + Indirect	Induced	Total
Vegetables	2.49	1.37	3.86	1.89	5.75

Vegetables are considered labour intensive and have a high growth potential according to the BFAP (2015). Vegetables can provide work for upwards of 1.3 people per hectare. This is a vastly superior to many other industries in the district. This can be considered suitable to small and emerging farmers as the high growth potential allows for stable employment and growth of income.

Information that is available on the District's vegetable production and the potential number of hectares, together with the Bureau for Food and Agriculture Policy, have been used to estimate the employment opportunities that vegetables production can contribute in the 10-year period. The Agri-Park can provide between 1 200 and 3800 employment opportunities from the programme. It must be noted however that these figures are purely indicative and will change through the development of the Agri-Park.

9.8 Contribution to Food Security

One of the core concepts that the Agri-Park seeks to address is the issue of food security of communities. It is believed that the Agri-Park concept can assist in increasing food security and sustainability of communities' livelihoods. DAFF launched a Zero Hunger Policy in 2012 in order to curb poverty and improve food security for vulnerable communities who are in need of support. The Zero Hunger Policy was created to uphold Section 27,1 (b) of the bill of rights which states that every citizen has the right to food and water and Section 28,1 (b) which states that every child has the right to basic nutrition shelter and basic care and social services. The policy suggest that adult daily calorie should be 1792 kcal (7502kj) per day for an adult and sets a food poverty line of R260 per individual expenditure for food every month (DAFF, 2002). Vegetables are an extremely important part of food security as they provide valuable nutrients and minerals required in the day to day diet of all community members. Vegetables provide an abundant, cheap source of fibre and several vitamins and minerals. In general, they have the highest nutritional value when eaten fresh, although an exception may be fermented foods, in which the process of fermentation can increase the content of B-vitamins (FAO, 2001). Vegetables can often be used as staples such as potatoes and various others. Processes which can improve the quality and taste of vegetables are also important and can be performed such as drying, fermenting and pickling (FAO, 2001). These can prolong the life of the goods so that they are used at a later stage when food is scarce or sold on as a value added good. Bottling, canning and packing are important to preserve food for later consumption.

Income earned from the vegetable industry can also be used to purchase food goods in order to be more food secure as well.

9.9 Regulatory Requirements

There are numerous legislation documents governing the production of vegetables. These range from regulations as to the production inputs (National Water Act), to those governing production (Draft Plant Health (Phytosanitary) Bill) and to production standards and consumption. The most pertinent of the acts are contained in Table 9.13. It is extremely important to acknowledge the available legislature and policies as the Agri-Park must follow the rule of law as set out by the relevant departments. It will align itself to the legislature that is published. Various other acts and policies are also apply to the citrus industry which are included in Table 9.13 below.

Table 9.13: Policies Affecting the Vegetable Industry

Act	Description
Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) Various vegetables	This act aims to standardise quality norms for agricultural and related products by establishing the criteria for such norms and distributing the information to all interested parties. These criteria may include the quality, packaging, marking and labelling as well as the chemical composition and microbiological contaminants of the products.
Draft Plant Health (Phytosanitary) Bill 2014	Provides phytosanitary measures to prevent the introduction, establishment and spread of regulated pests in South Africa and the control of regulated pests. It also provides regulation of the movement of plants, plant products and other regulated articles into, within and out of South Africa include exports of agricultural goods.
Agricultural Pests Act, 1983 (Act No. 36 of 1983)	The purpose of the Agricultural Pests Act, 1983 (Act No. 36 of 1983) and its subordinate legislations is to provide for measures by which agricultural pests may be prevented and combated and for matters connected therewith. The Act also mandates the Directorate Plant Health to regulate plants, plant products and other regulated articles when imported into South Africa. Plants, plant products and related materials are capable of harbouring quarantine pests, which if they enter South Africa with imported commodities and establish, may endanger the South African agricultural sectors. Similarly, pests that occur in South Africa may endanger countries to which we export and as a result South Africa may lose its export markets.
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947)	The act provides for the appointment of a Registrar of Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies; for the registration of fertilizers, farm feeds, agricultural remedies, stock remedies, sterilizing plants and pest control operators; to regulate or prohibit the importation, sale, acquisition, disposal or use of fertilizers, farm feeds, agricultural remedies and stock remedies; to provide for the designation of technical advisers and analysts; and to provide for matters incidental thereto.
National Water Act, 1998 (Act No.36 of 1998)	This act encompasses laws relating to water resources and the use thereof.
Occupational Health and Safety Act, 1993 (Act No.85 of 1993)	The act aims to provide for the health and safety of persons at work and the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.

Act	Description
Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983)	The act encompasses those regulations associated with fair labour practices.
Marketing Act, 1968 (Act No. 59 of 1968)	The Act has authorised an establishment and enforcement of regulatory measures to intervene in the marketing of agricultural products, including the introduction of levies on agricultural products.
Stock Theft Act, 1959 (Act No. 57 of 1959)	This Act encompasses those laws associated with the theft of animal stock and produce.
Consumer Protection Act	To promote a fair, accessible and sustainable marketplace for consumer products and services and for that purpose establish national standards relating to consumer protection.

9.10 Substitute Products and Services

Vegetables are generally not substituted by any other products and play a pivotal role in the diet of the population and are very important part of society. Value added products from vegetables are also generally not substituted by many other products.

9.11 Vegetable Barriers to Entry

Barriers to entry are obstacles that make entry into a given market difficult such as regulations, high infrastructure costs or competition in the given area. This section will discuss the barriers to entry of the vegetable industry. The table below may provide some indications as the barriers that are faced by emerging farmers in the Agri-Park.

Table 9.14: Barriers to entry: Vegetables

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
POTATO BARRIERS TO ENTRY		
Climatic conditions	Soil must be suitable for growth of potatoes, with large parts of the Sarah Baartman District Municipality possessing sandy soil, as opposed the required loam.	Local
Irrigation intensive	Irrigated potato crops have substantially higher yields than non-irrigated (or dry) crops. The irrigation system needs to be installed and correctly monitored. Additionally, the opportunity cost of water in the Kouga and Kou-Kamma regions is high, with many additional uses in the district.	-
CAPITAL, RAW MATERIALS AND PRODUCTION ISSUES		
Climatic conditions	The prevailing climatic conditions determine where horticultural products can be grown. This limits production certain parts the district.	-
Capital intensive	The establishment of new high volume producing vegetable farms is capital intensive. This could prevent small scale and emerging farmers from entering the industry. Farming in hydroponic tunnels is also extremely capital intensive and could prevent entry into the market.	-
COMPETITION AND ACCESS TO MARKETS		

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
Industry Concentration	The Limpopo Province accounts for the vast majority of South Africa's vegetable production. Accordingly support services, input suppliers, etc. are located in this province.	-
Lack of post-harvest processing	With the exception of a few industries, the majority of processing for Sarah Baartman District Municipality harvests is outside of the district, meaning that the profits associated with these value-adding activities are not captured by the district.	District.
INFRASTRUCTURE		
Roads	Inadequate secondary road maintenance and development leads to high transportation costs, difficulties in accessing markets and long delivery times, which subsequently can affect all downstream activities.	Provincial
Land	The availability of land to expand vegetable fields is the largest infrastructural challenge facing the forestry in the district.	District
Water	A potential barrier to entry could be the distribution of water rights to new entrants into the industry.	Provincial

Source: Urban Econ, 2015

9.12 SWOT

A SWOT analysis is an examination of the strengths, weaknesses, opportunities and threats of the vegetable industry in the Sarah Baartman District. The strengths and weaknesses refers to internal positive and negative factors affecting the growth of the industry; whereas threats and opportunities refer to the external factors affecting the commodity.

9.12.1 Strength

Biophysical

- Different varieties of vegetables are well suited to the climate and growing conditions of the SBDM
- Because of the Sundays River Irrigation Scheme water is available for planting vegetables
- The land around Sundays River Valley is well suited to grow various forms of vegetables

Enterprise Viability

- The markets are fairly open and allow for emerging farmers to sell their goods to established local chains
- The payback period for vegetables is extremely low and income can be made after one season
- Labourers and emerging farmers are already familiar with vegetable production at one level or another and thus have some skills and knowledge to exploit this sector
- Implements and infrastructure used for vegetable farming is not excessive. It is accessible to emerging farmers.

Economic Development

- Vegetables have a large degree of forward and backward linkages which indicates that vegetables are useful in many sectors
- The nature of vegetable farming allows for agglomeration of industries and creates local opportunities for employment

- Vegetables can uplift a local economy with both food and income into the local GDP
- It is likely that any vegetables grown locally will substitute any imports of vegetables from other regions and countries

Political and Social

- Vegetables are useful for food security and can provide communities with food
- Vegetables are well supported by the government projects that are currently running and planned and there is buy in from the district municipality to increase vegetable production
- There are existing projects that are successful in the district that can be used as pilot projects for other farmers

9.12.2 Weaknesses**Biophysical**

- Rainfall in the area is very poor and thus all vegetable projects will need adequate irrigation infrastructure
- Not all areas are suitable for the production of vegetables. It limits production to only certain parts of the district
- Not all varieties of vegetables are capable of being grown in the district

Enterprise Viability

- Vegetables are unlikely to increase local GDP by a large degree as the venture is not as profitable as other agricultural pursuits
- The nature of certain vegetables makes them unlikely to be transported far distances and thus limits their range. This makes them unlikely to be exported
- Significant skills development will need to be undertaken before projects introduce more people to vegetable farming

Economic Development

- Export potential of vegetables is low and thus will limit the markets that vegetables will be available to
- The region may produce a large number of crops but it is not globally competitive
- There is a need to secure water rights for the region for emerging farmers

9.12.3 Opportunities**Biophysical**

- The suitability of the land area gives opportunities to expand the vegetable industry at an emerging or commercial scale

Enterprise Viability

- The local market for horticultural produce is increasing as many of these products are household commodities and used in local government institutions (schools, hospital) to ensure food security
- Horticultural farmers have the opportunity to increase the value of their produce through semi processing which includes washing, packaging, peeling and cutting.
- The growing market for convenience food can be exploited by horticultural farmers through the creation of local brands linked to small-scale processing activities which supply local markets.
- There is an opportunity to exploit the open market for vegetables

Economic Development

- There is an opportunity to create an agro-processing industry around the District based on the vegetable industry

- There are opportunities to create more forward and backward linkages in the vegetable industry such as nurseries which provide farmers with seedlings and processing facilities to value add products
- The benefit of buying locally processed horticultural produce will reduce travelling costs and will help to create job opportunities in local communities.

Political and Social

- There is an opportunity for government to create
- Food security in the district can be achieved by developing emerging farmers and communities
- There is an opportunity for commercial farmers to pass their skills and expertise down to emerging farmers through mentorship programmes

9.12.4 Threats**Biophysical**

- Climate change poses a significant threat to the agriculture sector particularly in terms of rainfall and access to water
- Poor farming practices has led to a drastically reduced number of farms that can produce vegetables
- New diseases and pests introduced from other countries are an ever present threat to the agricultural sector

Enterprise Viability

- The establishment of new high volume producing vegetable farms is capital intensive. This could prevent small scale and emerging farmers from entering the industry.
- With the exception of a few industries, the majority of processing for Sarah Baartman District Municipality harvests is outside of the district, meaning that the profits associated with these value-adding activities are not captured by the district.

Economic Development

- Theft and vandalism of infrastructure and the produce can severely inhibit the industry

Political and Social

- The Limpopo Province accounts for the vast majority of South Africa's vegetable production. Accordingly support services, input suppliers, etc. are located in this province.

Citrus

Chapter 10

10. CITRUS

10.1 Market Assessment

Citrus is one of South Africa's largest horticultural industries after deciduous fruits and vegetables. Citrus represents one of South Africa's most important fruit groups by value and volume. Limpopo, Western Cape, Mpumalanga, Eastern Cape, KwaZulu-Natal and Northern Cape provinces where sub-tropical conditions prevail (warm to hot summers, mild winters). The South African Citrus sector is well organised and well represented through the farmers' association known as the Citrus Growers Association (CGA). The CGA represents over 1400 citrus growers predominantly in South Africa but also in Zimbabwe and Swaziland. It was believed that in 2014 approximately 64 202 ha was under citrus production and was expected to increase.

10.1.1 Global Citrus Market

The global citrus market is extremely competitive with many countries producing citrus fruit. Many countries produced various forms of citrus (Table 10.1). China and Brazil are the largest producers of citrus in the world and produce 33 million and 19 million tonnes of fruit respectively. China dominates world production of grapefruit, tangerines (soft citrus. Satsumas etc.) and other forms of citrus. Brazil is the largest producer of oranges while India is the largest producer of lemons and limes. South Africa is an extremely important producer of grapefruit, lemons and oranges. While South Africa does not produce as much citrus as Mexico or Spain, it is constantly among the top 3 citrus exporting countries in the world. The top 15 primary producers of citrus globally are:

Table 10.1: World Citrus Production

	Grapefruit	Lemons and Limes	Oranges	Tangerines, etc.	Total	% Total
	Tons					
World	8 453 446	15 191 482	71 445 353	28 678 214	135 761 181	100.00%
China	3 802 324	1 937 880	7 469 840	15 356 700	33 104 744	24.38%
Brazil	78 000	1 169 370	17 549 536	937 819	19 734 725	14.54%
United States of America	1 074 108	827 353	7 574 094	620 515	10 133 246	7.46%
India	285 300	2 523 500	6 426 200		10 090 000	7.43%
Mexico	425 433	2 138 737	4 409 968	493 643	7 613 105	5.61%
Spain	58 800	715 300	3 394 100	2 198 900	6 379 100	4.70%
Egypt	2 789	280 641	2 886 015	917 404	4 092 339	3.01%
Turkey	228 799	726 283	1 781 258	942 226	3 681 158	2.71%
Argentina	203 943	1 301 902	900 126	408 726	2 814 697	2.07%
Italy	7 789	336 195	1 708 337	650 465	2 744 779	2.02%
South Africa	325 746	248 926	1 671 508	150 000	2 407 180	1.77%
Pakistan		86 000	1 505 000	559 000	2 150 000	1.58%
Morocco	520	28 141	759 289	664 127	1 467 925	1.08%
Indonesia			1 411 215		1 411 215	1.04%

Source: FAOSTA, 2015

Citrus products are routinely exported in the form of juices and other products. Table 10.2 indicates the production figures of single strength citrus juice, single strength orange juice and grapefruit juice. China is the world's leading producer of single strength citrus juice while Brazil is the largest producer of single strength orange juice. South Africa is the largest producer grapefruit juice while being the fifth biggest producer of grapefruit in the world.

Table 10.2: Citrus Juice Production

	Single Strength Citrus Juice	Single Strength Orange Juice	Grapefruit Juice
	Tons		
World	274 812	2 133 190	233 177
Argentina	1 000	550	
Brazil	838	1 096 700	
China	35 774	37 835	228
India	3 420	71 065	1 712
Indonesia	2 786	3 000	
Italy	16 317	21 175	
Mexico	26 250	136 500	7 500
Morocco	8 003	88 000	180
Pakistan	22 363	7 227	
South Africa	27 087	19 037	94 587
Spain	54 494	95 150	
Turkey	3 900		
United States of America	10 720	234 393	34 866

*Source: FAOSTAT, 2015***10.1.2 National & Provincial Citrus Market Overview**

The citrus sector in South Africa is well established with the main production areas in Limpopo, Western Cape, Mpumalanga, Eastern Cape, KwaZulu-Natal and Northern Cape provinces. The Western and Eastern Cape provinces are considered cooler growing areas and predominantly produce Navel oranges and lemons. The cooler climate also allows for the production of the satsumas and clementines. This makes the Eastern and Western Cape primary producers of these varieties in South Africa. Farm sizes in this area are generally smaller but citrus is packed in large facilities which are run by privatised cooperatives.

In Mpumalanga, Limpopo and KwaZulu-Natal the major production is of Valencia oranges and grapefruit as the climate is warmer. Farms in this area are larger but farmers pack in smaller privately owned facilities.

Table 10.3 indicates the overall production of citrus in South Africa from season 2009/10 to 2013/14. In 2013/14 approximately 2 576 198 tons of citrus were produced in South Africa, up from 2 343 953 in the 2012/13 season. The most widely produced type of citrus in South Africa is the orange by a long margin followed by grapefruit and lemons.

Table 10.3: South African Citrus Production

Fruit Type	2009/10	2010/11	2011/12	2012/13	2013/14
	Tonnes				
Oranges	1 367 706	1 415 447	1 496 412	1 614 810	1 731 733
Grapefruit	406 694	343 028	415 572	304 558	405 581
Lemons	203 080	216 202	260 991	235 701	246 705
Naartjies	32 625	30 909	28 855	34 942	34 817
Soft Citrus	141 297	145 755	139 425	152 942	157 362
Total	2 151 402	2 151 341	2 341 255	2 342 953	2 576 198

Source: DAFF, 2014

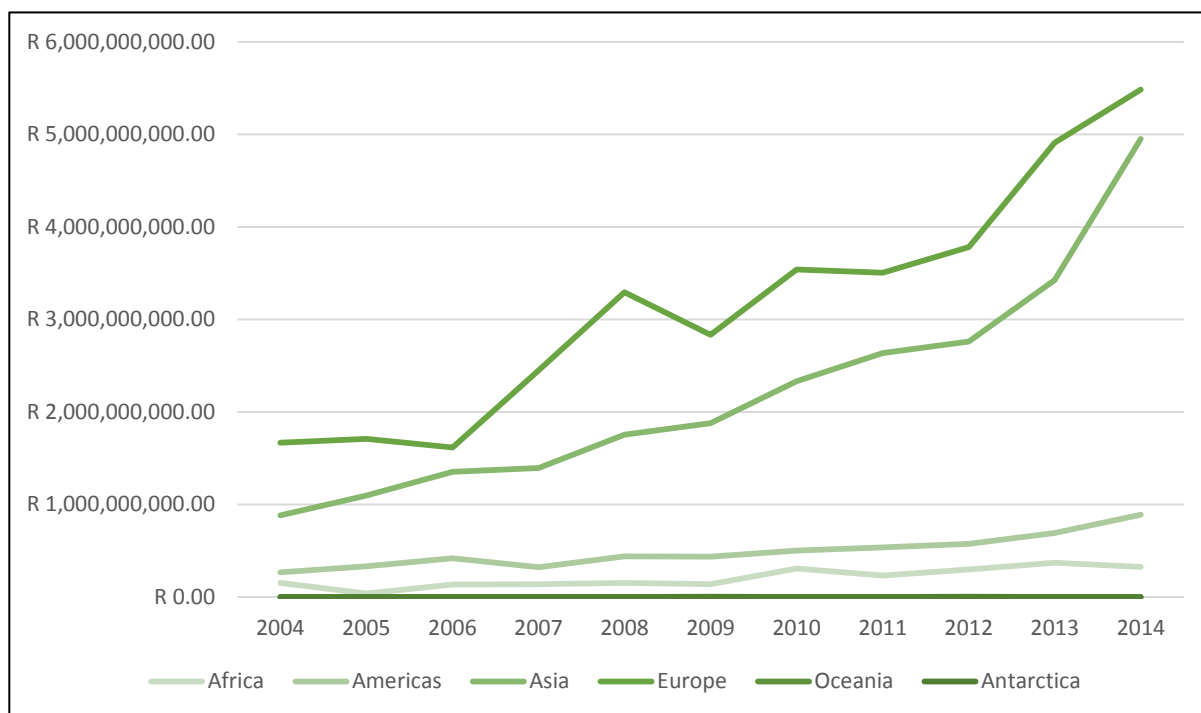
On a national level, about 11.2% of citrus production is sold as fruit to the local market, 28.0% is sent for further processing, and 70.1% is exported. The Eastern Cape is the most significant contributor to citrus production in South Africa; this trend has remained steady since 2004. The Sarah Baartman District Municipality is the largest citrus producing municipality within the province. The citrus that is grown in the Sundays River Valley Local Municipality equates to about 12% of national production, where growers in the area constantly explore new varieties in order to satisfy the changing market demand. There are also a few citrus farms located in the Kouga Local Municipality, with major production occurring near the Gamtoos River and Patensie. Citrus production also takes place at a smaller scale in the Fort Beaufort area.

10.1.3 Export Markets

The main markets for exports of citrus are largely northern hemisphere countries as South Africa can export citrus during the offseason of the northern hemisphere producers. Export of citrus is governed by multinational agreements between countries. Exports can be divided into tariff and non-tariff barriers. It is recognised that non-tariff barriers such as sanitary and phyto-sanitary measures, labels, etc. can be justified through health and standards, tariff measures are increasingly seen by the World Trade Organisation (WTO) as a barrier and are gradually being phased out. Export of agricultural products are generally well regulated through non-tariff means as they are seen as primary carriers of pests that may harm the importing country's own agricultural sector. This applies to many European countries, North America and some parts of the Far East such as Japan. Despite strict controls and tariffs in place against South African citrus, Europe has always been one of the most important importers of citrus from South Africa. The most important factor in exports of citrus to Europe is the prevalence of diseases such as Citrus Black Spot. The fastest growing citrus markets are the eastern European markets of Russia and Ukraine.

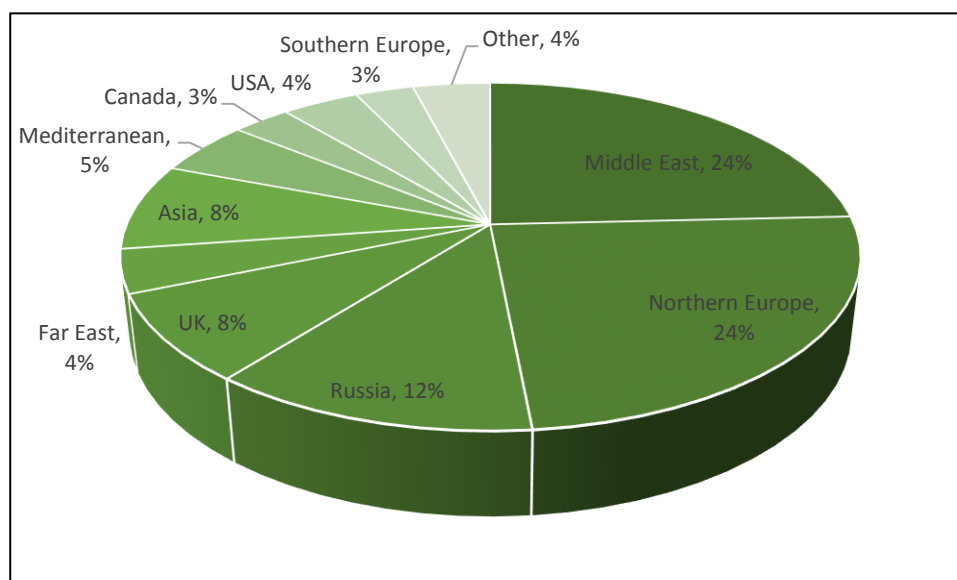
Citrus exports to the USA currently fall under the African Growth and Opportunity Agreement (AGOA) which is currently under review by both the South African and the USA governments. The AGOA act was set up by the USA government in 2000 and provides trade preferences and duty free entry of certain goods into the USA. This includes citrus among other products. Thus a certain quota of citrus products are allowed into the USA without any tariffs. While it is important that the exports to the Americas is maintained, it is unlikely that exports to this destination will show the same growth as Asia or Europe.

