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Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

Ehlanzeni Agri-Park

Final Master Business Plan

2016

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Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

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Ehlanzeni DM Master Agri-Park Business Plan Road Map

Chapter 1: Introduction

Summary: An introduction to the master business plan report is provided in this chapter through: the project background, goals and objectives, the project's purpose and a demonstration of the project methodology.

Key words: concept, smallholder/small-scale farmer, FPSU, AH, RUMC, capital expenditure

Must read if the reader:

- Does not have a background on the Master Agri-Park Business Plan Project.
- Does not know what the goals and objectives of the project are.
- Is interested in the project process.

Chapter 2: Agri-Park Model

Summary: This chapter provides an overall overview to the Agri-Park model which was developed by the DRDLR.

Key words: Agri-Park model, small-scale/smallholder farmers, FPSU, AH, RUMC, production, facilities, information, large-scale/ commercial farmers

Must read if the reader:

- Is not familiar with the Agri-Park's concept.
- Seeks to understand the 3 units of the Agri-Park model.

Chapter 3: Policy Review

Summary: The important policies that affect the Ehlanzeni DM Agri-Park are reviewed in this chapter and the alignment of the Agri-Park to the policy is identified.

Key words: policies, strategies, national, provincial, local, implications, alignment

Must read if the reader:

- Is not familiar with policies that are influential to the Ehlanzeni Agri-Parks Programme.
- Is not familiar with the policy implications for the Agri-Park.

Chapter 4: Location Context

Summary: This chapter provides an overview of the Ehlanzeni DM and its features that are important for the development of the Agri-Park.

Key words: Ehlanzeni DM, local municipalities, location, economic infrastructure, economic activities

Must read if the reader:

- Does not know the location of the Ehlanzeni DM
- Does not know the status of important locational features of the Ehlanzeni DM.
- Does not know the Agri-Hub location and its selection.

Chapter 5: Main Role Players

Summary: A list of role-players that are important for the Ehlanzeni Agri-Park Development are listed in this chapter, along with potential duties that they may take on.

Key words: government, private, associations, organisations, financial institutions, companies, service providers, roles

Must read if the reader:

- Is not familiar with the role-players that are expected be involved with the Ehlanzeni Agri-Park.
- Is interested in the potential duties to be taken up by the role players

Chapter 6: Economic and Socio-Economic Analysis

Summary: This chapter analyses the economic and socio-economic status quo of the Ehlanzeni DM through statistics of the following indicators: demographics, economic profile, unemployment status, skills level, income and poverty

Must read if the reader:

- Does not know the socio-economic status quo of the Ehlanzeni DM.
- Does not have knowledge of the effect of the socio-economic status quo on the Ehlanzeni Agri-Park development.

Chapter 7: Agricultural Industry Analysis

Summary: In this chapter, an analysis of the District's agricultural features is provided, as well important factors that are influential to agricultural development. The three agricultural commodities to be produced in the district's Agri-Park are identified.

Key words: agricultural activities, GVA, commodities, climate, resources, projects, selection criteria, prioritisation, top three commodities

Must read if the reader needs to know:

- The current agricultural status of the District.
- The status of resources and climate features affecting agriculture in the Ehlanzeni DM.
- The process of selection used for the three commodities.
- The three selected commodities.

Chapter 8. 9 & 10: Commodity Analysis

Summary: The three commodities that have been selected to be produced in the initial phase of the Agri-Park programme are individually analysed according to: The market; Value chain; Agro-Processing opportunities; Stakeholders and service providers; Technology; Socio-economic contributions and influences; Emerging/ Potential entrepreneurs; and SWOT analysis

Commodities: Poultry, Agroforestry and Vegetables

Must read if the reader:

- Is interested in the commodities' market trends.
- Is interested commodities' business enabling features.
- Needs to know the value chain relations.

Chapter 11: Agri-Park Concept Development

Summary: The concepts for the Ehlanzeni Agri-Park are developed, based on the Agri Park Model, and a basic capital expenditure is provided.

Key words: concept, smallholder/small-scale farmer, FPSU, AH, RUMC, capital expenditure

Must read if the reader needs to know:

- What the concept of the Ehlanzeni Agri-Park is.
- How the 3 units in the Agri-Park model will function.

Chapter 12: Agri-Park Organisational Structure

Summary: The organisational structure for the Agri-Park is demonstrated schematically and explored.

Key words: structures, organisational, advisory, approval, implementation, monitoring

Must read if the reader:

- Does not know how the Agri-Park is organised.

Chapter 13: Implementation Guidelines

Summary: The implementation guidelines for the development of the Agri-Park are discussed.