The second largest destination for South African citrus is the Asian markets. This market has grown exponentially and there is supporting evidence to suggest that export volumes can be increased. Smaller amounts of citrus are exported to Africa and the market for citrus in these areas is limited.

Figure 10.1: Value of South African Citrus Exports

Source: Quantec Standardised Regional, 2015

South Africa exports the majority of its oranges to the Middle East (24%), Northern Europe (24%), Russia (12%), the UK (8%) and Asia (8%). These markets alone account for 76% of all orange exports from South Africa. It is notable that South Africa exports oranges to countries that cannot produce oranges. Other notable regions include the Far East (4%), Mediterranean (5%), Canada (3%), USA (4%) and Southern Europe (3%) (Figure 10.2).

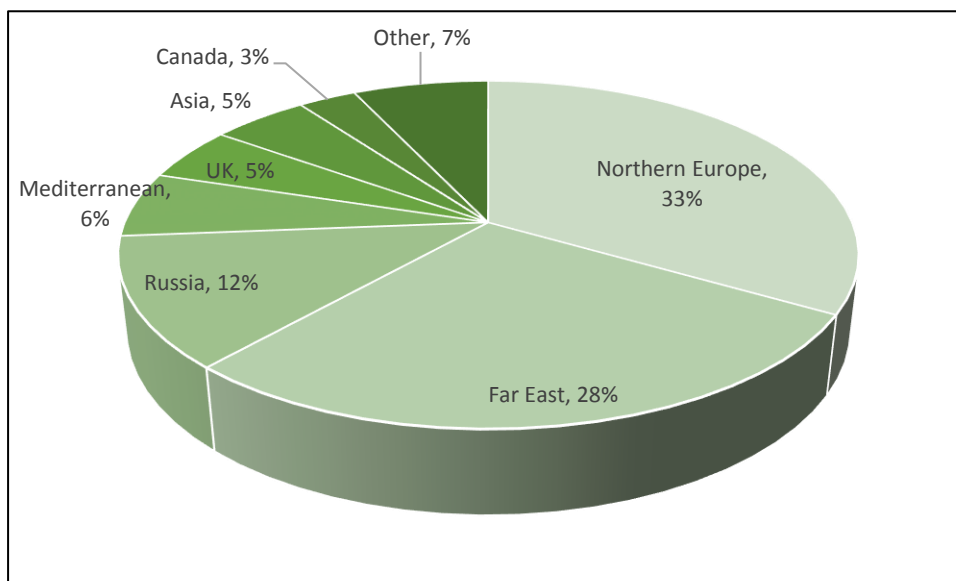
Figure 10.2: Orange Exports

Source: CGA, 2014

Grapefruits are one of the most important citrus types grown in the country. A large quantity of grapefruits are exported to other countries and regions. The largest destination for South African grapefruits is Northern Europe

(33%), the Far East (28%), and Russia (12%). Grapefruit is largely used in juice production and for consumption of raw fruit.

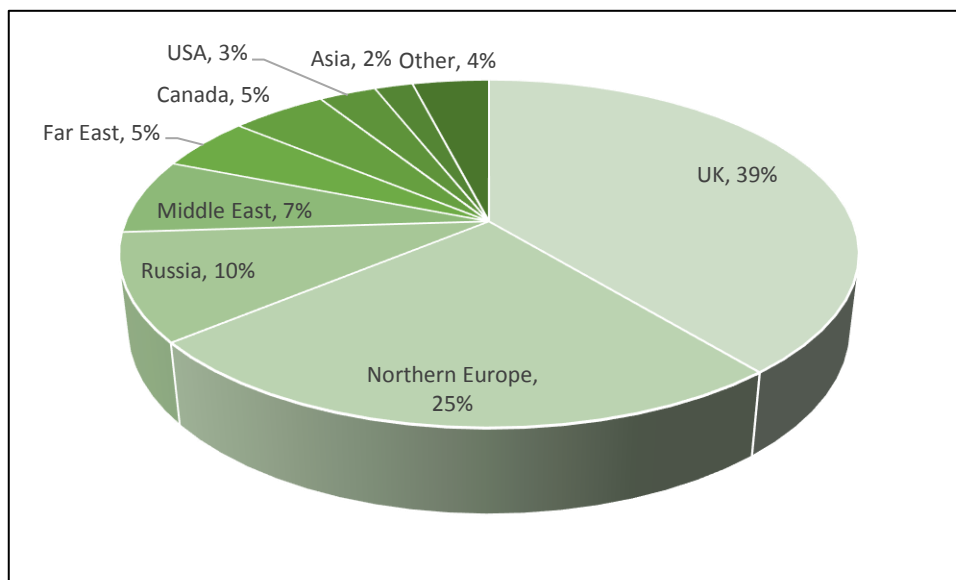
Figure 10.3: Grapefruit Exports



Source: CGA, 2014

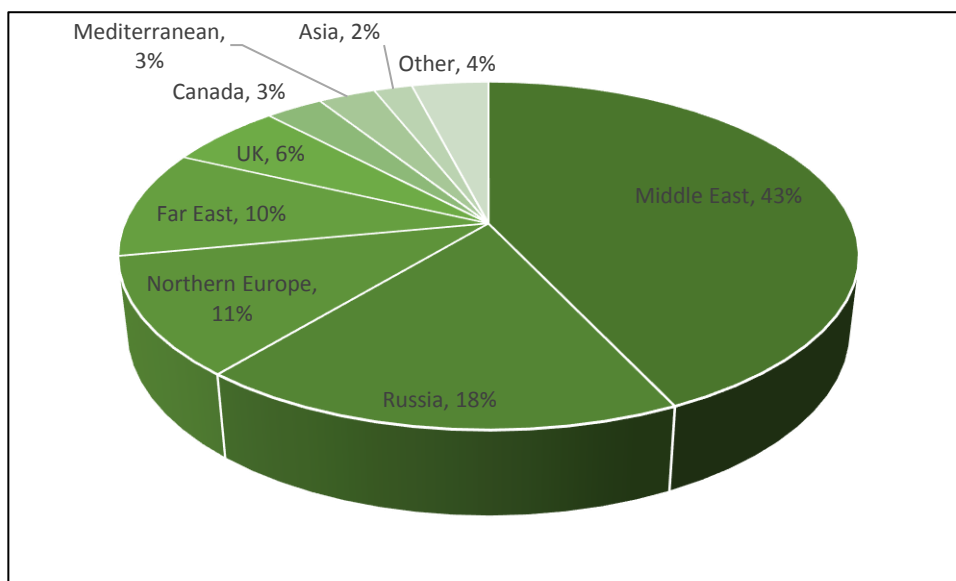
While not the largest type of citrus produced, soft citrus is extremely important to consider as it still produces significant income for the country. The largest importers of South African citrus are the UK (39%), Northern Europe (25%), Russia (10%) and Middle East (7%).

Figure 10.4: Soft Citrus Exports



Source: CGA, 2014

Lemons are an extremely important and versatile type of citrus. Lemons are used in industry for cleaning additives, produced for pectin content, juiced, and for animal fodder. They are also one of the largest types produced in the country. The largest destinations for lemons are the Middle East (43%), Russia (18%), Northern Europe (11%) and the Far East (10%).

Figure 10.5: Lemon Exports*Source: CGA, 2014***10.1.4 Local markets**

Citrus is produced in three main locations in the Eastern Cape. The largest area is the Sundays River Valley which has approximately 85% of the overall citrus area in the Eastern Cape. The Patensie and Fort Beaufort areas are far smaller than the Sundays River but not insignificant. The table below indicates the total area of each type of citrus that is grown in the Eastern Cape. Navel oranges are the most extensively planted type of citrus followed by Valencia and midseason oranges. Grapefruits and soft citrus are important but are grown more extensively in Limpopo and KwaZulu-Natal. The area under citrus production in the Eastern Cape has increased drastically by over 18% in two years from 2012 to 2014 with the largest increase in Soft Citrus (31.5%). This indicates that the citrus industry is still expanding and by large volumes each year.

Table 10.4: Area of Production of Each Type of Citrus in the Eastern Cape.

Fruit Type	Area (Ha) 2012	Area (Ha) 2014	Change (%)
Grapefruit and Pomelos	234	261	11.5%
Lemon and Limes	2 021	2 726	34.9%
Navel	5 185	5 791	11.7%
Soft Citrus	1 631	2 144	31.5%
Valencia and Mid-seasons	3 438	3 848	11.9%
Total	12 509	14 770	18.1%

*Source: CGA, 2012 & 2014***10.1.5 Citrus Sector in Sarah Baartman****Sundays River Valley**

As mentioned in the previous sub-section, the area that has the most significant citrus production in Sarah Baartman Municipality is in the Sundays River Valley LM. The town of Kirkwood is considered to be the principal citrus producer of the Sarah Baartman District Municipality and the Eastern Cape. It is also the centre of one of the largest citrus regions in South Africa, with approximately 12 000 hectares of citrus orchards. Important citrus varieties produced in this region include clementines (naartjies), navels (oranges), lemons, Valencias (oranges) and grapefruit. The Sundays River Citrus Company (SRCC) is responsible for a large part of the Sundays River Valley Local Municipality production, producing 2 million pockets of citrus for the local market, with

approximately 10.0% of this regional production produced for the export market. These production levels make the Sundays River Citrus Company the largest producer of citrus in southern Africa.

Cape Fruit Processors is one of the few major juice processing facilities, located within the vicinity of Kirkwood (Sundays River Valley), and is a relatively recent addition to the area, constructed in 2008. In addition to the large scale operations, there are also smaller juice producers, such as the Sundays Organic Growers Association (SOGA) who combine organic production with juice processing. Otherwise, juicing factories for citrus product are located primarily in the Nelson Mandela Bay, with Valor and JC's Fruit Juices having processing facilities in Nelson Mandela Bay and Uitenhage respectively. Ceres Fruit Juices (including the 7 Up and Liqui-Fruit brands) and Fruittime are other major producers with offices in Nelson Mandela Bay, showing that there is a lack of large-scale processing for citrus fruit in the Sarah Baartman District Municipality.

There are emerging farmers and farms that are already producing citrus in the region and wish to expand under the Agri-Parks development. These farms are included in the Table below.

Table 10.6: Citrus projects to be developed

FARM NAME	Total extent (ha)	Ha under production	Ha to be developed	Land tenure
Siyaphambili	117	23	70	PRIVATE
Willowtree	159	120	15	PLAS
Siyathemba	56	54	0	PLAS
Glengrove	60.46	56	0	PLAS
Eendracht	110	97.67	0	PLAS
Belvoir	26	16	0	PRIVATE
Sunlands	246	195.18	0	PLAS
Nebraska and Greengables	38.27	17.83	0	PLAS
Welvedind	8	6.76	1.7*	LRAD
Mbuyiselo	63	60	1.4*	LRAD
Luthando	135	109	4.38*	LRAD
Nomzamo	700	7.5	81.5	SLAG
KK113	440	0	225	Municipal
Ennon Besheba	10200	0	220	DRDLR
Santa Clara		0		PLAS
Khangela	452	134	50	
Total	12 810.73	896.94	661.5	

Source: DRDAR, 2015

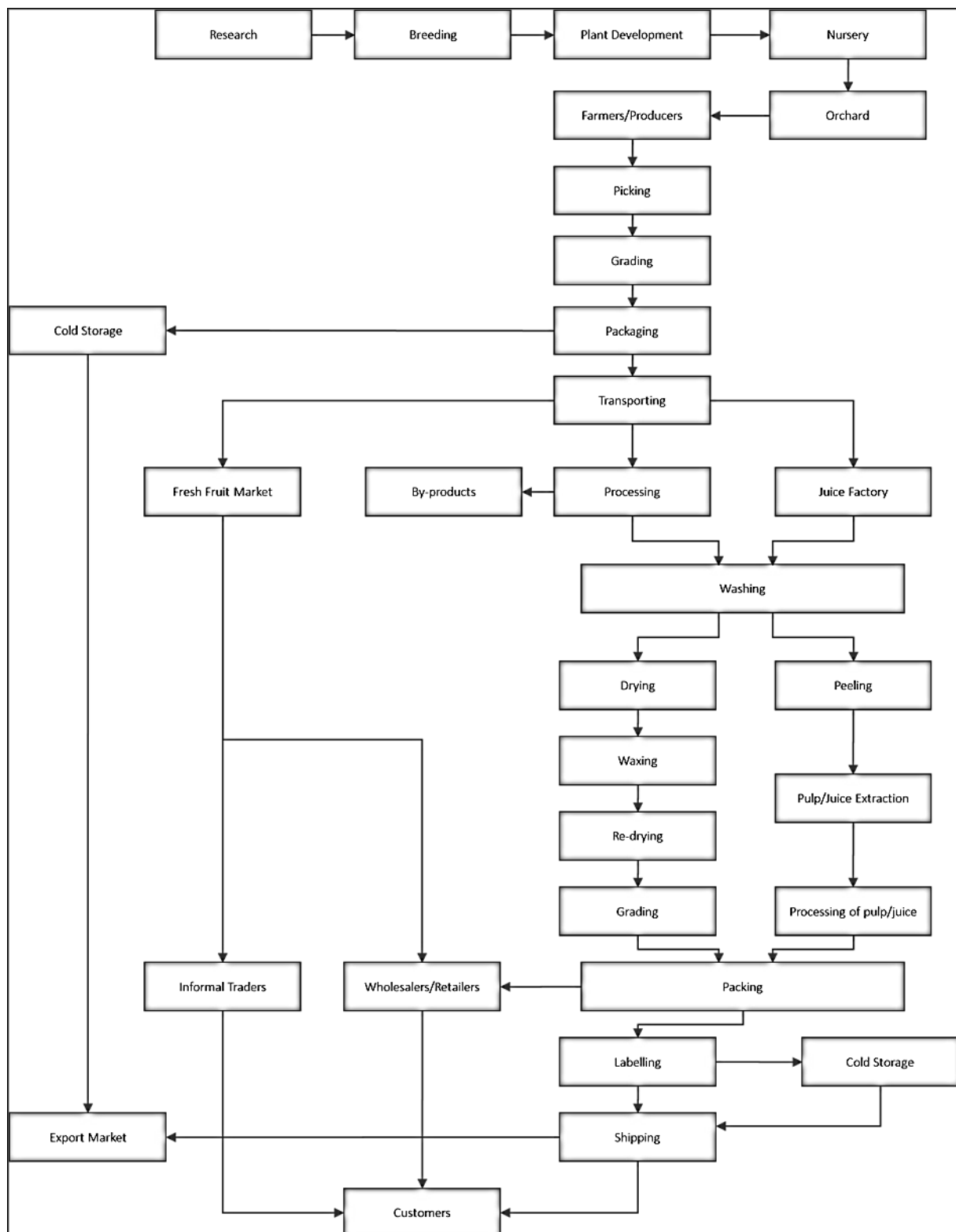
* - uprooting from existing orchards

Gamtoos Valley

While the main citrus producing area may be the Sundays River Valley (85%), Gamtoos Valley is not an insignificant producer in the Eastern Cape. The main types of citrus grown around the Gamtoos Valley include oranges, grapefruit, lemons and soft citrus. Patensie Citrus owns two packhouses in the Gamtoos Valley and is able to pack 60 tons of citrus per hour. Approximately 1.8 million cartons of citrus are exported annually while fruit not acceptable for export is sold locally. Patensie Citrus currently exports to the UK, Canada, Russia, northern & southern Europe, China, South East Asia, Far East and the Middle East. Paksaam Nursery (located in the Gamtoos) is one of 22 accredited nurseries in South Africa and produces citrus trees for local farmers and is an integral part of the citrus industry in the area.

10.2 Citrus Value Chain Assessment

Figure 10.6: Citrus Value Chain



Source: Urban Econ, 2015

Upstream Activities

As Citrus production is classified as primary production the upstream activities relevant to the value chain are primary the input supplies used in the production system. The major inputs for Citrus production include seedlings, fertilizing, weed and pest control, irrigation equipment, machinery equipment as well as knowledge. Most of these inputs are supplied by Agricultural Co-operatives in the respective areas. The Eastern Cape Province has three major Agricultural Co-operatives namely:

- OVK – TRADE
- Humansdorp Ko-op
- East Cape Agri – Co-op Ltd / BKB LTD

Primary Production Activities

The four predominant citrus types are segmented into oranges, grapefruit, lemons and soft citrus. They are produced in the Addo, Eastern Cape Midlands, Gamtoos River, Langkloof, Patensie and Sundays River Valley regions. Addo is not only the largest lemon producer in the Eastern Cape, but also in the country. Citrus trees vary in height from five to 15 metres and produce fruit in well-drained soil. Irrigation is essential for citrus production but the trees should not be drenched, as this can stunt their growth. Citrus farming has a long lag time between planting trees and harvesting fruit. It takes tree three to five years to start bearing fruit and lives for approximately 25 to 30 years. These trees can grow in a wide range of climatic conditions, but do not tolerate winter frost. The Citrus Growers Association (CGA) provides the citrus industry with access to global markets, keeps production as cost effective as possible and cares for the community and environment in which the farmers operate. The association represents the interests of export citrus producers and has roughly 1 400 members throughout South Africa.

Downstream Activities

Over 160 thousand tons of lemons and limes were exported in 2011. This represented 63% of the total production of lemons and limes in 2011. The second most important market for South African lemons and limes is the processing industry. Over 31% (79 204 tons) of the total annual crop was sent to the processing industry in 2011 while the remaining 6% was sold in the local markets. The quantities of lemons and limes sent to the export markets have been increasing throughout the last decade while volumes sent to the processing and local markets have been stagnant. South Africa exported a total combined volume of 1 493 017 tons of citrus products in 2011.

The volumes of citrus available for processing in South Africa fluctuate yearly, depending on the crop size and the percentages of exportable fruit. In 2009/10, the processing industries absorbed approximately 25% (555 189 tons) of all citrus production (2 230 187 tons). That represents direct purchases from growers and quantities of citrus purchased from the NFPMs. Most citrus products processed are converted into juice and can be presented in different forms such as frozen, concentrate and freshly-squeezed juice.

Oranges are commonly peeled and eaten fresh, or squeezed for juice. It has a thick bitter rind that is usually discarded, but can be processed into animal feed by removing water, using pressure and heat. It is also used in certain recipes as flavouring or a garnish. The outer most layer of the rind is grated or thinly veneered with a tool called a zester, to produce orange zest, popular in cooking because it has a flavour similar to the fleshy inner part of the orange. The white part of the rind called the pericarp with the pith, is a source of pectin and has nearly the same amount of vitamin C as the flesh.

Slices of lemon are served as a garnish on fish or meat or with iced or hot tea, to be squeezed for the flavourful juice. Lemon soup is made by adding slices of lemon to dry bread roll that has been sautéed in shortening until soft and then sieved. Sugar and a cup of wine are added and the mixture brought to a boil, and then served.

Lemon juice, fresh, canned, concentrated and frozen, or dehydrated and powdered, is primarily used for lemonade, in carbonated beverages, or other drinks. It is also used for making pies and tarts, as a flavouring for cakes, cookies, cake icings, puddings, sherbet, confectionery, preserves and pharmaceutical products. A few drops of lemon juice, added to cream before whipping, gives stability to the whipped cream.

Lemon peel can be candied at home and is preserved in brine and supplied to manufacturers of confectionery and baked goods. It is the source of lemon oil, pectin and citric acid. Lemon oil, often with terpenes and sesquiterpenes (bio-chemical components) removed, is added to frozen or otherwise processed lemon juice to enrich the flavour. It is much employed as flavouring for hard candies.

Lime fruit particularly their juices are used in beverages, such as limeade (akin to lemonade). Alcoholic beverages prepared with lime include cocktails such as gin and tonic, margarita and Cuba libre, as well as many drinks that may be garnished with thin slice of the fruit or corkscrew strip of the peel (twist).

Grapefruit is customarily a breakfast fruit, chilled, cut in half, the sections loosened from the peel and each other by a special curved knife, and the pulp spooned from the “half-shell”. Some consumers sweeten it with white or brown sugar, or a bit of honey. Some add cinnamon, nutmeg or cloves. As an appetizer before dinner, grapefruit halves may be similarly sweetened, lightly broiled, and served hot, often topped with a maraschino cherry. The sections are commonly used in fruit cups or fruit salads, in gelatines or puddings and tarts. They are commercially canned in syrup. In countries like Australia, grapefruit is commercially processed as marmalade. It may also be made into jelly. The juice is marketed as a beverage fresh, canned, or dehydrated as powder, or concentrated and frozen. It can be made into excellent vinegar or carefully fermented as wine.

Grapefruit peel is candied and is an important source of pectin for the preservation of other fruits. The peel oil, expressed or distilled, is commonly employed in soft-drink flavouring, after the removal of 50% of the monoterpenes. The main ingredient in the outer peel oil is nookatone. Extracted nookatone, added to grapefruit juice powder, enhances the flavour of the reconstituted juice. Naringin, extracted from the inner peel (albedo), is used as a bitter in “tonic” beverages, bitter chocolate, ice cream and ices. It is chemically converted into a sweetener about 1,500 times sweeter than sugar. After the extraction of naringin, the albedo can be reprocessed to recover pectin.

Agro-Processing Opportunities

Various processing opportunities are possible e.g.:

- Grapefruit
- Canned grapefruit
- Grapefruit juice
- Lemon Products
- Cold pressed lemon oil: Cold pressed lemon oil for flavouring in the food, beverage, cosmetics, and pharmaceuticals.
- Dried lemon peel
- Lemon juice
- Lemon juice concentrate
- Lemon puree
- Orange Products
- Cold pressed orange oil
- Dried orange peel
- Frozen orange pulp
- Orange juice
- Orange juice concentrate

- Orange puree
- Orange wine

10.3 Stakeholders

The following section outlines the relevant stakeholders in the citrus industry around the Sundays River Valley Municipality. It is important to consider the buy-in of the relevant stakeholders into the Agri-Park as they can provide skills, expertise and advice to emerging farmers.

Table 10.7 Citrus Stakeholders

Stakeholder	Description
Citrus Growers Association (CGA)	The CGA was established in 1997 after the citrus industry was deregulated in order to protect the interests of citrus farmers. Since then it has also taken on additional responsibilities in providing the industry with access to global markets, optimising cost effective production of quality fruit, development and research into citrus, as well as effectively transforming the industry.
Citrus Growers Association Development Chamber (CGDC)	The CGDC is responsible for overseeing the emergence of new and emerging farmers in the citrus industry. It also plays an important part in the transformation in the citrus industry.
Citrus Academy	The Citrus Academy is a non-profit company that was established by the Citrus Growers' Association of Southern Africa to enable human resource development in the Southern African citrus industry. The Academy is tasked with addressing specific challenges faced by the industry, being low production skills levels, employment equity, scarce and critical skills, black economic empowerment, and the quality of skills delivery.
Citrus Research International (CRI)	The main goal of the CRI is to maximise the long-term global competitiveness of the southern African citrus growers through the development, support, co-ordination and provision of Research and Technical services.
Sundays River Citrus Company (SRCC)	Established in 1924, the SRCC was established as a co-operative in Kirkwood and today is the largest packer and marketer of citrus in southern Africa. In 2006 alone the company exported 8.5 million cartons which accounted for 12% of the total citrus crop. The SRCC is moving towards adding value to the citrus crop as well as through development of niche products such as organic citrus.
Patensie Citrus	Founded in 1928, Patensie Citrus has become one of the largest exporters of citrus in South Africa (approximately 1.8 million cartons of citrus). Operating predominantly in the Gamtoos Valley Patensie Citrus packs, grades and exports citrus to a wide variety of countries.
Sundays Organic Growers Association (SOGA)	SOGA was formed in 2005 when four farmers wished to grow and export organically grown citrus fruit. The organisation focuses on co-operation, research, marketing, packing and logistics. SOGA has a close relationship with SRCC who packs and markets their fruit.

South African Fruit Juice Association (SAFJA)

The South African Fruit Juice Association, launched in March 2011, is a voluntary body representing the processing and packaging companies that produce fruit juice concentrates, pulps and purees and ready-to-drink fruit juices, nectars and drinks for local consumption and the export market.

10.4 Technology

Technology is an important aspect to consider in the Agri-Park. Despite the increasing mechanisation of agriculture and decrease in reliance on manual labour, it is important to strike a balance of mechanisation and job creation which improves skills and creates meaningful jobs.

It will vitally important to acquire the correct equipment needed to create a successful Agri-Park. To produce vegetables various equipment will be needed such as tractors, trailers, ploughs, sprayers, pruners, irrigation, fencing, basic farming implements (spades, hoes etc.) and trucks or LDVs for transporting goods.

Technology used in citrus farming is fairly complex and vast. Depending on the size of the operation, various forms of mechanised technology will need to be used. In South Africa a large workforce is used to plant, take care of and harvest the plants but in other citrus producing areas such as the USA, production of citrus is mechanised particularly the harvesting of the citrus plants.

Nutrient Sprays and Tree Management Techniques

Recent developments in citrus farming will have to be considered in order for any farming activity to be competitive in the future. While citrus farming in South Africa has remained fairly constant in terms of equipment and implements but the largest changes have been in the care-taking strategies. Many of these strategies are in line with new export protocols that have been put into place by the EU and other export partners. Many new care-taking strategies have also increased production of citrus and have reduced the number of citrus lost to splitting and to certain diseases and pests (NSW DPI, 2008). This includes spraying with certain nutrient compounds during very specific growth periods. The most common of these sprays include gibberellic acid which improves the fruit immensely and reduces issues such as creasing and splitting (NSW DPI, 2008). Various techniques which promote fruit growth are also used such as girdling. Girdling is the striping a small ring of bark away from the tree to stop it from sending carbohydrates to the roots (Rivas *et al.*, 2006). This technique is extremely useful in increasing yield among the final fruit set (Rivas *et al.*, 2006). This is a result of delaying the carbohydrates (that is created in the leaves through photosynthesis) from moving to the roots (Rivas *et al.*, 2006). This increases the amount of soluble sugars in the fruit and produces better fruit on the tree (Rivas *et al.*, 2006). Many of these techniques and nutrient sprays would need to be adopted by emerging farmers in order to be effective.

ICT

ICT is possibly the biggest development in the agricultural sector for emerging and commercial farmers alike. The emergence of the internet and mobile phones has led to an exorbitant amount of data at the fingertips of the farmers. If they require information then it can be obtained immediately and problems solved sooner than before (e-Agriculture, 2015). ICT has allowed the emergence of training software and applications (Apps) which people can use for the benefit of the staff who work for them and for themselves. Training can be done outside of training centres and content directly displayed on smartphones. Smartphones have also allowed for greater access to market prices and market related news as it happens and sooner than what used to occur (e-Agriculture, 2015). This can allow farmers to make adjustments before they impacted negatively. This has also allowed access to online and cell phone banking and various finance facilities (e-Agriculture, 2015). This means that farmers have access to their finances from their phones and do not have to leave the farm to bank. Online banking has also made farming safer as large amounts of cash is no longer used to pay staff and instead can be

paid into bank accounts or cell phone numbers. ICT has allowed for the effective design of farms around the land that is available to farmers and has allowed for farmers to be more efficient and handle finance and information related queries over a long distance instead of being at a physical location in person. This has also allowed for the effective management and understanding changing markets as they occur which allow farmers to react in a timely manner (e-Agriculture, 2015).

Numerous smartphone apps also exist for the convenience of the farmer. *Pantheon Farming* from App Lab allows farmers to enter all data directly on location, which is synchronized with a main database. This reduces the possibility of errors and eliminates duplicate data entries. *eFarmer* is a simple app designed for the agricultural industry that allows users to construct an electronic map of fields to create a database of various crops in the fields. The app also allows users to take notes on the fields as points of interest, keep the location of specific objects on the farm and keep a diary of the operations for each field users own. *AgriApp* is an Android app that enables farmers to access large pool of relevant information related to agriculture and specific crops and animals.

Online resources also exist which can be accessed through a phone, tablet or PC which is connected to the internet. Sites such as *FAO:Ecocrop* provides detailed crop requirement information for almost any crop that are cultivated throughout the world, including its uses and requirements for temperature, rainfall/water, soil type, soil depth, soil pH, salinity, altitude etc. It also include hundreds of forage crop species for extensive animal farmers. Another site *My Agriculture Information Bank* provides a variety of general agricultural information to farmers.

The Agri-Park needs to take cognisance of the technology that is available in order to assist the emerging farmers. By integrating technology into training regimes that are provided in the Agri-Park, emerging farmers will have access to the latest events in their respective fields.

Logistics

In order for the Agri-Park to be successful there needs to be an effective and well run logistics system. Logistics is an extremely important part of agriculture as it relies on transport of goods to and from the farm to the processing facilities and on to markets. Trucks and other large freight vehicles which transport goods are vitally important in any industry and is also important in the vegetable industry. Goods need to be transported in such a manner that they are not damaged. If goods need preservation then it is important to consider using refrigerated trucks to transport of produce. The second aspect of logistics is the medium of transport itself. Roads or the rail system need to be in good order and should be well connected in order to reduce the loss of produce and damage to trucks which can add on unnecessary costs to the farmers.

10.5 Demand and Needs Analysis

Unlike other commodities in this report domestic consumption of citrus is far more difficult to determine. Estimations are made by the Global Agricultural Information Network (GAIN) at a national level. The main reason for this is that citrus is seen as an export crop and much of the produce is exported to overseas markets such as Europe and Asia. In this section the estimations of the GAIN (2014) report are examined and the export markets will be used as proxies for demand.

It is believed consumption of oranges will remain flat at 130 000 tonnes based on a static consumer demand as a result of the slow economic growth in South Africa and the financial pressure faced by consumers (GAIN, 2014). Fresh oranges are the most popular citrus consumed in South Africa. Grapefruit domestic consumption will remain flat at 5 000 tonnes (GAIN, 2014). Domestic consumption of grapefruit is low as most South African consumers especially the younger generation have not acquired the taste for grapefruit. Domestic consumption of tangerines/mandarins will remain flat at 10 000 because of the slow economic growth and increasing financial

pressure faced by domestic consumers. It is expected that lemons and limes will either remain flat or decrease because of the return of normal weather (GAIN, 2014). In 2014 the weather produced exceptional growing conditions for lemons in the country. If economic conditions return to a more favourable state then citrus consumption and demand will increase. Consumption and demand for products made from citrus are expected to either remain flat or increase (such as orange juice) (GAIN, 2014).

Table 10.8: Domestic Consumption and Expected Growth

Citrus Type	Domestic Consumption 2014 (tonnes)	Expected Growth in Consumption (2015)
Oranges	130 000	=
Tangerines and Mandarins	10 000	=
Lemons	13 000	=
Grapefruit	5 000	=
Orange Juice	7 200	9% ↑

Source: GAIN, 2015

Citrus has largely been grown as an export crop in South Africa and has shown a great increase in demand from overseas sources (GAIN, 2014). It is believed that in 2015/2016 that demand in Europe may fall because of the perceived threat of Citrus Black Spot. Growth in other regions is expected to occur especially in Russia and China. Exports to the USA are dependent on the outcomes on the AGOA act that has yet to be finalised (GAIN, 2014). If no agreement is reached then it is expected that South African citrus will be tariffed and demand may decrease. If an agreement is reached then demand will depend on the quota (set by the USA) of citrus that is exported whether demand increases or decreases (GAIN, 2014). For demand to increase South Africa needs to solve the issue of Citrus Black Spot, open and export to new markets in Asia and solve the lingering doubts over AGOA.

10.6 Competition

While there are numerous established commercial farmers in the District competition is seen as an advantage rather than a disadvantage in this situation. Commercial farmers have established contacts and networks that they can take advantage of. This information can be accessed through various government programmes which encourage mentorship of farmers. The benefits of farming in areas that already have a strong presence of farmers is possibly more of a benefit than a disadvantage.

10.7 Socio-Economic (Job Creation)

The Agri-Park project vision, as discussed in Chapters 1 and 2, outlines the importance of socio-economic development as an objective of the Business Plan. Socio-economic progress and development can be measured in various ways, however the primary method of measurement selected for livestock commodity is job creation. Job creation is measured via the use of commodity labour multipliers, measuring the number of jobs created per R1 million produced directly into commodity production. The three relevant multipliers for the Sarah Baartman District Municipality citrus market are the:

- Direct Multiplier
- Indirect Multiplier
- Induced Multiplier

The three multipliers measure the total numbers of job created in an ideal economic environment for the citrus market however, as the economic environment diverges away from the ideal environment, so do the multipliers.

The table below displays the sectoral labour multipliers applicable to the vegetable industry, i.e. the number of the job opportunities created at different levels for every additional R1 million production. From the table below

it is thus estimated that for every R1 million of production there will be 3.49 jobs directly created while 1.34 will be indirectly created. A total of 6.74 jobs can be created. Citrus is thus fairly labour intensive and already creates numerous employment opportunities for labourers in the District. The value chain for citrus is also large and thus employs a large number of labourers.

Table 10.9: Direct, Indirect and Induced Jobs Created in the Citrus Industry

Sector	Direct	Indirect	Direct + Indirect	Induced	Total
Other Agricultural Products	3.49	1.34	4.83	1.91	6.74

The CGA (2011) states that each hectare of citrus produces one on farm job. It is thus thought that between 13 500 and 15 000 people are employed directly in on farm jobs in the Sundays River Valley while a further 500 – 700 are employed further down the value chain.

Information that is available on the District's citrus production and the potential number of hectares, together with the Bureau for Food and Agriculture Policy, have been used to estimate the employment opportunities that citrus production can contribute in the 10-year period. The Agri-Park can provide between 2 600 and 4 000 employment opportunities from the programme. It must be noted however that these figures are purely indicative and will change through the development of the Agri-Park.

10.8 Contribution to Food Security

One of the core concepts that the Agri-Park seeks to address is the issue of food security of communities. It is believed that the Agri-Park concept can assist in increasing food security and sustainability of communities' livelihoods. DAFF launched a Zero Hunger Policy in 2012 in order to curb poverty and improve food security for vulnerable communities who are in need of support. The Zero Hunger Policy was created to uphold Section 27,1 (b) of the bill of rights which states that every citizen has the right to food and water and Section 28,1 (b) which states that every child has the right to basic nutrition shelter and basic care and social services. The policy suggest that adult daily calorie should be 1792 kcal (7502kj) per day for an adult and sets a food poverty line of R260 per individual expenditure for food every month (DAFF, 2002). Citrus while not as important in food security as red meat or vegetables is still an important aspect in daily diets of communities. Citrus contains valuable nutrients and minerals that are needed in the daily diet of humans such as carbohydrates, vitamin C, folate, potassium, and phytochemicals (FAO, 2000). There is considerable evidence that citrus foods may help reduce the risk, or retard the progression, of several serious diseases and disorders such as cardiovascular disease, heart disease, hypertension, stroke, cancer, neural tube defects and anaemia (FAO, 2000).

Income earned from the citrus industry can also be used to purchase food goods in order to be more food secure as well.

10.9 Regulatory Requirements

Local markets are governed by a series of policies in place for various reasons. Table 10.10 indicates the relevant policies that affect local market with regards to citrus. The most important of these Acts is the Agricultural Product Standards Act, 1990 which sets out to establish a set of norms and standards related to the sale, labelling, storage and packaging of citrus throughout South Africa. This indicates that all citrus sold in South Africa has to comply with the regulations set out in the norms. The citrus containers have to be labelled correctly with the name of the cultivar, pack house code, grade, weight and number of units must be displayed on the packaging. The act also details the juice content in drinks and how they should be labelled. Finally the Act also outlines offences and penalties. Various other acts and policies are also apply to the citrus industry which are included in Table 10.10 below. It is extremely important to acknowledge the available legislature and policies as the Agri-Park must follow the rule of law as set out by the relevant departments. It will align itself to the legislature that is published

Table 10.10: Polices Affecting the Citrus Industry

Act	Description
Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) Citrus	This act aims to standardise quality norms for agricultural and related products by establishing the criteria for such norms and distributing the information to all interested parties. These criteria may include the quality, packaging, marking and labelling as well as the chemical composition and microbiological contaminants of the products. This relates to all goods made from citrus e.g. labelling of pure orange juice (min. 90% juice) vs. orange nectar (min. 50% juice), orange drink (min. 6% juice) or flavoured orange drink (less than 6% juice) etc.
Draft Plant Health (Phytosanitary) Bill 2014	Provides phytosanitary measures to prevent the introduction, establishment and spread of regulated pests in South Africa and the control of regulated pests. It also provides regulation of the movement of plants, plant products and other regulated articles into, within and out of South Africa include exports of agricultural goods.
Agricultural Pests Act, 1983 (Act No. 36 of 1983)	The purpose of the Agricultural Pests Act, 1983 (Act No. 36 of 1983) and its subordinate legislations is to provide for measures by which agricultural pests may be prevented and combated and for matters connected therewith. The Act also mandates the Directorate Plant Health to regulate plants, plant products and other regulated articles when imported into South Africa. Plants, plant products and related materials are capable of harbouring quarantine pests, which if they enter South Africa with imported commodities and establish, may endanger the South African agricultural sectors. Similarly, pests that occur in South Africa may endanger countries to which we export and as a result South Africa may lose its export markets.
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947)	The act provides for the appointment of a Registrar of Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies; for the registration of fertilizers, farm feeds, agricultural remedies, stock remedies, sterilizing plants and pest control operators; to regulate or prohibit the importation, sale, acquisition, disposal or use of fertilizers, farm feeds, agricultural remedies and stock remedies; to provide for the designation of technical advisers and analysts; and to provide for matters incidental thereto.
National Water Act, 1998 (Act No.36 of 1998)	This act encompasses laws relating to water resources and the use thereof.

Act	Description
Occupational Health and Safety Act, 1993 (Act No.85 of 1993)	The act aims to provide for the health and safety of persons at work and the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.
Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983)	The act encompasses those regulations associated with fair labour practices.
Marketing Act, 1968 (Act No. 59 of 1968)	The Act has authorised an establishment and enforcement of regulatory measures to intervene in the marketing of agricultural products, including the introduction of levies on agricultural products.
Stock Theft Act, 1959 (Act No. 57 of 1959)	This Act encompasses those laws associated with the theft of animal stock and produce.
Consumer Protection Act	To promote a fair, accessible and sustainable marketplace for consumer products and services and for that purpose establish national standards relating to consumer protection.

Export markets are also governed by sets of policies and protocols that have to be followed in order to export goods to those destinations. This is usually beyond those standards established in by the Agricultural Products Standards Act, 1990. Major citrus export markets such as China, Europe, USA, Israel, and Japan. Table 10.11 is a list of countries with which South Africa has bilateral agreements (export protocols) for which specific phytosanitary requirements are required. Phytosanitary is defined as relating to the health of plants, especially with respect to the requirements of international trade.

Table 10.11: List of countries with which South Africa has bilateral agreements for which specific phytosanitary requirements are required

Country	Fruit Type
China	All types of citrus (mandarins, sweet oranges, lemons and grapefruit) produced in all provinces.
EU	All types of citrus (mandarins, sweet oranges, lemons and grapefruit) produced in all provinces. Recently bans on citrus suspected of containing Black Spot.
Iran	All types of soft citrus, oranges, lemons and grapefruit produced from all provinces.
Japan	Sweet oranges (Valencia variety, Washington variety, Tomango variety and Protea variety), lemons and grapefruit from SA and Swaziland
South Korea	Sweet oranges (Valencia and navel varieties) produced from all provinces in SA.
USA	All types of soft citrus, sweet oranges, lemons and grapefruit exported only from officially approved citrus black spot-free areas, i.e. from 28 magisterial districts in the Western Cape and two magisterial districts in the Northern Cape. Recently Sundays River, Eastern Cape.

Source: DAFF, 2010

Beyond these requirements farms have to be registered as a food producer; orchards have to be regularly inspected; producers need to have packaging traceability; cartons need the correct labelling and marking and there needs to be regular quality control and maintenance (DAFF, 2010). Various certificates are often needed at the end of these steps in order to export citrus goods (DAFF, 2010).

Tariffs also play an important aspect in the export of goods. Many countries that import South African citrus impose certain degrees of tax on to the good that is entering the country. Often there are specific cases where bilateral agreements have been signed to waive the tariff imposed by the country importing the good. It is important to establish which tariffs will impact on the product.

10.10 Substitute Products and Services

Citrus and citrus products do not have many substitutes. In everyday consumption citrus products are often substituted from one type of citrus to another for example, an orange may be a substitute for a soft citrus or mandarin. Generally the products from citrus are not very well substituted either. This however, is not the case with juice which can be substituted by various soft drink products on the market.

10.11 Citrus Barriers to Entry

Barriers to entry are obstacles that make entry into a given market difficult such as regulations, high infrastructure costs or competition in the given area. This section will discuss the barriers to entry of the Citrus industry. The table below may provide some indications as the barriers that are faced by emerging farmers in the Agri-Park.

Table 10.12: Barriers to entry: Citrus

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
CAPITAL, RAW MATERIALS AND PRODUCTION ISSUES		
High start-up costs.	Capital costs are significant, however the profit gained is substantial once production is started.	-
Climatic conditions	Climate change is of recent concern with fluctuations adversely affecting fruit sizes	District
Irrigation required	Citrus is a water intensive crop that requires access to consistent water supply. A good irrigation system is required to optimise citrus production, especially as tree age increases, and a readily available supply must be available. The climate must also be within acceptable temperature ranges to ensure production	National
Orchard and infrastructure availability	The citrus infrastructure and support industries are well developed in the Sundays River Valley and Kouga Local Municipalities; furthermore the area is closely situated to a major port which is important for the exporting of citrus products. Production in other areas would not have access to these facilities as readily as operations within them.	District
Long Lead times	Citrus trees need to grow for three to five years before they can start producing, and profits can be obtained.	-
Diseases	Citrus diseases can affect the harvest and/or the success of the fruit accessing foreign markets.	
COMPETITION AND ACCESS TO MARKETS		
Import Controls	Citrus developed for export must be competitive after import tariffs (and any export duties if applicable in the future) are applied.	District, National
Health and Sanitation	Citrus produced within South Africa can be rejected from international markets based on concerns during	

CONSTRAINT	DESCRIPTION	LEVEL OF INFLUENCE
	the production process and/or concerns over the quality of the delivered product.	
Intense Competition	Producers in the Sarah Baartman District Municipality are already established, and any new producers would also have to compete with larger producers outside the province as well (e.g. Limpopo Province).	
International Production	South Africa is currently the second largest exporter of citrus, but only the 12 th largest producer. Expanding production from Brazil, Chile and Argentina is a threat to South African market share, as well as international market access.	National
INFRASTRUCTURE		
Roads	Inadequate secondary road maintenance and development leads to high transportation costs, difficulties in accessing markets and long delivery times, which subsequently can affect all downstream activities. Losses from poor road networks are estimated to be in the hundreds of millions.	Provincial
Land	The availability of land to expand orchards is the largest infrastructural challenge facing the forestry in the district.	District
Water	A potential barrier to entry could be the distribution of water rights to new entrants into the industry.	Provincial

Source: Urban Econ, 2015

10.12 SWOT

10.12.1 Strength

Biophysical

- The area that is under production is well suited to citrus growth in terms of temperature and receives water through the Sundays River Water Transfer Scheme
- The land capability of the area is good for citrus production and has supported the industry for the past 102 years.
- The biophysical nature of the citrus industry allows for complementary industries to form such as beekeeping.

Enterprise Viability

- The area is closely situated to a major port which is important for the exporting of citrus products
- The citrus industry can be very profitable if the correct procedures are followed and if the farmers become export orientated
- Farmers and labourers in the area are familiar with the industry as it has been ever-present in the district for over 100 years. The skills and knowledge are present in the District.
- Complementary industries can form surrounding the citrus industries such as beekeeping

Economic Development

- The citrus infrastructure and support industries are well developed in the Sundays River Valley and Kouga Local Municipalities
- On-farm employment in the citrus industry is extremely high and much more labour intensive than other industries in the area.

- Indirect and induced job creation is high as there are many forward and backward linkages in the citrus industry.
- The Sundays River Valley is globally renowned for its citrus exports and has a high degree of global competitiveness

Political and Social

- There is a large degree of government support for the citrus industry and there are numerous projects that are being developed by the District.
- State land is currently being used for the expansion of the citrus industry in the Sundays River Valley
- Locals are willing to buy into projects where citrus is the dominant agricultural product as they have familiarity with it

10.12.2 Weaknesses

Biophysical

- The District does not receive sufficient rainfall to make citrus production viable through only rain fed means
- There are very limited areas that citrus can be grown in the entire district
- Citrus is prone to certain disease that can eliminate the export potential of the crop

Enterprise Viability

- Capital costs are significant, however the profit gained is substantial once production is started.
- Citrus trees need to grow for three to five years before they can start producing, and profits can be obtained.
- Implements and infrastructure needed for the industry is capital intensive and can be an inhibitor to emerging farmers
- There is currently uncertainty with regards to water rights given to emerging farmers. These need to be secured in order to ensure the long term viability of the enterprises.