Key words: implementations, guidelines, process recommendations, programmes, action plan, timeframes

Must read if the reader needs to know:

- The implementation of the Ehlanzeni Agri-Park.
- How government programmes are aligned with the Agri-Park.
- The recommended action plan and timeframes.

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EXECUTIVE SUMMARY

The Agri-Park concept together with the introduction of an Agri-Park per district municipality is a relatively new concept in South Africa. This document represents the master business plan which will serve as a guiding document in the implementation of the Agri-Park model that was developed by the Department of Rural Development and Land Reform (DRDLR).

Section 1 - Introduction: provides the background information on the Agri-Park concept. It also provides the goals and objectives of the project. Lastly, the section presents the purpose of the master business plan and outlines the various steps that are undertaken in completing the master business plan i.e. the project methodology.

Section 2 - Agri-Park Model: provides an insight into the Agri-Park model. The section provides the definition of the Agri-Park and describes the three basic units within the Agri-Park. All the basic functions together with how the basic units will interact are also described in this section.

Section 3 - Policy Review: in order to achieve its set objectives, the Agri-Park Model seeks to align with some of the key government strategies set out in existing policy frameworks. For this reason, the section three (3) of this document provides an overview of the national, provincial and local policies that will guide the development of the Agri-Park Project. The policy review section provides a background on the relevant policies; identifies key focus areas and targets; and discusses the implications of the policies for the Ehlanzeni District Municipality (EDM) Agri-Park.

Section 4 - Locational Context: in order to establish an Agri-Park in the EDM, it is important to have a good understanding of the strength, weaknesses and the comparative advantages that the district holds. Section 4 therefore describes some of the main features and the major economic infrastructure that are crucial to the development of the Agri-Park in the EDM. The proposed location of the Agri-Hub together with some of the existing infrastructure that can be utilised by the Agri-Park are also described.

Section 5 - Main Role-Players per District: section 5 outlines the main role-players that could potentially be involved in the EDM Agri-Park at varying levels of the development process. The role-players are summarised into three categories such as: Government and Public Sector; Private Companies; and Associations and Organisations. The purpose of this chapter is to

provide an insight into the possible partnership opportunities with regards to the recommended agricultural opportunities.

Section 6 - Economic and Socio-Economic Analysis: The purpose of this Section is to describe the economy of the Ehlanzeni District Municipality in relation to population and economic growth; job creation; and income and poverty level, as viewed against the economic performance of Mpumalanga and South Africa as a whole. A sectoral analysis is also provided, setting out the structure of the EDM economy with respect to the different economic sectors and their output and employment contributions to the district's economy.

Section 7 - Agricultural Industry Analysis: Part of the objectives of the Agri-Park project is to identify three dominant or most feasible commodities within the district. Hence, this section provides an overview of the main agricultural activities occurring in the district, focusing on the types of commodities or products farmed and produced. Part of the purpose of this section is to provide relevant information regarding the current agricultural practices as well as the various opportunities and constraints that the EDM's Agricultural sector presents. Furthermore, this section identifies the three dominant commodities (Vegetables, Agroforestry and Poultry) in the EDM, through a thorough prioritisation process that was discussed in details in this section. Products related to the three (3) selected commodities are also briefly discussed during this section.

Section 8, 9 and 10 - Commodity Analysis: This section provides an analysis of the local, global, capital and commodity markets for the three (3) selected commodities. Other major topics covered in this section include: Value chain assessment, Agro-processing opportunities, main inputs suppliers, competitors, stakeholders, technology requirement, the demand and need analysis, job creations opportunities, contribution to food security, regulatory requirements, substitute products and services, barriers to entry, societal and cultural trends and SWOT analysis.

Section 11 - Agri-Park Concept Development: This section describes the Agri-park concept in relation to the three (3) identified commodities (i.e. Vegetables, Agroforestry and Poultry) in the EDM. The purpose of this section is to align the value chain that has been developed for each commodity with the Agri-Park model.

Section 12 – Organisational Structure: This section will describe the organisational structure of the Agri-Park in the District, in terms of three sub-structures, namely, advisory structures, approval structures and implementation and monitoring structures.

Section 13 - Implementation Guidelines: In this section, the implementation guidelines describe the processes that will be applied in executing the Agri- Park project. The purpose of the implementation guidelines is to provide the relevant stakeholders with a practicable document that will ensure that the project is implemented in an efficient and agreed-on manner, based on the concept spelled-out in the previous chapters. The implementation guidelines cover the areas such as: the implementation process, alignment with government programmes, specific recommendations as well as the roll – out plan.

FPSU

Key Role

The FPSU will serve the following core functions:

1. Agricultural input supplies.
2. Mechanisation support,
3. Extension support,
4. Local logistics support,
5. Primary produce collection,
6. Through-put to Agri-Hubs,
7. limited sorting, packaging, storage,
8. Some processing for local markets,
9. Packaging of products for the local market, small retail outlets and the fresh produce markets,
10. Transportation of produce destined for processing directly from the farm to the AH,
11. Some marketing and distribution,
12. Auctioning of produce where applicable (e.g. auctioning of live animals

Location

Seventeen (17) FPSUs were proposed for the EDM Agri-Park, in the following proposed locations:

- Bushbuckridge - 7
- Nkomazi - 4
- Thaba Chweu - 4
- Mbombela – 1
- Umjindi – 1

Criteria for selection:

1. Proximity to small scale farmers,
2. Land suitability,
3. Proximity to the existing farming Activities,
4. Existing infrastructure.

Human Resources

The FPSU will provide the following core HR/HR facilities:

1. Agricultural extension officers support office,
2. Machine operators/ Local mechanisation centre and workshops,
3. Agronomists,
4. Researchers,
5. Voluntary/Established commercial farmers.

Training

The following forms of training would be provided at the RUMC:

1. Training of training personnel(s) on how to disseminate information to the SHF, AH and the FPSU,
2. Market analysis skills,
3. Supply chain and logistics skills,
4. Trading techniques (local and international),
5. Agriculture computer programme training.

Capital Expenditure

The estimated capital expenditure for the EDM FPSUs is described as follows:

The EDM FPSU	Quantity
Quantity	14
Total cost	R317 640 818

Infrastructure/ Equipment

The FPSU would require to put in place the following major equipment / infrastructure:

1. Transport facilities (e.g. Bakkie or pick-up vehicles),
2. Curing shed,
3. Sorting facilities,
4. Cleaning, sorting, grading, drying machines,
5. Weighing and packaging machines,
6. Local packhouses,
7. Small scale processing facilities for local market,
8. Produce sorting facility,
9. Auction facility,
10. Storage facility,
11. Farming/mechanisation equipment required for farming activities.

Key Role

The Agri-Hub will serve the following functions:

1. Training,
2. Logistics,
3. Agro-Processing/value – addition,
4. Storage/warehousing,
5. Packaging,
6. Product distribution.

Location

There would be only one Agri-Hub in the EDM at the initial phase of the project. It was proposed by the Province that the Agri-Hub should be located in ***Mkhuhlu***, in Bushbuckridge LM.

AH

Human Resources

The AH will provide the following HR:

1. Administrative staff,
2. Quality control personnel,
3. Processing/floor staff,
4. Research and demonstration personnel,
5. Training personnel.

Training

Some of core training activities that would take place within the Agri-Hub include:

1. Training of processing staffs on how to handle and operate various processing equipment,
2. Training on best practices, based on changing demand and supply,
3. Training on new innovations as they surface,
4. Processing skills,
5. Health and safety training,
6. anagement skills.

Capital Expenditure

The estimated capital expenditure for the EDM AH is described as follows:

The EDM Agri-Hub	Quantity
Quantity	1
Total Cost	R78 209 550

Infrastructure/ Equipment

The AH would require to put in place the following equipment / infrastructure:

1. Administrative facilities,
2. Rental facilities,
3. Agro-Processing facilities,
4. Feedlots,
5. Abattoir,
6. Auction facilities,
7. Packaging facilities,
8. Quality control facilities,
9. Agricultural input distribution and sales centre,
10. Retail facilities,
11. Training centre,
12. Student and staff housing,
13. Logistics and transport facilities.

Key Role

The RUMC will serve the following function:

1. Market intelligence,
2. Assist farmers, and processors in managing a nexus of contracts,
3. Large warehousing and cold storage facilities.

Location

It is proposed that there should be one RUMC in the Province which will be strategically located in the **Mbombela (in Mbombela LM)** for the following reasons:

1. Mbombela is the economic hub of the Province
2. Has existing infrastructure and is also the location of the Mpumalanga Fresh Produce Market, and
3. It is linked with major routes and the KMIA.

Training

The following forms of training would be provided at the RUMC:

1. Training of the training personnel on how to disseminate information to the SHF, AH and the FPSU,
2. Market analysis skills,
3. Supply chain and logistics skills,
4. Trading techniques (local and international),
5. Agriculture computer programme training.