Political and Social

- The citrus industry might not be the most suitable industry to emerging farmers because of the inhibitive cost of the infrastructure required and the long lag time between planting and harvesting
- The citrus industry does not contribute directly to food security as red meat or vegetables do but there are benefits of citrus on the health of people who consume it

10.12.3 Opportunities

Biophysical

- The areas where citrus is grown are extremely well suited to production and thus expansion of the industry will not inhibit emerging farmers
- New varieties of citrus are constantly being produced to be drought resistant and cope with different climates, there is an opportunity to expand the industry into areas that were previously considered unsuitable

Enterprise Viability

- Small-scale value adding (zest, honey, ice-creams, yoghurts, jams, jellies, etc.) for local and tourist distribution
- Farm stalls and informal traders with roadside stalls
- Citrus waste-product used for biomass

Economic Development

- Expansion of the Fish-Sundays transfer scheme enabling more and/or better irrigation

- Increasing demand for healthier products like fruit juices and whole fruits (both internationally and nationally).
- Organic production opportunities for domestic and international juice markets

Political and Social

- There are opportunities to expand government projects into the citrus industry with the help of emerging farmers providing key skills, insight and knowledge of the export markets

10.12.4 Threats**Biophysical**

- Citrus is a water intensive crop that requires access to consistent water supply. A good irrigation system is required to optimise citrus production, especially as tree age increases, and a readily available supply must be available. The climate must also be within acceptable temperature ranges to ensure production
- Climate change is of recent concern with fluctuations adversely affecting fruit sizes
- Citrus diseases can affect the harvest and/or the success of the fruit accessing foreign markets

Enterprise Viability

- Poor road conditions negate the close proximity of the ports and threaten the export focused industry through heavy losses during transport
- Producers in the Sarah Baartman District Municipality are already established, and any new producers would also have to compete with larger producers outside the province as well (e.g. Limpopo Province).

Economic Development

- Citrus developed for export must be competitive after import tariffs (and any export duties if applicable in the future) are applied.
- Citrus produced within South Africa can be rejected from international markets based on concerns during the production process and/or concerns over the quality of the delivered product.
- Political and Social South Africa is currently the second largest exporter of citrus, but only the 12th largest producer. Expanding production from Brazil, Chile and Argentina is a threat to South African market share, as well as international market access.

Development Concept

Chapter 11

11. DEVELOPMENT CONCEPT

11.1 Introduction

This Sarah Baartman Master Agri-Park Business Plan reviewed the current agricultural activities in the Sarah Baartman District Municipality including, but not limited to, a review of the major agricultural products produced and the activities of the various public sector organisations supporting agriculture and farming projects in the region.

Commodities were identified through a review of the status quo of agricultural activities and biophysical conditions of the region (chapter 7), a review of policy documents and current agricultural projects. These commodities were then analysed by way of a prioritisation matrix which has assessed each commodity according to 37 scoring criteria falling into four broad classes. These are:

- A) Biophysical criteria
- B) Enterprise viability
- C) Economic development
- D) Political & social objectives

In accordance with the APAP and directives from the DRDLR the three top scoring commodities have been identified for inclusion as the core focus areas for the Sarah Baartman Agri-Park. The top three scoring commodities for Sarah Baartman were identified as: red meat (Including beef, sheep, and chevon/goat); vegetable production and citrus production. The identified commodities were then taken through a detailed analysis, including a Market Analysis; Value-Chain Assessment and SWOT Analysis (Chapter 8). These commodity reports (Chapters 8, 9, 10) were workshopped with the DAPPOTS and consensus was reached regarding commodities that will be represented at the Agri-Hub. The following were the key outcomes of the commodity analysis, relating to these three candidate commodities:

Livestock:

- The SBDM environment is well suited to certain types of livestock farming with almost all areas of the District showcasing good suitability to livestock farming (Namely sheep and goats in the drier areas and cattle along the coast and in the eastern areas).
- Large opportunities exist in the SBDM in red meat sub-class beef, sheep and goats. These opportunities include production prospects for commercial and emerging farmers as well as numerous opportunities for small and large concerns in the upstream and downstream portions of the value-chain including agro-processing.
- The demand for red meat has shown strong growth in recent years and conditions seem optimal for new entrants into the red meat market.

Vegetables:

- There are numerous areas across the District where a variety of crops can be produced.
- By supporting multiple crops the Agri-Park can ensure more farming concerns are catered for and the most suitable crops are planted in each area. This will greatly improve the quality of production, improve enterprise flexibility to market demands and enhance food security.
- Markets for vegetables are strong and new supply will easily find a market, especially in the Nelson Mandela Bay market which has a large retail sector.

Citrus

- The Eastern Cape (particularly Sundays River Valley and Gamtoos Valley) is one of the largest producers of citrus in the country with production increasing by over 10% in the Eastern Cape alone over 2012/2013 to 2013/ 2014 period.
- Citrus is one of the largest contributors to employment and GDP in the District.
- It is believed that demand of citrus will increase or maintain its current trajectory. If markets in Asia and the USA can be penetrated then it is possible for the citrus market to grow exponentially.
- There is a well-established commercial citrus industry in Sundays River Valley LM that can support and would be willing to support emerging farmers. There are already 15 emerging farms that are being supported by various programmes and commercial farmers.
- It has also recently emerged that there has already been significant planning related to various citrus development projects in the region, particularly related to the support and growth of the emerging farms, with a particular emphasis on unlocking the potential of citrus production and training on unutilised state land in the area.

General:

- Large investments in road, water and electricity infrastructure is required to facilitate the growth of agriculture in the rural areas of the Sarah Baartman DM.
- Significant investment in skills development and training in all identified commodities is required before significant levels of production can be achieved
- A large portion of the SBDM comprises arid areas. As a result, much of this land is unable to support commercial farming.
- Theft and vandalism of farm infrastructure / crops poses a moderate threat to vegetable farming in the SBDM.
- State land needs to be prioritised as a quick-win that can have an immediate benefit to the agricultural economy.

12.2 DRDAR Agri-Park Concept**Agri-Park**

An Agri-Park is a networked innovation system of agro-production, processing, logistics, and marketing, training and extension services. The Agri-Park system is located in a district municipality, serving to enable market-driven combination and integration of various agricultural activities and rural transformation services. The Agri-Park concept comprises of three basic units:

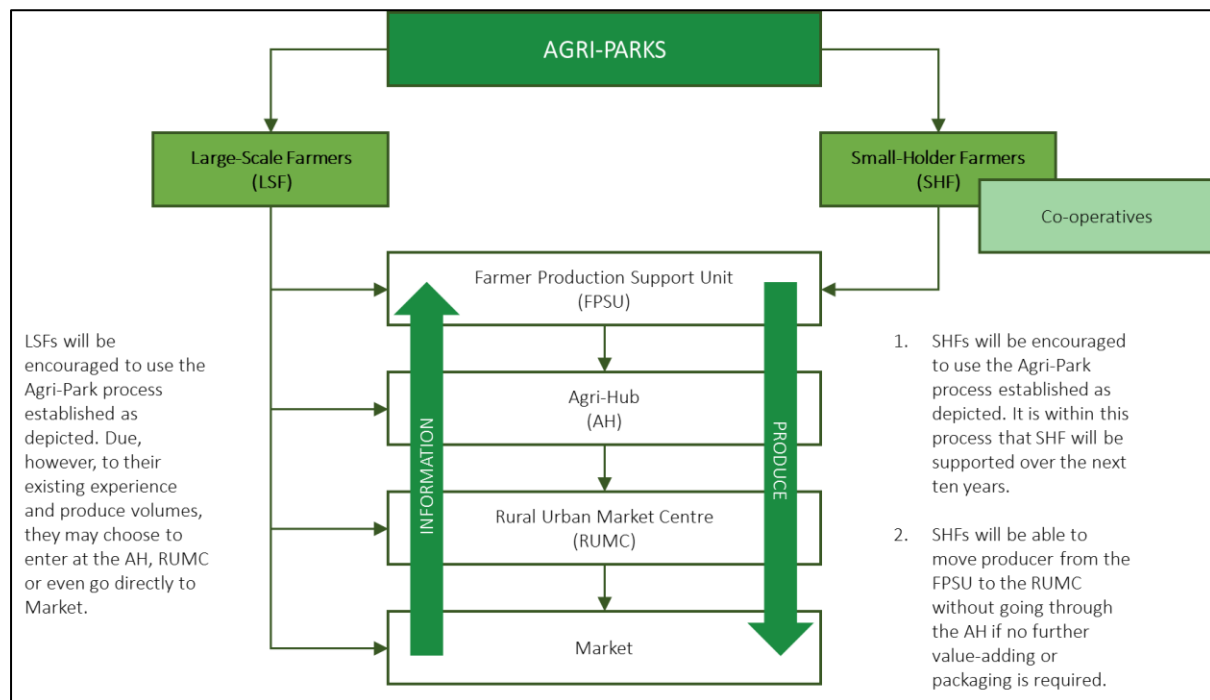
- A. Agri-Hub Unit (AH).
- B. The Farmer Production Support Unit (FPSU).
- C. The Rural Urban Market Centre Unit (RUMC).

The objectives of which is primarily to:

- Kick start rural economic transformation,
- Promote the growth smallholder and emerging farmer agriculture,
- Promote the development of skills for, and assistance to, small-holder and emerging farmers,
- Strengthen existing and create new partnerships between government, the private sector and civil society,
- Bring under-utilised land into full production.

Figure 11.1 below shows the structure of the Agri-Park, displaying the various elements of the model such as the Agri-Hub, FPSU and RUMC. These three elements of the Agri-Park model are described briefly below.

Figure 11.1: Agri-Park Structure



Source: DRDLR 2015

Agri-Hub

Agri-Hubs are located in centralised places within a District Municipality that are able to service and interact favourably with agricultural activities within the district. The Agri-Hub, by necessity, is located in an area that can serve as a link between district agricultural production and markets, and supply inputs from service and product providers towards the agricultural producers.

Farmer Production Support Units

The Farmer Production Support Unit (FPSU) is a rural outreach unit connected with the Agri-Hub. The FPSU serves as a resource node in areas isolated away from the main Agri-Hub, serving the surrounding community. The FPSU is detailed with collecting primary production from agricultural initiatives in the area, storing this product, engaging in small-scale processing operations for the local market, and providing extension services to surrounding operations (including mechanisation).

Rural Urban Market Centres

Rural Urban Market Centres (RUMC) are located on the periphery of large urban areas, providing three main purposes. The first is to link rural, urban and international markets; the second is to act as a holding facility for product, releasing produce as required to urban markets based on seasonal trends; and the third is to provide market intelligence and feedback to the Agri-Hub and FPSU. There will likely only be one RUMC per province in the early stages of the Agri-Parks development.

11.3 Sarah Baartman Development Agri-Park Concept

The three commodities that were selected for prioritisation and integration into the SBDM Agri-Park include livestock, vegetables and citrus. These have been deemed to have the greatest potential for growth and development in the district especially when considering criteria such as local agro-processing opportunities, suitability for smallholder and emerging farmers, and potential contribution to employment within the district.

The following sections outline the roles within the district for the Agri-Hub, RUMC and FPSUs, the physical and organisational requirements of each, discussions on the operational dynamics between the various role-players in the Agri-Park model (Agri-Hub, FPSUs, RUMC, the commercial, smallholder and emerging farmers, public sector entities, and the markets for the goods produced), as well as considerations affecting the implementation of the Agri-Park concept in the Sarah Baartman District Municipality.

The Agri-Parks main elements, the central Agri-Hub, the Farmer Production Support Units and the Rural-Urban Market Centre are three complimentary elements that will contribute to a competitive, successful and inclusive national agriculture sector.

Small and emerging farmers will be able to access key agricultural inputs, equipment, skills training and business administration and production assistance through the FPSU's as well as assistance with the productive elements of farming such as harvesting and moving produce from the farm onwards. The Agri-Hub will feature the centralised planning and oversight necessary to manage the multitude of agricultural projects in the district as well as key infrastructure and agricultural services necessary process base agricultural production such as meat, fresh vegetables and un-milled maize into finished and semi-finished products. Farmers, in addition to being able to access the services provided by the Agri-Hub, will also be able to sell directly to commercial farming cooperatives and/or form production agreements with commercial farming concerns. Choosing not to restrict smallholder and emerging farmers to the usage of the Agri-Hub facilities will ensure that local farmers receive the best price for their produce and allow them to form business relationships that may see them accessing financial and management support at a level which the Agri-Hub may not be in a position to offer.

The RUMC then provides an avenue for local farmers and the Agri-Hub to sell goods either to large retail concerns, smaller local retailers or directly to the person on the street. Here again, the Agri-Parks model should be flexible in how it accommodates farmers and Agri-Hubs, allowing both groups to sell produce forward to the client / market where production will fetch the highest price and allow commercial entities and other agricultural entities to make use of the RUMC.

11.3.1 Location of Agri-Park Units

The Agri-Hub is located in the Addo in Sundays River Valley Local Municipality The Agri-Hub is located:

- 60km from Port Elizabeth on the R335
- 30km from Kirkwood on the R336
- 50km from Port of Ngqura
- 70km from Port of Port Elizabeth
- 65km from Port Elizabeth Airport

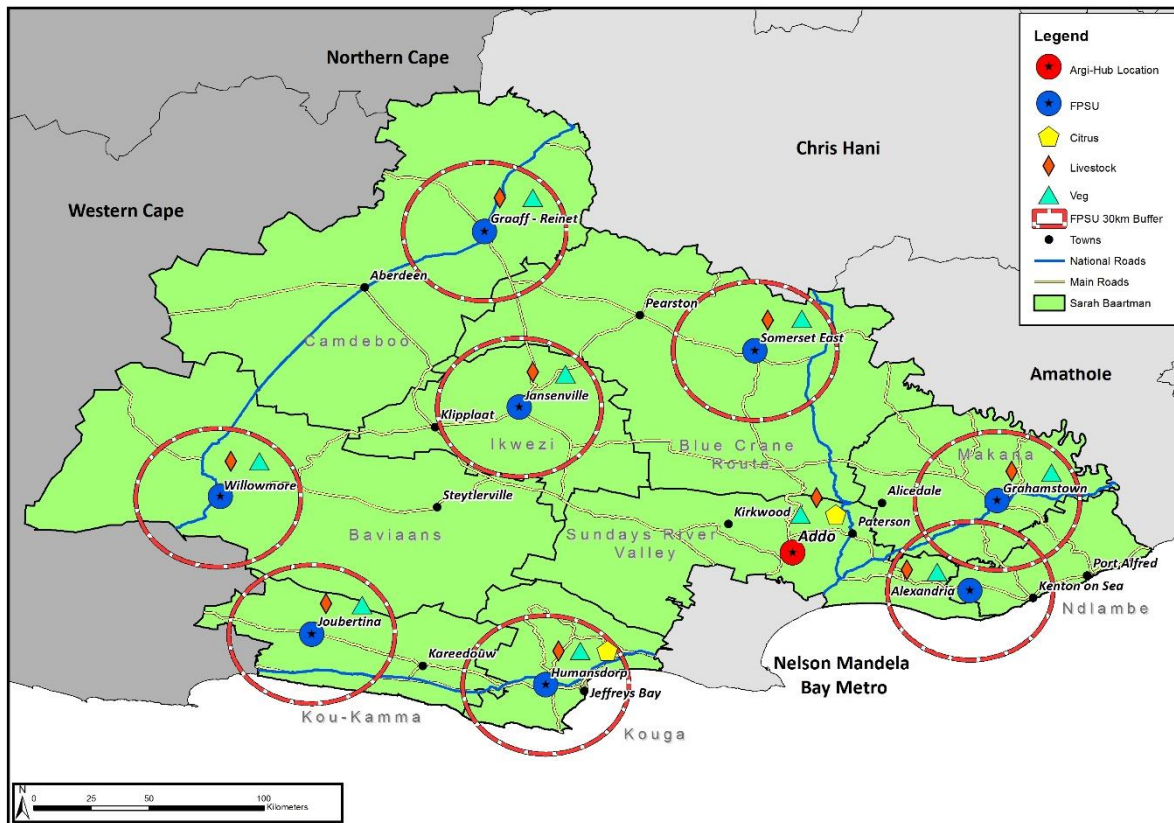
There will likely only be two RUMCs in the Eastern Cape for the initial phase of the Agri-Parks roll out. They will likely be located in Buffalo City and Nelson Mandela Bay. After this initial phase a RUMC may be located in the Mthatha SEZ.

The FPSUs are located in:

- Grahamstown - Makana
- Alexandria - Ndlambe
- Somerset East - BCR

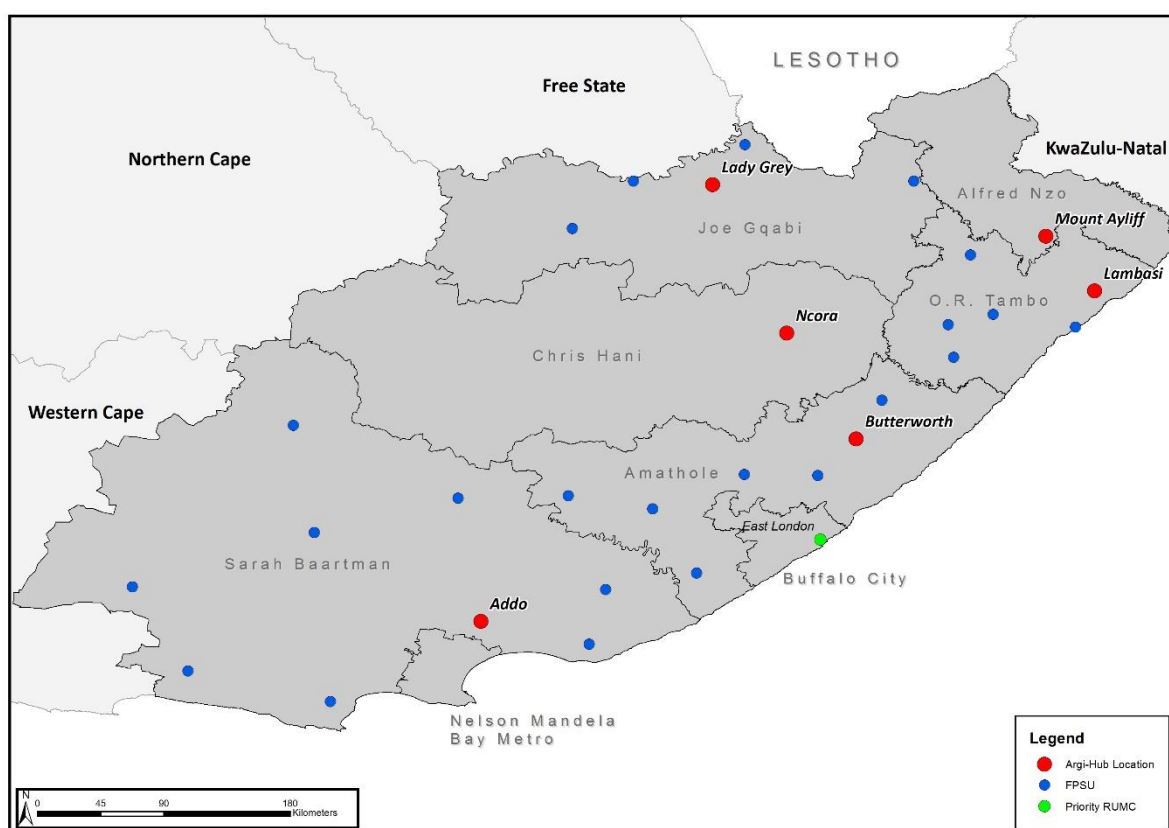
- Graaff-Reinet - Camdeboo
- Joubertina - Kou Kamma
- Steytlerville - Baviaans
- Jansenville - Ikwezi
- Humansdorp - Kouga

Figure 11.2: Location of the Agri-Hub and FPSUs, in SBDM.



Source: Urban-Econ GIS Unit, 2015.

The figure below indicates the Agri-Hubs, RUMC and FPSUs throughout the entire province. It is important to consider the cross border linkages with other Districts particularly if those districts have the same commodities such as vegetables and livestock that is shared with Amathole District. It would be beneficial for those FPSUs that are on the border of each district to share information and expertise.

Figure 11.3: Location of Agri-Hubs, RUMC and FPSUs throughout the Province⁸

Source: Urban-Econ GIS Unit, 2015.

It is important to consider the commodities of each district municipality and create linkages to those areas where the same commodity is supported e.g. livestock is supported in SBDM and in neighbouring ADM. The following table outlines the commodities in each district municipality.

Table 11.1: Commodities Prioritised in other Districts in the Eastern Cape⁸

District Municipality		Prioritised Commodities	
Amathole	Livestock	Maize	Vegetables
Joe Gqabi	Livestock	Wool	Maize
OR Tambo	Livestock	Maize	Vegetables and Fruit
Sarah Baartman	Livestock	Vegetables	Citrus

11.3.2 Key thrusts

The three commodities identified are unique and require different levels of support and different development initiatives to enable them to grow and achieve the stated goals of the Agri-Park development concept. As discussed through chapters 7 through 10, the key thrusts (focus areas) for each commodity are outlined below in Table 11.2.

⁸ The FPSUs and prioritised commodities of Chris Hani and Alfred Nzo are not known at the time of publication.

Table 11.2: Key thrusts for each commodity in the Agri-Park

Livestock	
Genetic improvement	Improving the genetic quality of emerging and small-holder farmers for immediate relatively fast improvement of prices offered for carcasses and wool/ mohair when sold.
Feedlot	A feedlot using citrus pulp as the primary means of feed. Operational during the citrus season in order to improve the quality of the cattle that are being sent to abattoirs. Develop a feedlot in Cookhouse through a Public Private Partnership (i.e. Humansdorp Co-Op).
Fencing	Fencing of commonage key grazing areas for small holder and emerging farmers.
Management of commonage	A key aspect of improving small holder farmer's herds is an improvement in the management of commonage. Commonage, if correctly planned and managed, can be vital for small holder farmers.
Veterinary support	FPSUs could potentially provide a base for DAFF veterinarians to operate out of and are invaluable to emerging and smallholder farmers.
Training	Training is a vital aspect of the Agri-Park concept. In order to give small holder and merging farmers an opportunity to produce livestock for the market then it is important to train farmers in animal handling and market information.
Abattoir facilities	There is currently space in the market for an abattoir at FPSU level that has deboning facilities. This should largely be focused on B and C grade meats for the local markets in the Ndlambe and Makana areas (Redevelopment of the IMPEC Ostrich Abattoir).
Vegetables	
Organic vegetables	There is a growing market in South Africa for organically grown vegetables as consumers become more aware of food production. There may be a gap in the market to exploit organically grown vegetables.
Processing of vegetables	Basic processing of vegetables could take place at the Agri-Hub. Cutting, peeling and packaging could be an important processing opportunity.
Production of vegetables in key projects	Vegetable production can be kick-started in areas through investment in key projects particularly at KK113 (interim production) and Enon Bersheba (110ha).
Market Linkages	Farmers must engage with Agri-Park, commercial farmers and destination markets to gain key market intelligence, form production agreements and make long term partnerships to exchange information and expertise.
Training	A key aspect involved in Agri-Park concept is that of training and development of farmers. Emerging vegetable farmers need practical training in best farming practices as well as training in how to access markets. Best practices in wool and mohair farming should be taught as well to increase production efficiency of these products.
Citrus	
Emerging Farmer Support	While there is a well-established commercial citrus sector, production opportunities lie with emerging farmers namely on two sites (KK113 - 225ha and Enon Bersheba 220ha) which has already been explored in research ⁹
Training and Mentorship	Training and mentorship are extremely important for the Agri-Park. A key initiative for training and mentorship would be the establishment of a Citrus Academy ⁹ , supporting both the NARYSEC youth programme and

⁹ SURE AGRI MARKETING, January 2015. The KK113 Citrus Industry Initiative. A development project supported by the ECRDA and SRCC.

	citrus industry initiatives; supported by the Nelson Mandela Metropolitan University.
Citrus nursery and pruning enterprise ⁹	Establishment of a citrus nursery and a pruning enterprise which shall be institutionally and operationally supported by the <i>Sundays River Citrus Company</i> .
Creating linkages to established citrus production	It is vitally important that emerging citrus farmers create linkages to established citrus farmers and established businesses. These linkages will benefit farmers. Unlike other commodities, citrus is largely exported and increasing production of citrus in the region can boost exports and satisfy demand in overseas areas thus increasing the amount that is paid to farmers. This system can be extremely beneficial to emerging farmers.