Infrastructure/ Equipment

The RUMC would require to put in place the following equipment /infrastructure:

1. Large warehouses/ holding facilities,
2. Cold storage facilities,
3. Administrative facilities/ information centre,
4. Customer service desks.

RUMC

Human Resources

The RUMC will provide the following HR;

1. IT expert/personnel,
2. Administrative manager,
3. Training personnel,
4. Marketing personnel.

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1 Introduction

1.1 Introduction

Urban-Econ Mbombela has been appointed by the Department of Rural Development and Land Reform to develop a Master Agri-Park Business Plan for Ehlanzeni.

1.2 Goals and Objectives

The goal of the project will be 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 within the District

The project team understands that the objectives of the project can be summarised as follows:

- To understand the Agri-Park Model developed by the DRLDR.
- To identify the existing agro-processing facilities and farmers within each district municipality and to establish possible linkages.
- To identify three possible agro-processing business opportunities for each Agri-Park.
- To develop an institutional/operational plan for each Agri-Park that indicates how existing farmers will be linked with the Agri-park.
- Review all existing documentation, maps and information.
- To work with the representative of the districts and the CSIR.
- SWOT analysis that includes a legal, environmental, financial and technical analysis.
- Identify current agro-processing initiatives and possible synergies, linkages, and opportunities to buy into existing businesses.
- Do a financial analysis of the proposed agro-business opportunities.
- To conduct a feasibility and viability assessment of the proposed agro-processing facilities.
- Develop an operational plan for the business park.
- Determine the costing of the Agri-park.
- The Agri-Park must maximize the use of existing agro-processing, bulk and logistics infrastructure, including the availability of water, energy and roads.
- The Agri-Park must support growing towns and the revitalisation of rural towns in terms of high economic growth, high population growth and promote rural urban linkages.

1.3 Methodology

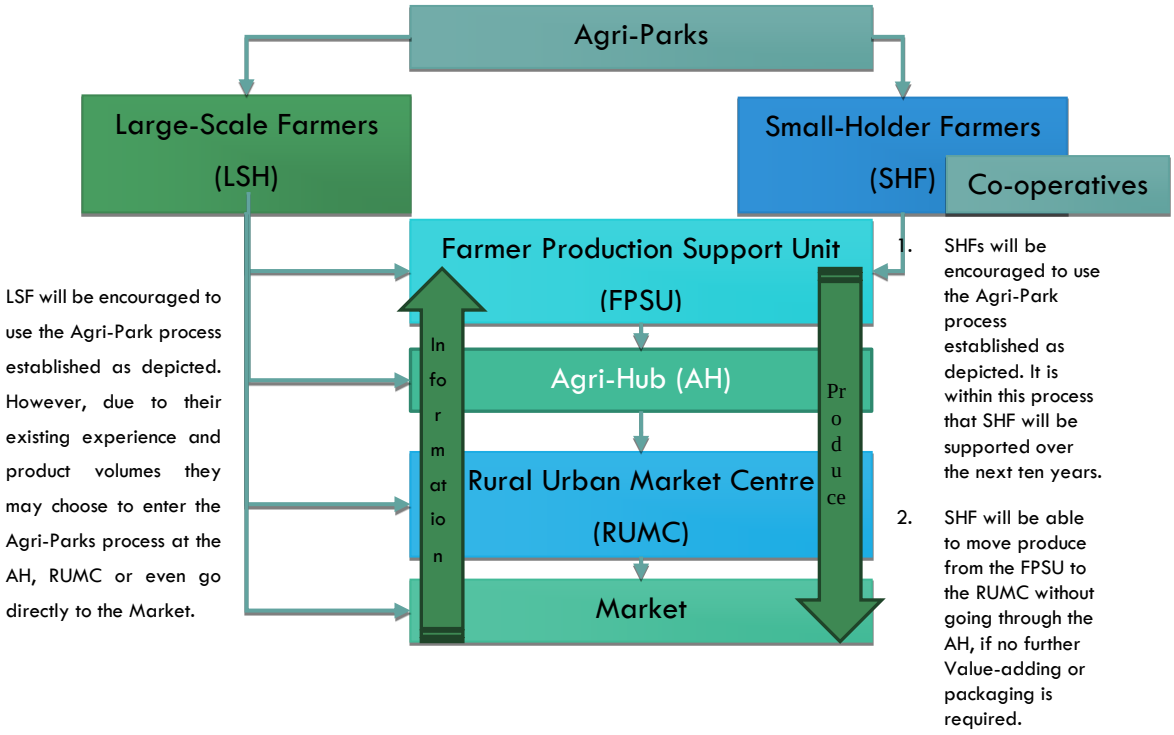
Figure 1.1 provides for a methodology illustration of the various steps that are undertaken for the study, these are issue described below in more detail.

Figure 1.1: Methodology

2 Agri-Park Model

An Agri-Park is an innovative system of agro-production, processing, logistics, marketing and 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.

DIAGRAM 2.1: AGRI-PARK PRODUCE AND INFORMATION FLOWS



The Agri-Parks contain three basic units:

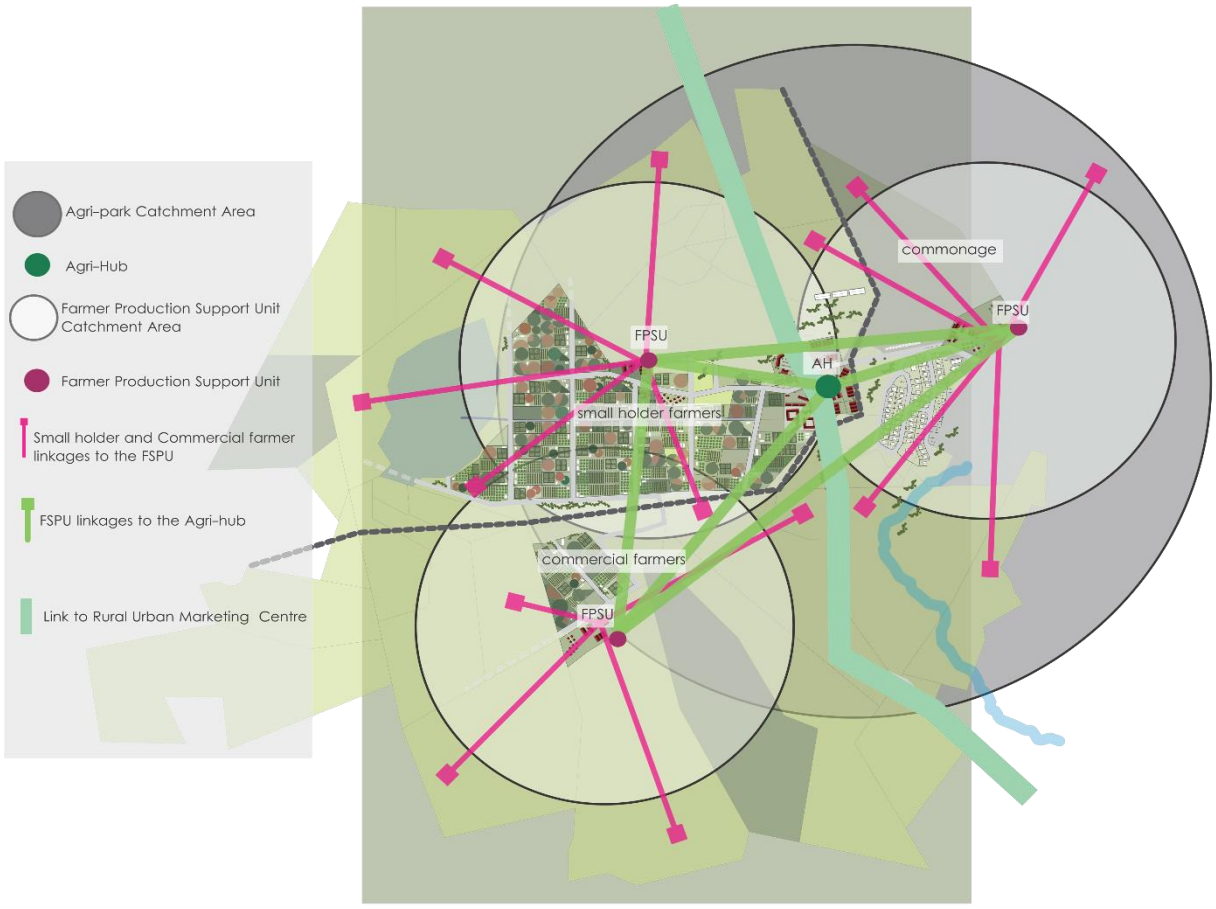
1. The Farmer Production Support Unit (FPSU). The FPSU is a rural outreach unit connected with the Agri-Hub. The FPSU does primary collection, some storage, some processing for the local market, and extension services including mechanisation.

2. Agri-hub Unit (AH). The AH is a production, equipment hire, processing, packaging, logistics and training (demonstration) unit.