11.4 Commodity Development Concepts

The following section unpacks the proposed SBDM Agri-Park development concept, including the function of each element of the project. While they are presented separately the development concepts should not be seen as separate and should be viewed in synergy between all three commodities. They should share resources between them and not duplicate functions or infrastructure.

The commodity development concepts, unpacked below, consider the requirements of the location and coverage of the FPSU, AH, and the RUMC.

The concept is developed by the defining the following aspects:

- Roles and functions
- Location
- Key products/services
- Infrastructure and equipment
- Logistics
- Human Resources (HR)
- Training

The development concepts take into consideration the current agricultural situation of each commodity and translates this into how the Agri-Park should support and develop the commodity and agricultural sector in the district.

11.4.1 Livestock

The development concept for the production of livestock has been developed according to the Agri-Parks Model, as stated in the introduction. The process begins with the production of livestock by the farmer and is supported by the FPSU by providing services such as supplying feed, veterinary assistance, and auctions and sales. Livestock that is not intended for processing is sold at the FPSU to the local market, while livestock for further processing is transported to the AH. From the AH or abattoir, the red meat products can be sold, transported to various retail and distribution markets or the RUMC. The RUMC can further transport products to local and international market, while providing information on demand and market trends to the other components. Wool and mohair will be organised at an FPSU level through which key implements and farming inputs will be provided to the farmer. Wool and mohair best farming practices as well as management and business skills will be taught to emerging farmers in the region. Table 11.3 explores the development for red meat production.

Table 11.3: Livestock Development Concept

Production Flow	Farmers	FPSU	AGRI-HUB	RUMC
Location	All smallholder farmers and some commercial farmers (those willing to participate) involved in livestock production in the SBDM. Beef cattle is concentrated in the eastern portion of the municipality and sheep and goats in the western and central portions of the district.	<p>Livestock farmers will be supported by all the FPSU(s) that would be situated in the SBDM since it is a major primary agricultural activity in the SBDM. Sheep and goats will be largely supported in the west, north and central areas of SBDM while the eastern and southern areas will be predominantly focused on cattle. All FPSUs should support livestock namely:</p> <ul style="list-style-type: none"> • Grahamstown - Makana • Alexandria - Ndlambe • Somerset East - BCR • Graaff-Reinet - Camdeboo • Joubertina - Kou Kamma • Steytlerville - Baviaans • Jansenville - Ikwezi • Humansdorp - Kouga 	The Agri-Hub is located in Addo. Addo is close (32km) to Kirkwood which is home to the commercial citrus industry. The Agri-Hub is centrally located and is only 60km from the Port Elizabeth Harbour and 50km to the Port of Ngqura. The Agri-Hub is also only 70km to the international airport in Nelson Mandela Bay. Existing transport infrastructure is already present in the area but is need of maintenance. The site itself is located on Portion 307 of the Farm Commando Kraal 113, known simply as KK113, which is a 440 hectare property currently owned by the Sundays River Municipality. The hub itself will more likely expand over different farms in the Addo area. The location can be seen in figure 11.2.	There are likely only to be one RUMC in the Eastern Cape for the initial phase of the Agri-Parks roll out. It will likely be located in Buffalo City. After this initial phase a RUMC may be located in each district municipality if there is a need for it. When the SBDM Agri-Park develops into a feasible business venture and there is a demand for a RUMC, one could be developed specifically for SBDM in Nelson Mandela Bay.
Key Role & Function	Farmers are responsible for the primary production of livestock, but have slightly different roles according to size and complexity of operations.	The primary role of the FPSUs should be the improvement of the genetic material of the livestock. Currently the genetic quality of the livestock is poor and thus emerging farmers do not receive a large amount of money per	The Agri-Hub is not the optimum location for livestock production. There are not many livestock farmers in the area.	Links the livestock producers to local and international markets. <ul style="list-style-type: none"> • Provision of market intelligence in the beef and related industries.

	<p>Smallholder Smallholder farmers and subsistence farmers are primarily concerned with production to aid food security supplying primarily to their own households and communities and also to local markets or selling directly to public in village market centres.</p> <p>Emerging farmer Emerging farmers form a link between smallholder farmers and commercial farmers, being more sophisticated than smallholders and having higher levels of production. These farmers exhibit features of both smallholder and commercial farmers and may sell produce in small markets and/or through commercial marketing channels.</p> <p>Commercial Commercial farmers farm large portions of land with a high degree of mechanisation and technical sophistication. These farmers make use of well-established commercial marketing channels to sell livestock and move to destination markets.</p>	<p>carcass. Both wool and mohair quality will increase allowing for higher prices to be offered to farmers. As well as better quality wool, genetic improvement will offer the opportunity to get more fibre from livestock. If the herds are improved then this will automatically improve the prices that can be asked by emerging farmers. The FPSUs can be the centres of regional programmes that offer genetic improvement of livestock. The FPSUs will be the bases through which these programmes can take place.</p> <p>Of great importance is the training of emerging farmers while this genetic improvement programme continues as there would need to be a good understanding to maintain the good quality of the genes in the livestock herds. Genetic improvement will also improve the quality of wool that is produced in the region.</p> <p>The key role and function of FPSUs will be to provide input supplies (such as feed, pesticides, medicine, etc.), training and extension support, mechanisation support, local logistics support, storage of some animals that can improve genetic material of the emerging farmers livestock.</p> <p>There is an opportunity to locate an abattoir in Grahamstown or Alexandria to service smallholder and commercial farmers in the</p>	<p>The main role of the Agri-Hub will be the training of emerging farmers in the region on how to farm livestock sustainably to a market acceptable quality and how to improve animal well-being and training in the marketing aspects of farming. The most important immediate factor will be training on how to improve and maintain the genetic diversity of the livestock that they will be rearing. Along with this training, it is important to consider training in business practices and marketing. These actions alone should improve the prices that are being offered to emerging farmers. Training sessions involving practical and experiential learning will be crucial to the success of emerging farmers. Critical to the services offered by the Agri-Hub is the facilitation of training and skills development especially in the area of agricultural economics to ensure farmers understand the fundamentals running a sustainable farming enterprise. This will be beneficial to livestock</p>	<ul style="list-style-type: none"> • Identification of livestock markets. • Interact and negotiate with buyers in the various market channels. • Undertakes contractual agreements
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		<p>area. This area is currently not well serviced by abattoirs. This can either be done by repurposing the old Grahamstown Ostrich Abattoir but focusing on a smaller scale or by building a new abattoir in Alexandria (a large project has been proposed by the Ndlambe Municipality and a smaller scale version of this project could be more viable). This abattoir should focus on producing B and C grade carcasses that can service local markets and obtain contracts to supply meat to government institutions such as hospitals, prisons or feeding schemes. Reducing the distance that carcasses and livestock have to travel will improve the prices that can be asked for by emerging farmers. Processing in the form of deboning may be a suitable option to pursue at this FPSU.</p> <p>FPSUs need to effectively manage the commonage areas in each local municipality. Commonage can provide farmers with grazing but this needs to be managed effectively in order to maintain a high quality of grazing for the animals.</p>	<p>farmers at all levels including wool and mohair farmers.</p> <p>It is also recommended that a feedlot be established so that livestock, especially cattle, can be finished and improved before being sold to abattoirs. This feedlot can be supported by the waste products of the citrus industry. This should not be considered a large development as the pulp that is produced is seasonal and is not sustainable throughout the year. Citrus pulp is produced just before the increase in beef sales (over the holiday period) and forms a good linkage between the two industries. Cattle can be finished in a feedlot and then be sent to the abattoir in time for an increase in red meat demand.</p> <p>The Agri-Hub will be the centre of training and support for livestock industry. While processing should occur at an FPSU level, there are small opportunities for feedlots in the Agri-Hub.</p>	
Human Resources	The core HR personnel that the SHF would require from the FPSU are:	The following positions or services are required to assist smallholder or emerging	The following positions or services are required to assist	The following positions or services are required to assist

	<ul style="list-style-type: none"> • Extension officers • State veterinarians • Agronomist • Researchers • Some permanent staff to manage day to day farm operations. <p>Commercial farmers should have all the HR personnel they need to operate a farm but can use extension officers from the FPSUs and the Agri-Hub.</p>	<p>farmers in each FPSU area. These may be available at present through existing public or private agriculture industry structures. If access to these services or personnel are not available in a FPSU area they need to be provided by the Agri-Park.</p> <p>If there are existing staff – integrate into AP</p> <p>Local private and public entities must be approached to identify what services are available for inclusion into the Agri-Park model so duplication of services is avoided</p> <p>The FPSU will provide the following HR/HR facilities;</p> <ul style="list-style-type: none"> • Agricultural extension officer / support office; • Machine operators / Local mechanisation centre and workshops; • Researchers • Voluntary/Established commercial farmers to mentor the small scale farmers (<i>as many</i> as possible). • State veterinarian linked to DAFF 	<p>smallholder or emerging farmers in each FPSU area. These may be available at present through existing public or private agriculture industry structures. If access to these services or personnel are not available in a FPSU area they need to be provided by the Agri-Park.</p> <p>Local private and public entities must be approached to identify what services are available for inclusion into the Agri-Park model so duplication of services is avoided</p> <p>The AH will provide the following HR;</p> <ul style="list-style-type: none"> • Administrative manager • Quality control personnel • Feedlot personnel • Research and Demonstration personnel • Training personnel <p>It must be noted that the main production areas of livestock will not be in the Agri-Park.</p>	<p>smallholder or emerging farmers in each FPSU area. These may be available at present through existing public or private agriculture industry structures. If access to these services or personnel are not available in a FPSU area they need to be provided by the Agri-Park.</p> <p>Local private and public entities must be approached to identify what services are available for inclusion into the Agri-Park model so duplication of services is avoided</p> <p>The RUMC will provide the following HR;</p> <ul style="list-style-type: none"> • IT expert/personnel • Administrative manager • Training personnel • Marketing agents (to facilitate market linkages, facilitate contracts with wholesalers and major retail outlets and also to gather information on prices at fresh produce market that would be communicated to the AH and FPSU).
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Training	<p>Small holder and emerging farmers would require training on: best farm practices (animal growth and nutrition), use of tools and equipment, training on how to interpret market information (Access to markets and prices) and ICT. The extension officers that are involved with livestock production are well positioned to render this type of training. Also, training can be provided by the well-established commercial farmers through a mentorship programme. Extension officers through the DAFF can also organise Agri-shows, where farmers can express their concerns, and where training can be provided.</p>	<p>One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the SHF and emerging farmers.</p> <p>They can also provide some support to the commercial farmers particularly with veterinary services.</p>	<p>Some training would also be required at the hub e.g.</p> <ul style="list-style-type: none"> • Training on best practices, based on changing demand and supply. • Training on new innovations as they surface. • Training on how to operate feedlots with citrus pulp waste products. 	<p>Training of training personnel on how to disseminate information to the SHF, AH and the FPSU.</p>
Key product/activities	<p>The core activities of the small holder farmers are:</p> <ul style="list-style-type: none"> • Ensuring animal health • Disease control • Rearing of young livestock to replace herds taken to abattoir • Live animals that are taken to abattoirs • Wool and mohair fibre • Improving the genetic quality of the herds <p>Commercial farmers will focus on these aspects as well.</p>	<p>The core activities of the FPSU are:</p> <ul style="list-style-type: none"> • Collection of livestock from the farmers • Transportation of livestock to abattoirs/ feedlots or holding areas for sale • Some quality control (most to be performed by abattoirs and feedlots) • Transportation of processed carcasses from abattoirs to markets • Collection of wool and mohair from farmers. 	<p>The core activities of the AH are:</p> <ul style="list-style-type: none"> • Training of farmers on how to effectively raise livestock. • Training farmers in business management • Logistics support 	<p>The core activities of the RUMC are:</p> <ul style="list-style-type: none"> • Collection of final products from the AH/ FPSU (abattoir) • Marketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products • Bulk storage of final products
Infrastructure/Equipment	<p>The smallholder farmer would require the following equipment, which can be hired from the FPSU:</p> <ul style="list-style-type: none"> • Tractor • Trailer • Feeding troughs 	<p>The FPSU would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Transport (e.g. Bakkie or pick-up vehicles) • Weighing facilities • Auction facility • Storage facility 	<p>The AH would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Administrative facilities • Rental facilities • Quality control facilities 	<p>The RUMC would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Large warehouses/ holding facilities • Cold storage facilities

	<ul style="list-style-type: none"> • Water troughs • Tagging equipment • Animal handling areas • Storage facilities for feed, poisons, and medicines. • Sheering sheds and equipment <p>Commercial farmers should have access to all of this equipment and infrastructure.</p>	<ul style="list-style-type: none"> • All equipment listed to be required by the small holder farmers. 	<ul style="list-style-type: none"> • Agricultural input distribution and sales centre • Training centre • Student and staff housing • Logistics and transport facility 	<ul style="list-style-type: none"> • Administrative facilities/information centre
Logistics	<p>Smallholder farmers should be organised into groups. Each group should have a group head that would communicate information from the farmers to the FPSU and also arrange for delivery of inputs with the FPSU.</p> <p>Selling of animals: Certain days of the week should be assigned for collection of animals from the farmers. Farmers will unlikely have the necessary logistics available to take the animals to abattoir so this will have to be organised with the FPSU. Farmers intending to sell on certain days would notify the FPSU for necessary arrangements. For farmers with large numbers of livestock, special arrangements should be made to transport these animals as this can greatly increase capacity at an abattoir. They should be allowed to rent a truck and driver to fill a truck and deliver it to the abattoir for processing. Commercial farmers will have access to their own vehicles or hire vehicles from the FPSU.</p>	<p>The FPSU should organise Primary logistics in the form of collection vehicles either to hire or operated by the FPSU to collect livestock to transport to the abattoirs and feedlots. Cold storage transport should also be arranged for distribution to the various marketing channels and the RUMC.</p> <p><i>*It should be noted that some of these transport facilities will be used to deliver farm inputs to the collection centres, after which it can be distributed to individual farmers.</i></p>	<p>Rental of transport could occur from the AH but will primarily be the role of the FPSU.</p>	<p>Transportation to the different markets from the AH, especially international markets can also be arranged through the RUMC. The products that are stored at the RUMC holding facilities will also be transported to the identified markets.</p>

	<p>Collection of wool and mohair: The key to developing logistics for wool and mohair collection would be to include key role players and stakeholders in the process. Cape Wool and BKB are the largest organisations who collect animal fibres. These organisations already have the infrastructure in place for collecting these products and can prove invaluable to farmers if they are integrated into the Agri-Parks concept.</p>			
Technology/ ICT	<p>In order to boost their production efficiency and health of the animals, the SHF would require:</p> <ul style="list-style-type: none"> • Modern tools, • Mobile devices for subscription to Apps. , to enable them receive information from the RUMC on weather forecast, disease control etc. 	<p>Tracking devices on all vehicles to prevent theft and also to monitor the movements and locations of the drivers.</p> <p>The FPSU would also require a subscription to certain Apps from the RUMC to remain aware of current prices fetched on the global, national and local market, so as to be able to strategically supply vegetable/ products to the markets.</p> <p><i>*It should be noted the same transport facilitates would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.</i></p>	<p>In order to remain aware of the current prices fetched on the global, national and local market, so as to be able to strategically supply red meat to the markets, the RUMC would also require subscription to certain Digital Applications. This will enable the AH to remain informed.</p>	<p>The RMUC will provide an information database that all the various basic units of the Agri-Park can subscribe to.</p> <p>Economic and marketing computer applications and programmes can be used by the RUMC.</p>

11.4.2 Vegetables

The concept for the production of vegetables in the district also looks at the production flow from the farm to the market (through to the RUMC). Vegetables is one of the district's key commodities and it is therefore essential to provide training and support to smallholder and emerging farmers that want to enter the market. The production of vegetables will entail mechanisation and storage support from the various FPSUs among other services. The FPSUs will support farmers with the supply of inputs, such as seeds and fertilisers and will provide collective transport means for fresh produce. Distribution to markets can also be facilitated by the AH where possible, otherwise the RUMC will act as a distribution centre and assist with market related information. Further details on the development concept for vegetables are found in Table 11.4

Table 11.4: Vegetable Development Concept

Production Flow	Farmers	FPSU	AH	RUMC
Location	Vegetables can be grown in most areas of the SBDM to varying degrees either in tunnels or in fields. The varying climatic and soil conditions across the district will determine what crops farming projects are suitable in each LM and to what degree.	<p>All FPSUs should to some degree support vegetable farming as there are a large number of projects which support community vegetable gardening initiatives.</p> <p>Sarah Baartman Baviaans - Steytlerville Camdeboo – Graaff-Reinet Ikwezi - Jansenville Kouga - Humansdorp Kou-Kamma - Joubertina Makana - Grahamstown Ndlambe - Alexandria Sundays River Valley – Addo</p>	The site of the Agri-Hub will be in the town of Addo on the farm portion of KK113 and other municipally owned land in the Addo area as seen in Figure 11.2.	There are likely only to be one RUMC in the Eastern Cape for the initial phase of the Agri-Parks roll out. It will likely be located in Buffalo City. After this initial phase a RUMC may be located in each district municipality if there is a need for it. When the SBDM Agri-Park develops into a feasible business venture and there is a demand for a RUMC, one could be developed specifically for SBDM in Nelson Mandela Bay.
Key Role & Function	<p>Farmers are responsible for the primary production of fresh vegetables, but have slightly different roles according to size and complexity of operations.</p> <p>Smallholder Smallholder farmers and subsistence farmers are primarily concerned with crop production to aid food security supplying primarily to their own households and communities and also to local fresh produce markets or selling directly to public in village market centres.</p>	The FPSU plays a critical role in ensuring availability and facilitating access to Input supplies such as vegetable seed, seedlings, fertilizer, pesticides, herbicides, training and extension support, mechanisation support, local logistics support, limited sorting of fresh produce, some packaging, some storage, and processing for local markets, through-put of excess products to Agri-hubs.	<p>The main role of the Agri-Hub will be the training of emerging farmers in the region on how to farm vegetables sustainably to a market acceptable quality.</p> <p>Critical to the services offered by the Agri-Hub is the facilitation of training and skills development especially in the area of agricultural economics to ensure farmers understand the</p>	<p>Links the vegetables producers to local and international markets.</p> <ul style="list-style-type: none"> • Provision of market intelligence in vegetable and related industries. • Identification of vegetable markets. • Interact and negotiate with buyers in the various market channels. • Undertakes contractual agreements

	<p>Emerging farmer</p> <p>Emerging farmers form a link between smallholder farmers and commercial farmers, being more sophisticated than smallholders and having higher levels of production. These farmers exhibit features of both smallholder and commercial farmers and may sell produce in small fresh produce markets and/or through commercial marketing channels.</p> <p>Commercial</p> <p>Commercial farmers farm large portions of land with a high degree of mechanisation and technical sophistication. These farmers make use of well-established commercial fresh produce marketing channels to sell produce and move to destination markets.</p>		<p>fundamentals of running a sustainable farming enterprise.</p> <p>The Agri-Hub should also facilitate access to key agricultural processes including pack-houses, grading and sorting facilities, logistics services and agro-processing services. Agro-Processing can include cutting and peeling of vegetables that can be packaged and sold to local markets and retail outlets.</p>	<ul style="list-style-type: none"> Reintroducing the Port Elizabeth Fresh produce market where emerging farmers produce can be sent to be sold on the local market.
Human Resources	<p>The core HR personnel that farmers may require from the FPSU are:</p> <ul style="list-style-type: none"> Extension officers Agronomist Researchers Seasonal staff (harvest labour) Some permanent staff to manage day to day farm operations. <p>Commercial farmers should have all the HR personnel they need to operate a farm but can use extension officers from the FPSUs and the Agri-Hub.</p>	<p>The following positions / services are required to assist smallholder / emerging farmers in each FPSU area. These may be available at present through existing public/private agriculture industry structures. If access to these services or personnel are not available in a FPSU area they need to be provided by the Agri-Park.</p> <p>Local public and private entities must be approached to identify what services are available for inclusion into the FPSU service model to ensure duplication of positions / functions is avoided.</p>	<p>The following positions / services are required to assist smallholder / emerging farmers in the Agri-Hub area. These may be available at present through existing public/private agriculture industry structures. If access to these services or personnel are not available in an Agri-Hub area they need to be provided by the Agri-Park.</p> <p>Local public and private entities must be approached to identify what services are available for</p>	<p>The following positions / services are required to assist smallholder / emerging farmers in the RUMC area. These may be available at present through existing public/private agriculture industry structures. If access to these services or personnel are not available in the RUMC area they need to be provided by the Agri-Park.</p> <p>Local public and private entities must be approached to identify what services are available for</p>

		<p>The FPSU will provide the following HR/HR facilities;</p> <ul style="list-style-type: none"> • Agricultural extension officer / support office; • Machine operators / Local mechanisation centre and workshops; • Agronomist (for soil testing etc.) • Researchers • Voluntary/Established commercial farmers to mentor the small scale farmers (as many as possible). 	<p>inclusion into the FPSU service model to ensure duplication of positions / functions is avoided.</p> <p>The AH will provide the following HR;</p> <ul style="list-style-type: none"> • Administrative manager • Quality control personnel • Staffs to manage the Agro-Processing facilities • Research and Demonstration personnel • Training personnel 	<p>inclusion into the FPSU service model to ensure duplication of positions / functions is avoided.</p> <p>The RUMC will provide the following HR;</p> <ul style="list-style-type: none"> • IT expert/personnel • Administrative manager • Training personnel • Marketing agents (to Facilitate market linkages, facilitate contracts with wholesalers and major retail outlets and also to gather information on prices at fresh produce market that would be communicated to the AH and FPSU).
Training	<p>Small holder farmers would require training on: best farm practices, use of tools and equipment, training on how to interpret market information (Access to markets and prices) and ICT. The extension officers that are involved with livestock production are well positioned to render this type of training. Also, training can be provided by the well-established commercial farmers through a mentorship programme. Extension officers through the DAFF can also organise Agri-shows, where farmers can express their</p>	<p>One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the farmers.</p>	<p>Some training would also be required at the hub e.g.</p> <ul style="list-style-type: none"> • Training of processing staffs on how to handle and operate various processing equipment. • Training on best practices, based on changing demand and supply. • Training on new innovations as they surface. 	<p>Training of training personnel's on how to disseminate information to the farmers, AH and the FPSU.</p>

	concerns, and where training can be provided.			
Key product/ activities	<p>The core activities farmers are:</p> <ul style="list-style-type: none"> • Land preparation (including land clearing, bed making), installing infrastructure (including water infrastructure, tunnel construction where applicable) • Vegetable farming (including planting, fertilization, disease control, irrigation etc.) • Harvesting of vegetables • Packaging and transportation of fresh produce. 	<p>The core activities of the FPSU are:</p> <ul style="list-style-type: none"> • Facilitate collection / delivery of fresh vegetables from the farmers • Transportation of fresh produce to the pack houses / sorting facilities within the FPSU or AH service nodes • Quality control • Cleaning, sorting and grading • Packaging for the local market and small retail outlets and fresh produce markets • Facilitate transportation of produce destined for processing directly from the farm to the AH. 	<p>The core activities of the AH are:</p> <ul style="list-style-type: none"> • Receiving of fresh cleaned and sorted fresh produce from the FPSU; • Further Quality control; • Processing of fresh produce into products such as :Frozen vegetables; • Storage of products ; • Some marketing; • Transportation of products to the RUMC. 	<p>The core activities of the RUMC are:</p> <ul style="list-style-type: none"> • Collection of final products from the AH • Marketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products • Bulk storage of final products
Infrastructure/ Equipment	<p>There are numerous infrastructure elements unique to the farming of individual vegetable sub-types. There also many common forms of infrastructure. The major infrastructure requirements for vegetable farming, especially on a smallholder or emerging farmer level are:</p> <ul style="list-style-type: none"> • Tractors and harvesters • Utility vehicles, trucks, bakkies etc. • Piping, sprinklers and other water distribution technology • Seed, fertilizer and chemical storage • Farming hand tools and implements • Equipment storage 	<p>The FPSU would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Transport (e.g. Bakkie or pick-up vehicles) • Vegetable cleaning, sorting, grading, drying machines • Weighing and packaging machines • Local pack house • Small scale processing facilities for local market • Produce sorting facility • Auction facility • Storage facility 	<p>The AH would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Administrative facilities • Rental facilities • Agro-Processing facilities • Packaging facilities • Quality control facilities • Agricultural input distribution and sales centre • Training centre • Student and staff housing • Logistics and transport facility 	<p>The RUMC would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Large warehouses/ holding facilities • Cold storage facilities • Administrative facilities/ information centre

	<ul style="list-style-type: none"> • Fencing • Packaging infrastructure and materials • Sprayers • Greenhouses / farming tunnels (depending on crop) 	<ul style="list-style-type: none"> • All equipment listed to be required by the small holder farmers. 		
Logistics	<p>Smallholder farmers should be organised into groups. Each group should have a group head that would communicate information from the farmers to the FPSU and also arrange for delivery of inputs with the FPSU. It is suggested that there should be input collection centres which would serve as small offices for the group heads. This group heads would work closely with the pack houses and the FPSU.</p> <p>Harvesting: Farmers intending to harvest on certain days would notify the FPSU for necessary arrangements. For smallholders with less than 2ha of land, harvesting would be done semi-manually, harvested potatoes will be transported as each trailer gets filled up. For farmers with more than two hectares, harvesting would be done mechanically and vegetables will be transported to the FPSU as each trailer gets filled up.</p>	<p>The FPSU should organise Primary logistics collection centre in the form of pack houses where trucks (bakkie/pick up vehicles) would pick up potatoes from various farms and convey it to these pack houses. Cold storage transport should also be arranged for distribution to the various marketing channels and the RUMC.</p> <p><i>*It should be noted that some of these transport facilities will be used to deliver farm inputs to the collection centres, after which it can be distributed to individual farmers.</i></p>	Rental of transport could occur from the AH.	The same cold storage transport will be used for distribution of final products to wholesales and major retail outlets.
Technology/ICT	<p>In order to boost their production efficiency, the SHF would require:</p> <ul style="list-style-type: none"> • Modern tools, • Mobile devices for subscription to Apps. , to enable them receive information from the RUMC on weather forecast, disease control etc. 	<p>Tracking devices on all vehicles to prevent hijack and also to monitor the movements and locations of the drivers.</p> <p>Also, the FPSU would require subscription to certain Apps from the RMUC to remain conversant with the current prices fetched on the global, national and local market, so as to</p>	In order to remain aware of the current prices fetched on the global, national and local market, so as to be able to strategically supply red meat to the markets, the RUMC would also require subscription to certain Apps. This	The RUMC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.

		<p>be able to strategically supply potatoes/potato products to the markets.</p> <p><i>*It should be noted the same transport facilitates would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.</i></p>	<p>will enable the AH to remain informed.</p>	
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11.4.3 Citrus

The development concept for the production of citrus has been developed according to the Agri-Parks Model, as stated in the introduction. The process begins with the production of citrus by the farmer and is supported by the FPSU by providing services such as supplying trees, fertilizer, and equipment. Citrus that is not intended for processing or exported or sold to the local market, while citrus for further processing is transported to the pack house. From the AH or citrus processing, the citrus products can be sold, transported to various retail and distribution markets or the RUMC. The RUMC can further transport products to local markets, while providing information on demand and market trends to the other components. Table 11.5 explores the development for red meat production.

Table 11.5: Citrus Development Concept

Production Flow	Farmers	FPSU	AH	RUMC
Location	<p>Predominantly in the Addo and Kirkwood area in the Sundays River Local Municipality where citrus farming is already established. There are already established black owned and operated farms in this district that could benefit from the AP concept.</p>	<p>Citrus production in Sarah Baartman is mostly located in the Kirkwood and Addo areas. There is citrus production around Patensie in the Gamtoos Valley and FPSU support can be provided in Humansdorp to support this area. The Agri-Hub is proposed to support the emerging farmers within the citrus industry in Addo and Kirkwood while FPSU will support the Gamtoos Valley.</p>	<p>The main site of the Agri-Hub will be located in the Addo area in the Sundays River Valley Municipality.</p>	<p>There are likely only to be one RUMC in the Eastern Cape for the initial phase of the Agri-Parks roll out. It will likely be located in Buffalo City. After this initial phase a RUMC may be located in each district municipality if there is a need for it. When the SBDM Agri-Park develops into a feasible business venture and there is a demand for a RUMC, one could be developed specifically for SBDM in Nelson Mandela Bay.</p>

Key Role & Function	<p>Farmers are responsible for the primary production of fresh citrus, but have slightly different roles according to size and complexity of operations.</p> <p>Smallholder and Emerging farmer</p> <p>Smallholder and emerging farmers are farmers who farm smaller tracts of land. The nature of citrus farming in most contexts does not allow for extremely small tracts of land to be farmed. A collective of small holders and emerging farmers on smaller tracts of land is more profitable than individual farmers attempting to farm alone.</p> <p>Commercial</p> <p>Commercial farmers farm large portions of land with a high degree of mechanisation and technical sophistication. These farmers make use of well-established commercial fresh produce marketing channels to sell produce and move to destination markets.</p>	<p>The FPSU plays a critical role in ensuring availability and facilitating access to Input supplies such as, fertilizer, pesticides, herbicides, and extension support, mechanisation support, local logistics support.</p> <p>The Gamtoos Valley will receive support through the FPSU at Humansdorp which can assist with input supplies and expertise while training will be referred to the Citrus Academy in Addo.</p>	<p>The Agri-Hub will play an important role in the development of citrus in the region. The key role of the AH will be to provide a location for a Citrus Academy, citrus nursery, pruning service and for citrus production. Services such as training, farmer support and other key services will be offered to citrus farmers in the region.</p>	<p>For Citrus, the RUMC would not be the main market for citrus produced by the emerging farmers and would be mainly sold through marketing channels available from privately owned pack houses and processing facilities e.g. The SRCC or Patensie Citrus would be responsible for exporting or processing the citrus. Any citrus that is not exported will be sold on the local market and can be sold at the RUMC.</p> <p>The RUMC will predominantly be responsible for assistance to farmers in selling any excess citrus on the local market.</p>
Human Resources	<p>The core HR personnel that the SHF would require from the Agri-Hub are:</p> <ul style="list-style-type: none"> • Extension officers • Agronomists • Researchers • Seasonal staff (harvest labour) • Permanent staff to manage day to day farm operations. 	<p>The following positions / services are required to assist smallholder / emerging farmers in each FPSU area. These may be available at present through existing public/private agriculture industry structures. If access to these services or personnel are not available in a FPSU area they need to be provided by the Agri-Park. These positions can be shared with the other commodities.</p>	<p>The AH will provide the following HR;</p> <ul style="list-style-type: none"> • Administrative manager • Quality control personnel • Research and Demonstration personnel • Training personnel 	<p>The following positions / services are required to assist smallholder / emerging farmers in the RUMC. These may be available at present through existing public/private agriculture industry structures. If access to these services or personnel are not available in the RUMC they need to be provided by the Agri-Park.</p>

		<p>Local public and private entities must be approached to identify what services are available for inclusion into the FSPU service model to ensure duplication of positions / functions is avoided.</p> <p>The FPSU will provide the following HR/HR facilities;</p> <ul style="list-style-type: none"> • Agricultural extension officer / support office; • Machine operators / Local mechanisation centre and workshops; • Agronomist (for soil testing etc.) • Researchers • Voluntary/Established commercial farmers to mentor the small scale farmers. 		<p>Local public and private entities must be approached to identify what services are available for inclusion into the FSPU service model to ensure duplication of positions / functions is avoided.</p> <p>The RUMC will provide the following HR;</p> <ul style="list-style-type: none"> • IT expert/personnel • Administrative manager • Training personnel • Marketing agents (to Facilitate market linkages, facilitate contracts with wholesalers and major retail outlets and also to gather information on prices at fresh produce market that would be communicated to the AH and FPSU).
Training	<p>Small holder farmers would require training on:</p> <p>Best farm practices, use of tools and equipment (Sprayers, pruners etc.), training on how to interpret market information and ICT. Training can also be provided by the well-established commercial citrus farmers through a mentorship programme and skills sharing programme through the SRCC. Extension officers through the DAFF can also</p>	<p>Training should not be done at the FPSU For citrus as the citrus academy would negate the need for training to be performed at the FPSU. Thus all citrus training for the Gamtoos area should be performed at the Agri-Hub in Addo.</p>	<p>Citrus Academy – The citrus academy is a vital component of the Agri-Hub. It will assist in training young farmers in technical, administration and management skills needed in the citrus industry. The citrus academy allows an opportunity to expand on skillsets and provide certificate and diploma type</p>	<p>Training of personnel on how to disseminate information to the farmers, AH and the FPSU.</p>

	organise Agri-shows, where farmers can express their concerns, and where training can be provided.		courses if it is affiliated with an established tertiary institution such as Nelson Mandela Metropolitan University. The citrus academy can source workers who are working on commercial farms and those who operate their own farms and provide a source of skilled labour to the commercial industry. The DRDLR has suggested (in previous proposals presented to the SRV LM) that this facility capacitate a number of selected NARYSEC youth and after qualification and on-site experience, place these persons on farms that have been acquired by DRLDR for hand-over to these emerging farmers.	
Key product/activities	<p>The core activities of the small holder farmers are:</p> <ul style="list-style-type: none"> • Land preparation (land clearing, orchard preparation) • Management of citrus nursery and pruning equipment • Citrus farming (planting, fertilization, disease control, irrigation etc.) • Harvesting of citrus • Loading of citrus into field trucks/tractors and transporting to pack houses 	<p>The core activities of the FPSU are:</p> <ul style="list-style-type: none"> • Facilitate collection / delivery of fresh citrus from the farmers in Gamtoos Valley • Transportation of fresh produce to the pack houses / sorting facilities within the FPSU service nodes in Gamtoos Valley • Quality control • Facilitate transportation of produce destined for processing directly from the farm to the pack houses. 	<p>The core activities of the AH are:</p> <ul style="list-style-type: none"> • Facilitate collection / delivery of fresh citrus from the farmers in the area • Further Quality control • Transportation of products to the RUMC. <p>Citrus Pruning Services – Citrus pruning is a vital service that can be offered by the Agri-Hub. Pruning is important process that is necessary for the growth of the</p>	<p>The core activities of the RUMC are:</p> <ul style="list-style-type: none"> • Collection of final products from the AH • Marketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products • Bulk storage of final products

		<p>citrus plants. In order to produce top quality export ready citrus there needs to be an effective pruning system. While a pruning service is already established in the area, a report¹⁰ presented to SRV LM indicated that the established pruner would want to work with the new service provider.</p> <p>Citrus Nursery – A citrus nursery is a vital component of the citrus industry. Replanting of old citrus trees every year has placed a large demand on existing nursery's supply. Farmers have to order saplings two years in advance in order to replace older trees in orchards. It was thus recognised by the SRCC to develop a citrus nursery that can provide saplings for SRCC members and eventually expand to include provision to other commercial farmers. It is estimate that 26 jobs can be created from this activity alone.</p>	
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¹⁰ SURE AGRI MARKETING, March 2014. Mayibuye Compost Company Pruning Project.

<p>Infrastructure/ Equipment</p>	<p>The smallholder/emerging farmer would require the following equipment, which can be hired from the Agri-Hub:</p> <ul style="list-style-type: none"> • Plastic bins 400kg, • Crate trailers, • Picking bags canvas (metal hooks), • Picking scissors, • 8 feet aluminium ladders, • Aluminium double step ladders, • Pruning machines, • Fertilizers and chemicals, • Poison room 30m×12m×5m height, • Orchard boom sprayer, • 1 000L tank with pipe, • Irrigation system, • Chainsaws, • 3000Lt Water Cart with Alpha 3" pump per unit each (Hydraulic driven), • 3000lt Tower Spray Machine with BP 305 pump, roll over nozzles and 2 Agitators, • Bush cutter 1.8m, • Boundary fence 6km and 7km for 2 farms, • Citrus hand gloves, • Hydraulic scraper, • Weed kill spray machine, • Generator to replace electricity (65kva Three Phase Generator), • New irrigation pump house with filters and fertilizing tanks: pumps, filters, motor (5,5m) and 2×2000Lt tanks for Nomzamo and Welvediend farms. 	<p>The FPSU at Humansdorp would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Transport (e.g. Bakkie or pick-up vehicles) • Local pack house • Produce sorting facility • Storage facility • All equipment listed to be required by the small holder farmers. 	<p>The AH would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Administrative facilities • Rental facilities • Quality control facilities • Agricultural input distribution and sales centre • Retail facility • Training centre (Citrus Academy) • Pruning, nursery equipment and storage facilities • Student and staff housing • Logistics and transport facility 	<p>The RUMC would require to put in place the following equipment/infrastructure:</p> <ul style="list-style-type: none"> • Large warehouses/ holding facilities • Cold storage facilities • Administrative facilities/ information centre
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Logistics	<p>Smallholder farmers, as near as possible, should be organised into groups or collectives. Each group should have a group head that would communicate information from the farmers to the Agri-Hub and also arrange for delivery of inputs with the Agri-Hub. It is suggested that there should be input collection centres which would serve as small offices for the group heads. This group heads would work closely with the pack houses and the Agri-Hub.</p> <p>Harvesting: Harvesting should be organised in conjunction with the SRCC and Patensie Citrus who already processes much of the citrus that is produced by the black owned farms. These logistics that are already in place should be taken advantage of as establishing new links would not be beneficial to emerging farmers and can be quite costly to farmers.</p>	<p>The FPSU should organise Primary logistics collection centre in the form of pack houses where trucks (bakkie/pick up vehicles) would pick up citrus from various farms and convey it to these pack houses. Cold storage transport should also be arranged for distribution to the various marketing channels and the RUMC.</p> <p><i>*It should be noted that some of these transport facilities will be used to deliver farm inputs to the collection centres, after which it can be distributed to individual farmers.</i></p>	<p>The same transport (especially the cold storage transport) will be used to collect fresh potatoes from the FPSU to the AH for processing. Indicating that the transport facilities would serve multiple purposes.</p>	<p>The same cold storage transport will be used for distribution of final products to wholesales and major retail outlets.</p>
Technology/ICT	<p>In order to boost their production efficiency, the SHF would require:</p> <ul style="list-style-type: none"> • Modern tools, • Mobile devices for subscription to Apps. , to enable them receive information from the RUMC on weather forecast, pest and disease control etc. 	<p>Tracking devices on all vehicles to prevent theft and also to monitor the movements and locations of the drivers.</p> <p>The FPSU would also, require subscription to certain Digital Applications from the RUMC to remain conversant with the current prices fetched on the global, national and local market, so as to be able to strategically supply potatoes/ potato products to the markets.</p> <p><i>*It should be noted the same transport facilities would be used to service all the</i></p>	<p>In order to remain aware of current prices fetched on the global, national and local market, so as to be able to strategically supply potatoes/ potato products to the markets, the RUMC would also require subscription to certain Apps from the RMUC. This will enable the AH to remain informed.</p>	<p>The RUMC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.</p>

		<i>basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.</i>		
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11.5 Logistics Plan

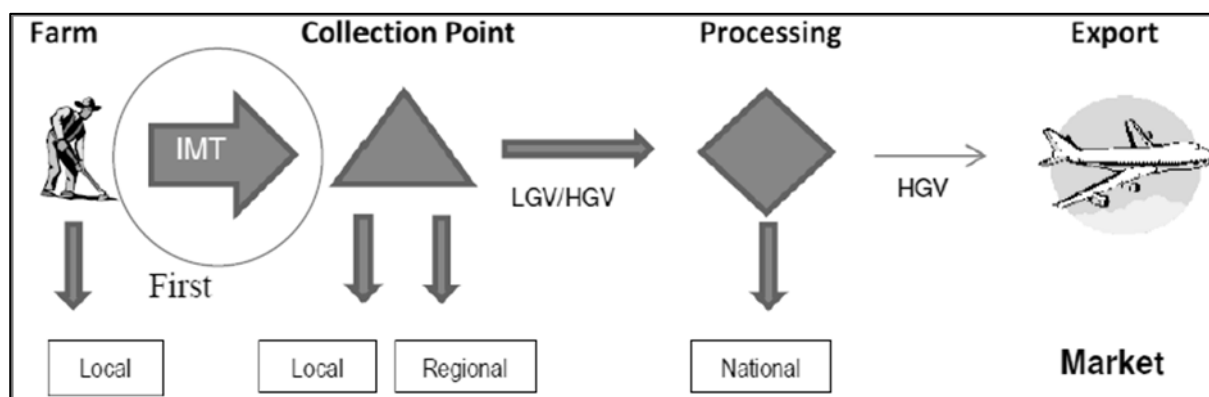
The focus of the logistics plan is to develop a strategy to move farm produce to market as smallholder and emerging farmers seek to become important players in the emerging food supply chain in South Africa. The logistics plan draws on challenges and opportunities faced by the farmers that are likely to participate within the Agri-Parks programme, while the focus remains on recognising the importance that transport plays in the emerging farmer value chains.

11.5.1 Understanding the Logistics Chain

It is important that the transport segments in the emerging agricultural sector are understood. The segments include the primary, intermediate and final transport route segments, described in further detail below:

1. The primary transport segment, also known figuratively as the first mile, is the segment in which product moves from farm to a consolidation/collection point that are found on primary roads where collection is typically easier. The key role-players in this segment are the farmers who move the produce from their farm to the consolidation/collection point.
2. The intermediate transport segment realises the movement of produce from the primary consolidation, or collection point to an intermediate point, or in this case an Agri-Hub. The key role-players at this point are larger, commercial farmers, or transporters.
3. The final transport segment will move product from the intermediate point to the final market, or destination.

These segments are exemplified in the following figure:



The above figure is a generic emerging, or small-scale farmer's logistics chain that contains the farm, consolidation/collection points, intermediate processing points and the final markets for the product. The first mile, in general, is the most important segment since it can be the most expensive segment of the logistics chain. It is often the case that product quality is compromised through bruising and ageing in this segment.

11.5.2 Recommended Logistics Strategy:

Unlike commercial, large-scale farming, small-scale and emerging farmers produce smaller quantities and farms are spread over a wide spatial territory. As such, it is of high importance that consolidation points are developed in order to collect produce in viable volumes, while coordination with intermediaries and transporters is crucial so that the farmers jointly are able to create economies of scale. Consolidation points should therefore be developed at strategic locations on easy access roads and a well-structured approach is required in order to assist the farmers in produce consolidation. This is exemplified in the following logistics plan:

In order to do this, appropriate infrastructure is required at the consolidation points along with organised transport coordination (exploiting ICT) that will reduce value deterioration at the farm gate and consolidation/collection points. The following recommendations can be used in order to develop the logistics plan for the Agri-Park:

1. Locate and demarcate specific areas of production that will participate in the Agri-Parks programme.
2. Develop an inventory of what will be produced in the given demarcated areas.
3. Determine quantities to be produced in the demarcated areas.
4. Determine the total value of production that will be produced by small-scale farmers.
5. Determine and map the spatial location and spread of farms that will be producing within the programme.
6. Determine the location of the consolidation/collection points and what facilities should be made available.
7. Assess the potential perishability of the produce/value of the post-harvest losses.
8. Plan for the availability and reliability of transport services to collect produce.
9. Assess the quality of transport infrastructure in the location.
10. Determine the key market locations/destinations in the given area.
11. Develop, or enhance farmers' organisations and support groups.

The above process will assist in providing a better understanding of how to move produce from farm to market, while a comprehensive and integrated logistics management system can be employed to improve the efficiency in which produce can be moved to market taking into account rural infrastructure, consolidation management and collection services. The ability to understand the product movement will provide a foundation from which a logistics plan can be developed.

The following steps provide a broad outline toward the logistics plan, in which all elements of the Agri-Park including the farmers, FPSU, Agri-Hub and RUMC are integrated:

1. Demarcate farmer groups within a given production area.
 2. Determine a central location of the consolidation/collection point for the produce in each of the demarcated areas.
 3. Implement a logistics management system and programme through the FPSU and RUMC that will assist in moving farmers produce to the consolidation points.
 4. Implement a logistics management system and programme through the FPSU and RUMC that will move product from the consolidation points to the Agri-Hub.
 5. Implement a logistics management system and programme through the RUMC that will move product from the Agri-Hub to the market/final product destination.
- The FPSU will be responsible for the movement/transportation of the product.
 - The RUMC will provide the market intelligence and therefore the timing of the movement of the product.

11.6 High Level Costing

The following tables present a high level analysis of the costs to establish the Agri-Park by looking at the costing examples of one FPSU and the Agri-Hub in Addo. These costing examples are for complete new builds and do not take into consideration all of the existing infrastructure / services which may already be available for integration into the FPSU, AH and RUMCs.