3. The Rural Urban Market Centre Unit (RUMC). The RUMC has three main purposes:

- Linking and contracting rural, urban and international markets through contracts.
- Acts as a holding-facility, releasing produce to urban markets based on seasonal trends.
- Provides market intelligence and information feedback, to the AH and FPSU, using latest Information and communication technologies.

DIAGRAM 2.2: STRATEGIC REPRESENTATION OF THE AGRI-PARK MODEL



The Diagram above 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
Farmer Production Support Unit	30km	10km
Agri-Hub	120km	60km
Rural Urban Market Centre	250km	150km

To ensure the mobilisation of the Agri-Parks programme the following **guiding principles** should be followed:

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 takes 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.

However, in order to eliminate the duplication of resources within the Province, **there will only be one RUMC in Mpumalanga** – the RUMC will be located in **Mbombela** in the Ehlanzeni District. In addition to Mbombela being economic hub of the Province, it is also the location of the Mpumalanga Fresh Produce Market and is linked to major routes (N4 Maputo Corridor).

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

- Establish Agri-Parks in all of South Africa's Districts 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 higher demand for raw agricultural produce, primary and ancillary inputs, as well as generating increased downstream economic activities in the sector.

3 Policy Review

This section of the business plan provides an overview of the national, provincial, and local policies that will have a direct influence on the development of the Agri-Parks concept in each District Municipality. The first sphere of government considered was the national policy framework.

3.1 National Policy and Government Programmes

This section of the business plan provides an overview of the national, provincial, and local policies that will have a direct influence on the development of the Agri-Parks concept in each District Municipality

3.1.1 National Growth Path

Government adopted the *New Growth Path (NGP)* in 2010 as the driver of the country's job creation strategy. The NGP suggests that in order to achieve growth and transformation of economic imbalances, firm choices and shared determination are required from every structure within the South African society. The goal is to grow employment by five million jobs by 2020; to ensure that half of the working-age population in South Africa will be employed and that unemployment would be reduced from 25% to 15%. The NGP is also formulated to reduce inequality and eliminate rural poverty by identifying areas where long term structural and feasible changes can be made.

STRATEGIC PRIORITIES / FOCUS AREAS
The strategic focus of the NGP is to support employment creation. Efforts will be prioritised in key sectors such as infrastructure, the agricultural value chain, the mining value chain, green economy manufacturing, tourism, and certain high- level services. To achieve these objectives, the framework seeks to: • Identify areas that have potential for large scale employment creation. • Develop a policy package to facilitate employment creation in the areas identified. • Create a consensus on the new local and global opportunities, and see how these opportunities can be seized in order to achieve socially desirable and sustainable outcomes. • Strengthen the domestic and regional agricultural markets by supporting smallholder farmers. • Broaden the markets for South African goods and services through a stronger focus on exports. • Provide quality basic and secondary education. • Invest in health including effective measures to address HIV/AIDS.
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The agricultural value chain has been prioritised to play an important role in the provision of job opportunities and improve the standard of living of farm workers. The NGP targets opportunities for 300,000 households in agricultural smallholder schemes, plus 145,000 jobs

in agro-processing by 2020, while there is potential to upgrade conditions for 660,000 farm-workers. It can be concluded that the NGP supports the development of the Agri-Parks.

3.1.2 National Development Plan – 2030 (2010)

South Africa's first National Planning Commission was set by President Jacob Zuma and inaugurated in May 2010. The objective posed to the National Planning Commission was to take an independent view of South Africa, and from that, derive a Vision and a Plan that is focused on enabling a much better quality of life for all South Africans by 2030. The primary channels through which improvement in quality of life are likely to come about, are through eliminating poverty and reducing inequality - the two single biggest problems in South Africa. These aspects affect every other aspect of development and every aspect of life for the citizens of this country. As both a cause and result of these primary problems, the NDP has identified nine specific and predominant challenges:

1. Too few people work.
2. The quality of school education for black people is poor.
3. Infrastructure is poorly located, inadequate, and under-maintained.
4. Spatial divides hobble inclusive development.
5. The economy is unsustainably resource-intensive.
6. The public health system cannot meet demand or sustain quality.
7. Public services are uneven and often of poor quality.
8. Corruption levels are high.
9. South Africa remains a divided society.

STRATEGIC PRIORITIES / FOCUS AREAS

The three broad frameworks identified to ensure the proposed vision set out by the NDP is achieved are the following:

1. Raising employment through faster economic growth.
2. Improving the quality of education, skills development, and innovation.
3. Building the capability of the state to play a developmental, transformative role.