The following costing presents an estimation of the costs to establish an FPSU with all the commodities supported such as the FPSU at Humansdorp. These costs are representative of the costs for FPSUs in other parts of the SBDM. The total new-build cost for a complete FPSU is calculated at ± **R 27 165 000** over an extended period of time. It must be noted that not all FPSUs will support citrus and only Humansdorp will have all three commodities supported. These costs can and should be mitigated with the sharing of equipment, vehicles, and certain processing equipment. This cost is purely indicative of a green-fields development and will vary wildly from FPSU to Agri-hub. A key recommendation from this section is that the development must consider services and infrastructure already in place before building more infrastructure or providing services. This ensures that projects and emerging farmers will receive necessary funding.

Table 11.6: Example FPSU Costing

Element	Cost (Rand)
Buildings	
Office Space	R 1 600 000
Mechanisation Centre and Workshop	R 1 750 000
Warehousing Facility (Sorting, Processing, Packaging & Storage Facility)	R 1 500 000
Cold Storage	R 500 000
Retail	R 1 100 000
Auction Facility	R 700 000
Training Facility	R 400 000
Infrastructure	
Water Bulk Connection	R 65 000
Electricity Connection	R 1 100 000
Roads/Paving	R 900 000
Security Fencing & Installation	R 600 000
Parking	R 300 000
Red Meat Equipment	
Farm Vehicles	R 750 000
Transport Vehicles	R 3 500 000
Implements	R 150 000
Processing Equipment	R 900 000
Vegetable Equipment	
Farm Vehicles	R 750 000
Transport Vehicles	R 3 500 000
Implements	R 750 000
Processing Equipment	R 900 000
Orchard Equipment	
Farm Vehicles	R 750 000

Transport Vehicles	R 3 500 000
Implements	R 300 000
Processing Equipment	R 900 000
FPSU Total	± R 27 165 000

It has been noted that Ikwezi, Bavians and Camdeboo will merge as Local Municipalities in 2016 but FPSU support should still be provided in these areas as one FPSU servicing these areas would prove insufficient. The new LM would be large and need to be serviced by multiple FPSUs. To best cover this area, it is suggested that the FPSUs be located in Graaff-Reinet, Willowmore and Jansenville. Graaff-Reinet is well connected by roads (N9 and R63), Willowmore has connected via the N9 and R329. Jansenville is connected via a rail route and the R75. These FPSUs cover an important agricultural area of the SBDM especially with regards to the livestock commodities.

Table 11.6 indicates the costs associated with developing an Agri-Hub at Addo. This costing is based off a proposal that was developed by SURE AGRI MARKETING for the KK113 Citrus Industry Initiative (Supported by ECDC and the SRCC) and the costing is based off the proposal that was submitted in January 2015. This proposal provides a detailed outline of what is required to develop the project (This site is one of many possible sites for the Agri-Hub in the Addo region. For the purpose of costing it was decided to use KK113 as there was already research done on the land which could be used in this context). The ideas of this proposal are also used as a basis for the Western Region Proposed Agri-Park Business Plan August 2015 developed by the DRDAR. It is therefore recommended that the Agri-Park in SBDM follows this costing example. The total cost for the Agri-Hub would be **±R84 989 000**. The items in grey were added for the vegetable commodity. It should also be noted that the final hub site extend over other municipally owned farms in the area and not simply be bound to KK113.

Table 11.7: Addo Agri-Hub Costing¹¹

Element	Cost (Rand)
Infrastructure Costs	
Office and Ablutions	R 800 000
Chemicals Room	R 750 000
Fencing	R 500 000
Pump house, tractor shed and workshop	R 1 600 000
Dam construction and water supply	R 4 000 000
Irrigation	R 5 200 000
Bridge and access roads	R 3 700 000
Beneficiary housing	R 3 500 000
Training centre	R 1 200 000
Greenhouse	R 600 000
Vegetable packaging and processing areas	R 5 000 000
Cold storage	R 750 000
Retail	R 2 174 000
Feedlot	R 5 000 000
Machinery and Equipment	
Farm vehicles	R 5 500 000
Farm equipment	R 3 900 000

¹¹ Costs are assumed to include consulting fees.

Development Costs	
EIA	R 250 000
Soil preparation, removal of bushes, citrus tree planting, irrigation installation	R 7 700 000
Eskom point and water bulk connection	R 465 000
Project management & support services: Sundays River Citrus Company	R 2 400 000
Capacity Building	R 2 700 000
Nursery order trees	R 5 700 000
Windbreaks	R 1 000 000
Contingency	R 2 600 000
Sub-Total	R 66 989 000
Working Capital Costs	R 18 000 000
Total	R 84 989 000

Source: Adapted from SURE AGRI MARKETING, 2015.

Costing for the RUMC has not been included as there will likely only be one RUMC in the Eastern Cape for the initial phase of the Agri-Parks roll out. It will likely be located in Buffalo City. After this initial phase a RUMC may be located in NMB.

Implementation Guidelines

Chapter 12

12. IMPLEMENTATION GUIDELINES

12.1 Introduction

The following **implementation guidelines** provide an overview of what should be achieved in order to successfully implement the Agri-Parks programme within the SBDM. The implementation guidelines provide valuable information about:

- Understanding the implementation process and what is required for the process.
- How to align the implementation of the Agri-Parks programme with various government initiatives in developing agriculture.
- Recommendations that will streamline and assist the development of the Agri-Parks programme.

Steps to be taken in developing **Implementation Process**

- The Agri-Park in the form of a roll-out plan.

This final chapter lays out the implementation guidelines and planning required to implement the Sarah Baartman District Municipality's Agri-Parks programme, starting with the implementation process.



The above guidelines are used to develop the following implementation process for the rollout of the SBDM Agri-Park. The process follows the following 14 steps:

1. **Agri-park model:** The Agri-Parks model has been developed by the DRDLR and has been adopted as the model of preference nationally.
2. **Selection of the 44 Districts Municipalities:** The Agri-Parks model is to be implemented across 44 districts nationally over a 10 year period.
3. **Agri-Hub location selection:** The DRDLR along with technical partners have identified locations for the Agri-Hubs in each of the given districts. The Agri-Hub forms the heart of the Agri-Parks programmes, where significant agro-processing takes place.

4. **Master Agri-Park Business Plan:** The Master Agri-Parks Business plans were developed for the Agri-Parks. This plan identified specific commodities that agriculture would be developed around within the districts. The plan further outlines challenges and opportunities for each of the Agri-Parks.
5. **Governance:** Strategic bodies and plans will be formed, including the defining of ownership and management structures.
6. **Funding model:** A financial gearing plan will be developed for each Agri-Park once all costs for implementation are established. The plan will also assist in developing investment memorandums to attract investors.
7. **Technical planning:** The technical aspect of the Agri-Park will entail, mainly, the planning of the physical construction of the Agri-Park along with related infrastructure and technologies.
8. **Detailed business plans:** The different units of the Agri-Park (i.e. FPSUs, AH and RUMC) as well as the farmers will have specific detailed business plans developed.
9. **Financial close:** Funding will be sourced from various financial institutions, government bodies and private investment, depending on the funding model.
10. **Construction:** The construction of the Agri-Park's units and other related infrastructure will start.
11. **Training Programmes Rollout:** Training programmes will commence through the FPSUs and other partners.
12. **Farmer Production:** FPSUs will be set-up and run in order to make assistance available for farmers to start production through the Agri-Park.
13. **Agro-Processing:** Once primary production has taken place, and products are ready, agro-processing activities will commence through the Agri-Park's Agri-Hub.
14. **Market:** Completed products will be distributed and sold to relevant markets through assistance of the RUMC. Moreover, the RUMC will responsible for providing information to producers for production purposes.

Importantly the 14 step implementation process should align to current projects that take place in a district context in order to avoid duplication of any existing programmes/projects/campaigns, while also continuing with them to avoid redundancies. Various programmes/projects/campaigns are identified and described in the following sub-section.

12.2 Alignment with Government Programmes, Projects and Campaigns

The implementation of the Agri-Parks programme is required to align with various agricultural programmes, projects, or strategies that have been adopted and implemented by government and its various departments. Table 12.1 summarises various programmes/projects/campaigns that are currently under progress, their description and how Agri-Parks can potentially align. A select few private programmes and policies are also shown in the table below.

Table 12.1: Programmes, projects and campaigns

Programme/ Project/ Campaign	Description	Agri-Parks Alignment
Agricultural Programmes		
Agricultural Broad-Based Black Economic Empowerment (AgriBEE)	The implementation of AgriBEE is based on the commodity value chain approach. The approach is fundamental in creating partnerships, linkages, and networks for balanced, mutually benefiting results for all concerned. The AgriBEE is expected to ensure enhanced competitiveness and sustainable development with expansion of the existing	✓ The Agri-Park will focus on the development of the value chains for each of the identified commodities.
		✓ In developing the value chain there needs to be a focus on integration of all stakeholder to be involved.
		✓ Integration of the value chain will create partnerships and linkages that will be

	<p>businesses, rehabilitation of agricultural business that are performing poorly and expanded entry for new businesses in the sector.</p> <p>AgriBEE also encourages partnerships between established agricultural enterprises and emerging farmers and entrepreneurs.</p>	<p>mutually beneficial for all stakeholder involved and enhance the competitiveness of the Agri-Park.</p> <ul style="list-style-type: none"> ✓ Stakeholder engagement is required to encourage partnerships that are beneficial from farmers to markets.
Comprehensive Agricultural Support Programme (CASP)	<p>The programme provides agricultural support to land and agrarian reform projects, which contributes towards food security, job creation and poverty alleviation.</p> <p>CASP is also involved in the development of a number of policies, strategies and projects that are geared toward the development of the agricultural sector. These include:</p> <ul style="list-style-type: none"> • Agricultural finance lending • Co-operatives establishment • Access to markets • Value chain development • Improvement policies • Production guidelines • Agro-logistics planning • Early warning climate systems 	<ul style="list-style-type: none"> ✓ The Agri-Park should work closely with CASP projects to support the initiatives set out within CASP. ✓ Policy alignment is key to achieve a common set of goals. ✓ The Agri-Park should focus on job creation through various initiatives, especially primary agriculture where there is potential for many job opportunities. ✓ The Agri-Park should investigate initiatives to extend credit to farmers. ✓ The Agri-Park needs to encourage and manage the establishment of co-operatives. ✓ Management practices need to be implemented at various stages of the value chain in order to ensure consistent production and product quality. ✓ Information technology should inform all stakeholders within the value chain.
Integrated Food Security and Nutrition Programme (IFSNDP)	<p>This programme was initiated by the Food and Agricultural Organisation (FAO). The core goal of this initiative was to reduce hunger and food insecurity. To take further steps toward achieving this objective, the Special Programme for Food Security (SPFS) will be expanded to all nine provinces (DAFF, 2016). The SPFS and CASP have collaborated, and as a result 10% of the total CASP budget will also be aligned to projects that contribute directly towards food security (DAFF, 2016).</p>	<ul style="list-style-type: none"> ✓ A major objective of the Agri-park is to improve food security. ✓ Primary production should be a key focus of the Agri-Park. ✓ The Agri-Park will therefore be required to improve access to markets through engaging the markets and meeting the requirements of the market procurement policies.
Research and Development (R&D)	<p>The programme encourages research and development within the realm of agriculture and involves all stakeholders within the national agricultural research system.</p>	<ul style="list-style-type: none"> ✓ Training forms part of the Agri-Parks many roles. ✓ Training requires research and development initiatives that should align with R&D programmes set out by government. ✓ R&D is required throughout the value chain and will be required to evolve as technologies do.

National Regulatory Services (NRS)	The increased trade in regulated agricultural products has required the development of the NRS that regulates and promotes international trade. This includes inspections of agricultural produce and bilateral negotiations. In addition, the NRS promotes awareness with respect to agricultural produce health matters.	✓ The Agri-park should implement policies that enforce international standards on production and processing that will allow the programme access to international markets.
LAND and AGRARIAN REFORM PROJECT (LARP)	<p>The objectives of LARP are the redistribution of land, increased black entrepreneurship, promoting access to agricultural support services, increased agricultural production, and increased agricultural trade.</p> <p>The programme builds on lessons that have been learnt from previous land reform projects, reviews, the Land Summit and implementation reforms.</p>	<p>✓ The Agri-Park forms part of the market for farmers and will therefore encourage production.</p> <p>✓ Models are to be developed to distribute state own land and ensure land tenure is in place for producers.</p> <p>✓ Access to the market through the Agri-Park will further encourage land that was previously not in production to produce.</p>
LandCare	The LandCare programme was established to promote productivity through the sustainable use of natural resources, to improve food security and create employment, therefore encouraging South Africans to use sustainable methods of cultivation, livestock grazing and harvesting of natural resources in order to limit land degradation.	<p>✓ Access to the market through the Agri-Park will further encourage land that was previously not in production to produce.</p> <p>✓ The Agri-Park is to encourage the sustainable use of land and resources.</p>
Small Holder Farmer Evaluation	The programme focuses on the integration of smallholder farmers into the greater agricultural value chain. The programme works in conjunction with other programmes and provides strategic agricultural support.	<p>✓ The Agri-Park will manage and encourage smallholder production, a primary objective of the Agri-park.</p> <p>✓ Logistics and management plans are key to the success of integration of smallholder farmers.</p>
Rural Development Programmes		
Comprehensive Rural Development Programme (CRDP)	<p>The CRDP is in place to create decent work and sustainable livelihoods. The programme ensures sustainability, communal ownership and effective contribution toward the objectives of developing rural areas.</p> <p>The overarching objective of the CRDP is social cohesion and integrated development through participatory approaches and partnerships with all sectors of society.</p>	<p>✓ The Agri-park encourage primary production.</p> <p>✓ Will have support mechanisms in place to ensure best production methods.</p> <p>✓ Create jobs in primary agriculture.</p> <p>✓ Ownership models encourage social cohesion, integration and participation from all stakeholders.</p>
National Rural Youth Service Corps programme (Narysec)	Narysec is a youth skills development and employment programme that also forms part of the CRDP.	✓ The Agri-Parks programme will encourage youth to participate in agriculture by creating viable and attractive agricultural enterprises.

	The programme also provides character building programmes, soft and hard skills training and dispatches youth to rural areas for rural development projects. The programme further transforms the youth of rural areas, from being job seekers to being job creators.	
Rural Enterprise and Industrial Development (REID)	REID is in place to facilitate poverty reduction, social organisation, youth development and the development of cooperatives, rural enterprises and industries.	<ul style="list-style-type: none"> ✓ The Agri-park encourage primary production. ✓ Will have support mechanisms in place to ensure best production methods. ✓ Create jobs in primary agriculture. ✓ Ownership models encourage social cohesion.
DRDAR Projects	The DRDAR seeks to develop Agri-Hubs that will result in the growth of the local agricultural sector through integrated agricultural value chains.	<ul style="list-style-type: none"> ✓ Similarities in the programmes are complementary and will align accordingly.
Eastern Cape Rural Development Agency	The ECRDAs mandate is to promote, support and coordinate rural development and agrarian reform to reduce poverty and underdevelopment through integrated and participatory interventions.	<ul style="list-style-type: none"> ✓ Rural development programme ✓ Renewable energy programme ✓ Rural finance programme ✓ Rural development support programme ✓ Coordinate and facilitate external funding and investments to co-fund mega projects ✓ Establishment of rural development clusters and nodes.
Private Programmes		
SRCC Development Trust	Development of operational enterprises supporting SRCC member farming operations and greater Sundays River Valley citrus farming operations. This enterprise will initially include a citrus nursery and a pruning enterprise and shall be institutionally and operationally supported by the Sundays River Citrus Company.	<ul style="list-style-type: none"> ✓ Alignment to the Agri-Park concept through the assistance to emerging farmers by commercial farmers.
Citrus Growers Association Development Chamber (CGDC)	The CGDC is responsible for overseeing the emergence of new and emerging farmers in the citrus industry. It also plays an important part in the transformation in the citrus industry.	<ul style="list-style-type: none"> ✓ The Agri-park encourages primary production in citrus by black farmers. ✓ Support of black farmers aligns to the Agri-Park goals.
African Farmers Association (AFASA)	AFASA aims to commercialise the developing agricultural sector and ensure meaningful participation of black individuals within the mainstream commercial agribusiness sector, hence ensuring the long-term sustainability of the agricultural sector in South Africa.	<ul style="list-style-type: none"> ✓ Support of black farmers aligns to the Agri-Park goals.

12.3 Recommendations

The business plan has highlighted what needs to be done in the way of developing the agricultural sector within the district. Challenges have been highlighted and recommendations have been made in order to streamline the implementation process.

The below table provides a list of recommendations that should be considered for the development of the Agri-Park in the SBDM:

Table 12.2: Table Showing the Specific Recommendations for the SBDM Agri-Park.

Key Areas	Recommendations
Infrastructure	<ul style="list-style-type: none"> It is recommended that roads in poor condition (R75, R335, and R336) and unsurfaced (gravel) roads around the proposed location of the Agri-Hub should be upgraded and developed, to facilitate easy access to and from the Agri-Hub. This will likely result in faster transport times, less bruising to produce, and have a lesser impact on vehicles. The road network that will link to the various market centres (e.g. the RUMC) must be carefully considered and upgraded where necessary. The district should look into the potentials of tapping into rail roads for the transportation of large and heavy agricultural produce to long distances. It is further recommended that the district should capitalise on all already existing initiatives and infrastructure for the establishment of the Agri-Park. There should be upgrading and revitalisation of any existing infrastructure that can be used to support the Agri-Park process. This is particularly relevant in establishing a new abattoir to support Ndlambe and Makana farmers. In this case, the Grahamstown Ostrich Abattoir could be repurposed for livestock in the area. Also, it is recommended that the district should look into establishing infrastructure that will aid the recycling of water.
Natural Resources	<ul style="list-style-type: none"> Considering that the entire district is water scarce, more work should be done in determining water availability for agricultural production around the proposed location of the Agri-Hub, FPSU(s) and around all the major areas where primary production potential is significant as well as areas where the available water sources can be used to support primary production. The district should also look into water allocations and the existing irrigation schemes in the major production areas and maximise the use of these existing infrastructures. This is particularly important in Addo and Kirkwood where there is an extensive irrigation system already in place. A further recommendation is that small scale farmers should have rain harvesters (e.g. Plastic Water Tanks) on their farms. This would serve as water reservoirs in the absence of rain fall.
Agri-Park commodities	<ul style="list-style-type: none"> Efforts should be made in ensuring that Products processing and packaging (value –addition) comply with international standards, to enhance products' suitability for the export markets. It is important that the citrus commodities are in line with export standards. This can be achieved by aligning the citrus production with established initiatives such as the SRCC development trust. Although, the initial phase of the project will support the development of the value-chain of the three (3) pre-dominant commodities in the SBDM, it is recommended that processing facilities should be expanded in subsequent phases to accommodate the production of crops that will be produced during the period of crop rotation.

	<ul style="list-style-type: none"> • Citrus Nursery - A citrus nursery is a vital component of the citrus industry. Replanting of old citrus trees every year has placed a large demand on existing nursery's supply. Farmers have to order saplings two years in advance in order to replace older trees in orchards. It was thus recognised by the SRCC to develop a citrus nursery that can provide saplings for SRCC members and eventually expand to include provision to other commercial farmers. It is estimate that 26 jobs can be created from this activity alone. • Citrus Pruning - Citrus pruning is a vital service that can be offered by the Agri-Hub. Pruning is important process that is necessary for the growth of the citrus plants. In order to produce top quality export ready citrus there needs to be an effective pruning system. While a pruning service is already established in the area, a report presented to SRV LM indicated that the established pruner would want to work with the new service provider. • Vegetable peeling and cutting - Basic processing of vegetables could take place at the Agri-Hub. Cutting, peeling and packaging could be an important processing opportunity. • Livestock citrus feedlot - A feedlot using citrus pulp as the primary means of feed. Operational during the citrus season in order to improve the quality of the cattle that are being sent to abattoirs. • Abattoir in Grahamstown or Alexandria - There is currently space in the market for an abattoir at FPSU level that has deboning facilities. This should largely be focused on B and C grade meats for the local markets in the Ndlambe and Makana areas.
Technology	<ul style="list-style-type: none"> • Although, statistics show that the majority (78%) of households in the SBDM already have access to cell phones, it is recommended that the telecommunication services should be upgraded (e.g. erection of cell towers) in areas that are currently underserved, particularly in the rural areas, since most of the farmers that would be targeted are located in these Areas (StatsSA, Census, 2011). • It is also recommended that Government should subsidize telecommunication services (e.g. provision of free Wi-Fi) in some of these rural areas to enable them overcome the cost barrier associated with their low levels of connectedness. • A further recommendation is that all the technologies that are to be adopted (particularly in the area of farm mechanisation) throughout the Agri-Park process should be those that will not lead to a decline in the number of job opportunities. There needs to be a balance between mechanisation and job creation. • The ICT to be adopted or introduced to the farmers should be user friendly and not be too complex, since some of the users may have little or no form of education.
Training	<ul style="list-style-type: none"> • Develop a citrus academy which teaches valuable skills around the citrus industry. This can be incentivised through the development of degrees and diplomas being offered on completion of a certain number of years/ courses. • It is recommended that the citrus academy should establish partnerships with certain research institutions for research and development, and also to facilitate training programmes. Partnership should also be established with commercial farmers in this regard. • It is also recommended that practical manuals and information packages should be developed for the small scale and emerging farmers to assist them in their production processes. These manuals and information packages should cover aspects relating to: regulatory requirements, information on support programmes, production guidelines, etc. Where possible, manuals should be developed in language of choice to enhance easy understanding e.g. Two manuals produced for the main languages spoken in the area (Afrikaans and isiXhosa)

	<ul style="list-style-type: none"> A further recommendation is that farmers should be provided with training that are specifically targeted at helping them change their perception about farming or agricultural production as a whole. E.g. Training on educating farmers on how to see the business opportunities rather than as a sign of wealth.
Agri-Park Units	<ul style="list-style-type: none"> It is recommended that the RUMC should be strategically situated in Buffalo City to further position the district for export opportunities. Because the district has a low population density, it is recommended that there should only be one FPSU per local municipality for example: <ul style="list-style-type: none"> Grahamstown - Makana Alexandria - Ndlambe Somerset East - BCR Graaff-Reinet - Camdeboo Joubertina - Kou Kamma Steytlerville - Baviaans Jansenville - Ikwezi Humansdorp - Kouga Develop an inventory a map farmers that are earmarked for production within the Agri-Park. Production areas should be zoned and mapped and FPSUs should be centrally located to these production zones. Zoning in this manner will allow for streamlining of logistic activities that take place within the Agri-Park. Farmers are to be engaged and informed of the process and development of the Agri-park – they will also be required to have a representative body for engagement with various stakeholders. Business Plans should be developed for each of the entities within the Agri-Park, including the farmers, FPSUs, the Agri-Hub and the RUMC. The business plans are required to detail the operations of each of the entities, further detailing their role and responsibility within the Agri-Park. Develop a rental unit at FPSU level to rent out farming equipment that can be outsourced to a private company which maintains equipment.
Logistics	<ul style="list-style-type: none"> A comprehensive logistics plan should be developed to guide the implementation of the Agri-Park. The plan should investigate various methods of moving produce from farm to fork. This should be done to allow smallholder and emerging farmers ease of access to markets, a crucial area for the success of these farmers. Smallholder farmers with small production capacities should be encouraged to work in joint ventures in order to participate in supplying the Agri-Park. Consolidating produce in order to create economies of scale is critical in gaining access to the market – this should be considered in depth within the logistics plan – consolidation points are of critical importance within the Agri-Parks model. A further recommendation is that internal transport facilities (e.g. long buses) should be arranged for the purpose of transporting tourist visiting the Agri-Parks. This transport facilities can also be used as staff buses. This will serve as a source of revenue for the Agri-Park. The District Agri-Parks Council should engage with other departments and be responsible for the implementation of the Agri-Parks. A representative body must take ownership of the Agri-Park and implement the project. This body should represent all stakeholders, public and private, within the Agri-Park.
Policy Environment	<ul style="list-style-type: none"> Also, cross-border relationships and partnerships should be encouraged or formed with neighbouring districts, where infrastructure and resources can be shared, should the district be short of or have excess of certain resources.

	<ul style="list-style-type: none"> The establishment and management of committees and structures contribute to maintaining the AP's principles and drive its development. It is also recommended that the district should develop a strategic plan that can be reviewed after a certain short term period, to allow for the normative context of the AP to be upheld, and also to allow for the evaluation of the AP development. Policy around land ownership should be revised such that it provides security of tenure to farmers. Ownership of land encourages farmers to invest in their land and encourages borrowing for financing activities. Ownership of land encourages productivity and is therefore mutually beneficial for the farmer and the Agri-Park.
Funding /investment	<ul style="list-style-type: none"> District should develop funding mechanisms that would encourage and attract foreign investments. Investment policies that would encourage more investments on agricultural land should be established.
Private/ Public Integration	<ul style="list-style-type: none"> Without the support of the public sector it will be difficult for emerging farmers to compete with established commercial interests. It is thus recommended that the AP establish links with existing public and private enterprises. E.g. Processing of citrus can be handled by SRCC as it is already producing and supporting emerging farmers in the region.
Market	<ul style="list-style-type: none"> More programmes that would be directed towards establishing market linkages should put in place. District should form partnership with some of the existing main players in the various industries to enable them penetrate the international market.
Incentive programme	<ul style="list-style-type: none"> Incentive programmes and packages that would make agriculture more attractive, (especially to the youths) should be developed. For example, awarding scholarships that would encourage young individuals study in the field of agriculture, creating a youth centre within the Agri-Park, to help the underprivileged youth in a way such that they render services to the Agri-park, while they get taken care of in return.

These recommendations are based on the analysis done on the economic infrastructure, socio-economic analysis and consultations with district stakeholders and the understanding of the status quo of agriculture within the SBDM. The recommendations inform what needs to be done in order to achieve the goals that have been set out within the business plan.

12.3.1. Recommended Catalytic Projects

Over and above the recommendations compiled in Table 12.2, projects that will assist in the kick starting and supporting the Agri - Park's success are recommended. These are referred to as catalytic projects that will be the main focus of the Agri - Park.

- Increase the genetic quality of emerging farmers livestock (District wide)
- Creation of training facilities (Citrus Academy), pruning and nursery business on state land in Addo.
- Development of citrus and vegetable farming on various sites in the Sundays River Valley (e.g. KK113 and Enon Bersheba) with the assistance of Sundays River Citrus Company.
- Develop a feedlot in Cookhouse and Addo through a Public Private Partnership (i.e. Humansdorp Co-Op).
- Feasibility study into the redevelopment of the IMPEC Grahamstown Ostrich Abattoir to process livestock from the surrounding areas. Should primarily focus on deboning and processing of B and C grade carcasses for the local market.

12.4 Roll-out Plan

The roll out plan is illustrated below – indicates a step-by-step plan that should be followed.

Action	Description	Start month	Timeframe
Infrastructure investment plan	The infrastructure investment plan will determine what infrastructure is required at each FPSU, Agri-Hub and RUMC and prioritise infrastructure projects to ensure efficient allocation of resources and the greatest impact on local agriculture.	Month 5	3 – 6 months
Construction of FPSU infrastructure	Construction of all necessary FPSU infrastructure as listed in the report.	Month 6	3 – 6 months
Construction of Agri-Hub infrastructure	Construction of core Agri-Hub infrastructure aimed at developing local small-holder and emerging farmer groups.	Month 6	6 – 12 months
	Construction of processing and agro-processing infrastructure (where necessary) to advance the local agriculture sector.	Varying	Varying investment timelines for agro-processing infrastructure according to infrastructure investment plan
Construction of RUMC infrastructure (If complete new build required)	Construction of RUMC infrastructure as listed in the report. *NOTE: It is likely that no new RUMC infrastructure is required and that the existing fresh-produce market in Nelson Mandela Bay/ Buffalo City can be used / upgraded to suit the needs of the RUMC.	Month 10	3 – 6 months
Agriculture land audit	An agricultural land audit is necessary to determine specific areas of agricultural suitability within the district for agricultural production of the three prioritised commodities, including an assessment of the land currently under cultivation by small-holder and emerging farmers to guide the development of these farming concerns.	Month 1	3 – 6 months
Farmer identification	Interested small-holder and emerging farmers must be assessed to determine current levels of production, infrastructure and equipment gaps and organisational requirements. A prioritisation model must be applied to candidate farmers to determine the farms/farmers where Agri-Park projects can have the greatest impact.	Month 1	3 – 6 months
Project development & prioritisation	The Agri-Park, in addition to supplying key services to local farmers also has a role to play as an implementing agent developing projects to develop local farmers or invest in key processes and technologies to advance local small-holder and emerging farmer agriculture.	Month 3	Ongoing

Logistics plan	The logistics plan will create a logistics management system to handle in-bound and outbound logistics for the FPSU, AH and RUMC to ensure the efficient movement of produce, and agricultural inputs between farmers and destination markets.	Month 2	Ongoing
Training & mentorship plan	The training & mentorship plan will determine what training and mentorship services need to be provided to local farmers and set out a system for the implementation of training and mentorship across the district.	Month 2	1 – 3 months
Operational plan	The operational plan will set out the norms and procedures for the day to day operation of the Agri-Park and its individual elements.	Month 2	Ongoing
Agriculture & business services scoping report	This report will assess what agricultural & business services (including infrastructure) are already in place, what entity (public / private) provides said services and where gaps exist that the Agri-Park must address through infrastructure or other interventions.	Month 3	3 – 6 months
Establishment of linkages with key public / private sector stakeholders	Engage with local public / private stakeholders to provide key agricultural and business services to local small-holder and emerging farmers to ensure access to these services and to prevent needless duplications of infrastructure or services within the district.	Month 3	3 – 6 months
Develop infrastructure funding model	Development of a funding model to finance the construction of fixed assets, infrastructure and other long term Agri-Park projects.	Month 4	3 – 6 months
Establishment of management committee	Establishment of management committee to oversee the functioning of the Agri-Park and constituent elements.	Month 1	1 – 3 months
Skills audit	The skills audit will determine the exact staffing requirements for each functional section of the Agri-Park including staff for FPSU, AH and RUMC.	Month 2	1 – 3 months
Advertising of employment opportunities	Following the skills audit, employment opportunities will be advertised.	Month 5	1 – 3 months
Project funding model	Development of a funding model to finance the construction of short - medium term operational projects.	Month 4	3 – 6 months
Procuring of services for training and mentorship	Procuring of various trainers, agricultural mentors etc. required to enhance the agricultural and business skills of local small-holder and emerging farmers.	Month 5	1 – 3 months

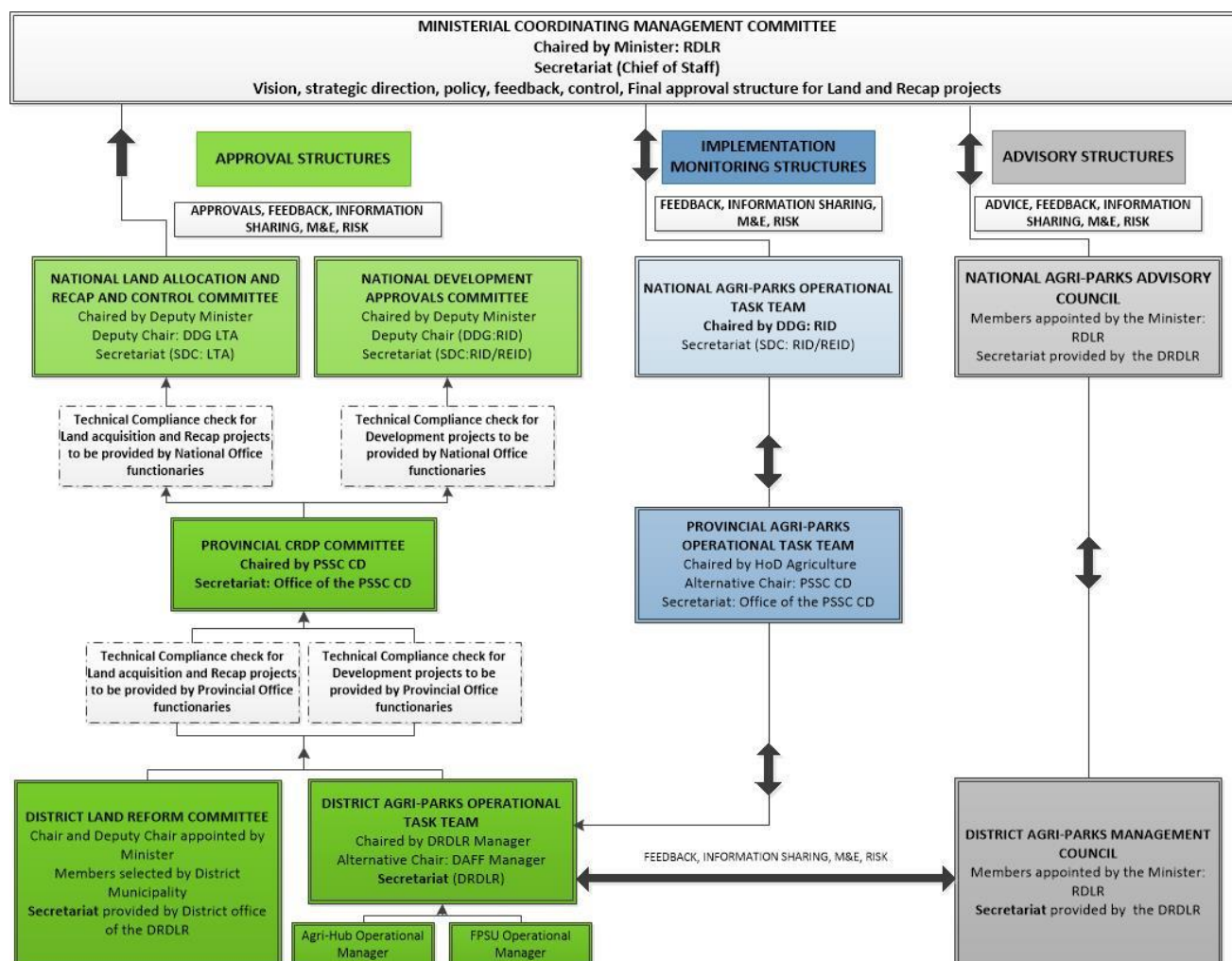
Organisational Structure

Chapter 13

13. AGRI-PARKS ORGANISATIONAL STRUCTURE

To explain the organisational structure of the Agri-Parks the following schematic is used:

Figure 13.1: Agri-Parks Organisational Structures



In explaining the organisational structure, there are three sub structures that form part of the Agri-Parks: 1. Advisory Structures, 2. Approval Structures and 3. Implementation Monitoring structures.

13. 1 Advisory Structures:

The main functions of the advisory structures within the Agri-Parks organisational structure are to give advice to the approval structures. The advisory structures that are currently identified are the National Agri-Parks Advisory Council (NAAC) and District Agri-Parks Management Council (DAMC). It is important to note that the advisory structures' member primarily comprise of stakeholders and interested party.

13.1.1 NAAC

This council reports directly to the minister and consists of elected representatives of various organisations. Functions of the NAAC may include (as stipulated in *Circular 9 of 2016*):

- To solicit, co-ordinate and advise the Executive, on issues and concerns of the implementation of the Agri-parks Programme;
- To encourage public awareness and education of the Agri-parks Programme;

- *To review studies, plans and proposals as may be referred by the Executive and District Agri-parks Management Councils (DAMCs) and the National Agri-parks Operational Task Team, and to provide comments and advice thereon;*
- *To provide advice on policies, legislation and programmes from the Department of Rural Development and Land Reform (DRDLR) that impact on the Agri-parks Programme;*
- *To initiate advice on the Agri-parks Programme and implementation of the business plans as referred to by the DAMCs;*
- *To liaise with the Executive, the Management of the DRDLR, the DAMCs and any other stakeholder involved in the Agri-parks Programme as required; and*
- *To mediate disputes arising from the DAMCs concerning its operation and/or advice provided to the Department or other bodies that are implementing the Agri-parks programme in a district.*

13.1.2 DAMC

The District Agri-Parks Management Council, also referred to as the “voice” of the stakeholders/interested parties in Agri-Parks. The DAMCs like the NAAC consist of representatives from various organisations. The DAMCs main function is to communicate advice from the council members to the NAAC as well as DAPOTT (District Agri-Parks Operational Task Team). Further functions of the DAMC include, but are not limited to the following:

- *Assist in identifying new business opportunities within an Agri-park;*
- *Provide advice on the implementation of the business plans;*
- *To advise on regulatory compliance with applicable policies and legislation;*
- *To advise on the alignment with the National Development Plan, Agricultural Policy Action Plan, Provincial Growth and Development Strategies and other development frameworks; and*
- *To assist in the identification, evaluation and monitoring of risks related to projects.*

13.1.3 Agri-Hub and FPSU Operations Manager

The Agri-Hub and FPSU operations manager will be in charge of the daily operations of the Agri-Hub and FPSU. They will form part of the operations team for the Agri-Park. Each FPSU should be staffed by FPSU Officers while the FPSU Operations Manager will oversee the Officers. There will only be one FPSU Operations manager per district but there will be one officer per FPSU to oversee the basic operations of the FPSU e.g. in Sarah Baartman District the Agri-Hub and FPSU operations Managers will be located in Addo at the Agri-Hub while eight FPSU officers will be located in each FPSU in the District.

13.2 Approval structures:

These structures are responsible for approvals, feedback, information sharing, monitoring and evaluation regarding land reform activities and Agri-Park project approval. To explain the functioning of the approval structure it essential to understand that in terms of the Agri-Parks organisation the project approval process is started on the district level.

The approval structures that form part of the Agri-Parks include the DAPOTT, District Land Reform Committee, Provincial CRDP (Comprehensive Rural Development Programme) Committee, National Development Approvals Committee (NDAC) and the National Land Allocation and Recapitalisation Control Committee (NLARCC).

Note: It is understood that both the DLRCs and DAMCs can recommend projects/producers to be considered to be part of Agri-Parks.

13.2.1 DAPOTT

The DAPOTT as part of the Agri-Parks Approval Structure receives advice from the DAMC as well as information from PAPOTT and NAPOTT. DAPOTT appears to have the role to interpret all the information and acting as a

monitoring agent to advise on projects and land reform beneficiaries to be included in the Agri-Parks. Some of the functions of the DAPOTT include but are not limited to:

- *To provide technical support and guidance for implementation;*
- *To provide oversight of the implementation of the district Agri-parks business plan;*
- *To monitor expenditure against the district Agri-parks business plan;*
- *To identify all district projects that contribute to the district Agri-parks business plan and to compile a district project register (all DRDLR branches);*
- *To monitor project implementation against the approved project plan and district Agri-parks business plan;*
- *To participate in the identification and packaging of local development projects in support of the mandate of the Department of Rural Development and Land Reform;*
- *To advise on proposals that should be submitted to the Provincial CRDP Committee; and*
- *To provide an oversight function and monitor the implementation of the Government's Rural Development Programmes.*

13.2.2 DLRC

The District Land Reform Committees (DLRCs), are primarily concerned with land reform in general. However, the DLRCs have additional functions linked to Agri-Parks:

- To identify the district projects contributing to Agri-Parks business plans; and
- To align projects and beneficiaries with the identified sites for Agri-Parks.

The abovementioned functions are however secondary to the following main functions:

- *Identify farms suitable for acquisition by Government (the target is 20% of agricultural land per district);*
- *Identify and interview potential candidates for farm allocation;*
- *Advise the Minister on the strategic support needs of identified farms and support needs of recommended candidates; and*
- *Advise the Minister on resolving land rights conflicts, as might be referred to a DLRC by him/her.*

Note: Projects and or beneficiaries identified by the DLRCs and DAPOTT, are subjected to technical compliance checks before being passed onto the PCRDP

13.2.3 PCRDP

The PCRDP functions as the provincial approval structure that passes projects/beneficiaries identified by the DLRCs and DAPOTTs onto the National Government structures. Regarding this specific structure within the Agri-Parks organisational structure the name of this structure may have changed to the PJSC (unknown) as suggested in a different schematic (see below). The projects/beneficiaries identified are then catalogued into a Provincial Project Register that contributes to the formulation of a provincial spatial target plan. The functions of the PCRDP include:

- *To provide inputs to assist in the compilation of the provincial spatial targeting plan, as provided by the districts;*
- *To recommend all development, land acquisition and tenure projects in line with a Delegation of Authority Framework to the NLARCC and NDAC through its technical committees; and*
- *To provide an oversight function in relation to the work of the Provincial Technical Committees and District CRDP Committees, to eliminate disjuncture and to ensure alignment of projects and funding at a provincial level.*

The PCRDP can also include specialists if specialist skills are required to inform decisions to be made regarding project selection.

Projects and or beneficiaries chosen by the PCRDP are subjected to technical compliance checks before being passed onto the NLARCC and the NDAC

13.2.4 NLARCC

The function of the NLARCC is to recommend land acquisition and recapitalisation projects to the MCM (Ministerial Coordinating Management committee). The full list of functions of the NLARCC is as follows:

- To provide inputs to assist in the compilation of the national spatial targeting plan as provided by the provinces;
- To identify all national projects as per operational plans and compile a national project register
- To approve land acquisition, tenure and recapitalisation and development projects in line with a delegation of authority framework; and
- To provide an oversight function in relation to the work of the National Technical Committee and Provincial Committees, to eliminate disjuncture and to ensure alignment of projects and funding at a national level.

Looking at the above function, the NLARCC and PCRDP have the same functions but only on different levels within the government.

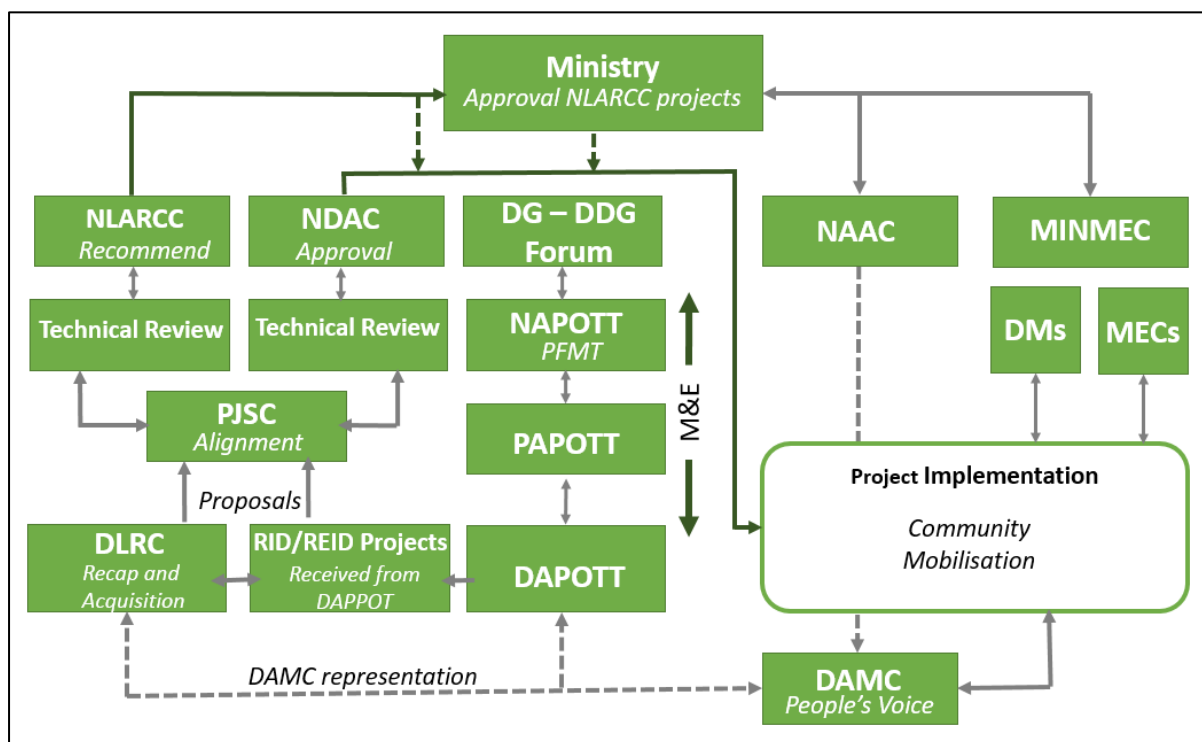
13.2.5 NDAC

The main function of the NDAC is to approve all the national development projects and to give oversight to the PCRDP committees and the National Technical Committees (NTCs part of the land reform approval process). The functions of the NDAC are almost the same as the functions of the NLARCC, but the NDAC does not play a role in the identification of projects or the approval land acquisition, tenure recapitalisation and development projects.

13.3 Implementation and Monitoring Structures

Currently there are only two structures within the Agri-Parks organisational structure that are solely dedicated to implementation and monitoring, the PAPOTT (provincial Agri-Parks Operation Task Team). PAPOTT and NAPOTT are however not exclusively dedicated to Agri-Parks, these two structures also play a role in the monitoring and implementation of other programmes that can influence the Agri-Parks programme.

Figure 13.2: Implementation and Monitoring Structures



13.3.1 NAPOTT

The NAPOTT has various functions that are focussed towards on the operation of Agri-Parks both in terms of implementation and on-going operation. These functions include but are not limited to:

- *Developing the National Agri-Parks Plan;*
- *Contributing to the development guidelines of Agri-Parks;*
- *Monitoring provincial business plans against the abovementioned guidelines;*
- *Monitoring budget alignment as set out in the business plans;*
- *Giving inputs to assist in the compilations of provincial Agri-Park business plans; and*
- *Managing project roll out of Agri-Parks in line with approved project plans nationwide.*

13.3.2 PAPOTT

The main functions of the PAPOTT is to coordinate and facilitate integrated implementation of Agri-Parks by providing technical support regarding planning and implementation, giving inputs to the compilations of Agri-Parks Business plans etc. **Note: PAPOTT will only remain operational until the Agri-Parks programme has reached a sustainable level, then PAPOTT will be integrated with the PCRDP.**

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