Given the complexity of national development, the plan sets out six interlinked priorities by which the main challenges will be addressed:

- Uniting all South Africans around a common programme to achieve prosperity and equity.
- Promoting active citizenry to strengthen development, democracy, and accountability.
- Bringing about faster economic growth.
- Higher investment and greater labour absorption, focusing on key capabilities of people and the state.

- Building a capable and development state.
- Encouraging strong leadership throughout society to work together to solve problems.

IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

The National Development Plan views agriculture as critical to employment and food security. It is estimated that Agriculture would potentially create a million jobs by 2030. Agri-Parks will serve as important mechanisms to execute the NDP's proposed rural development strategy due to their potential for supporting small-scale agricultural production and stimulating agro-processing in rural areas.

One core element of this approach is conducting commodity and value-chain analyses and mapping exercises to determine the best areas to establish Agri-Parks based on the growth potential of value-adding commodities. As such, each Agri-Park will focus on specific prioritised commodities that have the highest prospect of succeeding in their region. This is directly in line with the NDP's approach of targeting high value commodities (most of which are labour intensive) to stimulate industrial growth, accompanied by measures that ensure sustainable production on redistributed land and an improved institutional support system.

In this regard, the NDP identifies certain agricultural sub-sectors that have the most potential for development, which are categorised into large labour-intensive industries, smaller labour-intensive industries, and large existing industries with significant value-chain linkages. For instance, small-scale labour intensive agriculture, including macadamia, pecan nut, rooibos tea, olive, fig, cherry, and berry industries, are found to have the greatest expansion potential due to the significant market demand for these products. The NDP projects that approximately 80 000 jobs can be created by further developing these particular areas of small-scale agriculture. By providing the necessary inputs, facilities, institutions, market-linkages, and partnerships, Agri-Parks can enable small-scale producers and rural residents to create new, and expand existing enterprises in these industries, which will have positive growth impacts on the rural economy.

The NDP states that in South Africa a highly centralised, vertically integrated agro-processing sector already exists for staple foods such as maize, wheat, sugar, sunflower oil, tea, flour, peanut butter, cigarettes, beer, fruit juices, and canned goods. Key proposals identified for the agriculture and agro-processing sectors include the following:

- *Greater investment in providing innovative market linkages for small-scale farmers in communal and land-reform areas.*

- *As part of a comprehensive support package for farmers, preferential procurement mechanisms should be put in place to ensure that new agricultural entrants can also access these markets.*
- *Growth in agricultural production has always been fuelled by technology, and the returns to investment in agricultural research and development are high. Technology development should therefore, be prioritised.*
- *Policy measures to increase intake of fruits and vegetables, and reduce intake of saturated fats, sugar and salt, as recommended in the South African food dietary guidelines, to accompany strategies to increase vegetable and fruit production.*

3.1.3 Industrial Policy Action Plan (IPAP)-2013/14 – 2015/16

The Industrial Policy Action Plan (IPAP) 2013/14-2015/16 is in the fifth iteration of IPAP and the apex policy document of the Department of Trade and Industry (DTI). It is drawn from a range of visions set out by successive industrial policies such as the NDP, NGP, and National Industrial Policy Framework (NIPF). The IPAP sets out an industrial policy framework with overriding interventions that will prevent industrial decline and support growth, as well as diversifications of South Africa's manufacturing sectors. IPAP will ultimately lead to a restructured economy with more value-adding, labour intensive, and environmentally sustainable industrial activities.

STRATEGIC PRIORITIES / FOCUS AREAS
IPAP focuses on building on, and fulfilling, the plans set out in IPAP 2012/2013 in its transversal and sector-specific interventions. These transversal interventions are in the areas of: • Public procurement • Competition policy • Innovation and technology • Skills for the economy • Industrial financing • Developmental trade policy • Regional integration • Special economic zones
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
IPAP identifies the agro-processing industry as a sector with potential to spur growth and create jobs, because of its strong backward linkage with the primary agricultural sector. The agriculture and agro-processing value chain represents an important source of labour

intensive growth. In addition, this value chain is central to the rural development and smallholder farmer development objectives of government.

The key-programmes identified for agro-processing within the IPAP are the following:

1. Development of a Food-processing Strategy and Action Plan with the objective of accelerated growth in the food-processing sector.
2. Development of a small-scale milling industry to enable small-scale maize milling enterprises to produce for local markets at competitive prices.
3. Enhancement of competition in the fruit and vegetable canning industry - The creation of a sustainable platform for the long-term growth and competitiveness of the industry.
4. Development of a Soybean Action Plan promoting market linkages between primary agricultural producers and processors.
5. Development of the organic food sector – The development of a competitive organic sub-sector producing high-quality food products for both local and export markets.
6. Supporting the Public-Private Partnership (PPP) for Food Security – Entails smallholder farmer access to formal retail chains, Government procurement, and small scale processing opportunities.

With infrastructure investment as one of its main components, upon which all other proposed actions rest, the Agri-Park Programme is key in advancing the objectives of IPAP. The Agri-Parks Programme will further promote an approach to land reform and rural development consisting of comprehensive spatial planning, appropriate categorisation of land and beneficiaries to ensure sustained agricultural development, associated/targeted skills development, employment creation, significant infrastructural expansion, improved public service delivery, more dedicated investment in agriculture through a targeted approach, and the increased involvement of the private sector in land reform and rural development initiatives.

3.1.4 Agricultural Policy Action Plan (APAP) (2015-2019)

The *Agricultural Policy Action Plan (APAP) (2015-2019)* aligns itself to other existing national plans such as the NGP, NDP, and the IPAP. These plans were geared towards providing decent employment through inclusive growth, rural development, food security/ protection, as well as enhancement of environmental assets and rural resources; with key job drivers identified as agriculture, infrastructure, mining, manufacturing, tourism, and the green economy. The APAP sets an action plan for a five-year period (2015-2019), and seeks to translate the high-level responses offered in the Integrated Growth and Development Plan (IGDP) into tangible, concrete steps.

STRATEGIC PRIORITIES / FOCUS AREAS

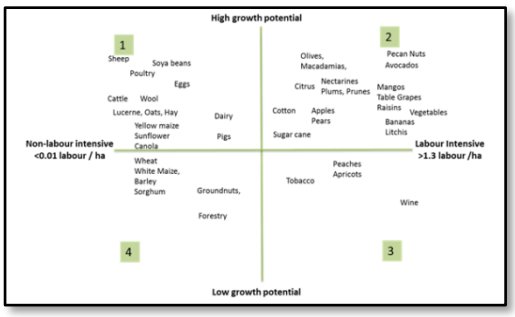
The APAP seeks to provide both a long-term vision, and focused interventions in a 5-year rolling schedule, to be updated annually. APAP is based on Sectoral Key Action Programmes (commodities) and Transversal Key Action Programmes (e.g. research and innovation). It furthermore, presents institutional arrangements and processes for achieving this objective – especially to integrate planning, M&E between DRDLR and DAFF across 3 spheres of government. The APAP has 4 policy levers which are:

1. ***Equity and Transformation:***
   - Ensuring a more producer-friendly (and consumer-friendly) market structure
   - Accelerating implementation of the Charters and the Small-scale fisheries policy;
   - Promoting local food economies; and
   - Investment in agro-logistics
2. ***Equitable Growth and Competitiveness:***
   - Promoting import substitution and export expansion through concerted value chain/commodity strategies;
   - Reducing dependence on industrial and imported inputs;
   - Increasing productive use of fallow land; and
   - Strengthening R&D outcomes.
3. ***Ecological Sustainability:***
   - Climate Smart Agriculture
4. ***Governance:***
   - Support services;
   - Skills development;
   - Research and development;
   - Knowledge and information management (integrated spatial economic planning);
   - Market access, information and regulation; and
   - Institutional arrangements

IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

The evaluating measurements used within the APAP to meet its short- and medium-term in objectives are the following:

1. Contribution to food and security
2. Job creation
3. Value of production
4. Potential contribution to trade balance



The APAP informs the Agri-Parks Business Plan through the identification of the following specific sub-sectors for key action programmes:

1. Poultry/Soybeans/Maize Integrated Value Chain
2. Red meat value chain

3. Wheat value chain
4. Fruits and vegetables
5. Wine industry
6. Forestry
7. Small scale fisheries

The developments of Agri-parks are in line with the APAP policy levers and would help in achieving its set out goals.

3.1.5 Department of Agriculture, Forestry and Fisheries Agro-processing Strategy (2012)

The *Department of Agriculture, Forestry and Fisheries' (DAFF) Agro-Processing Strategy* was developed to create a strategic direction on agro-processing for both national and provincial government. The strategy seeks to provide a response on the agro-processing job creation and related government priority targets set out in existing policy frameworks such as the NGP and IPAP.

STRATEGIC PRIORITIES / FOCUS AREAS

The strategic objective is to articulate how government should intervene to support and develop Small and Medium Enterprises (SMEs), agro-processing in the local and global agricultural sector, as well as forestry and fisheries value chains. The following strategic interventions are set out by this strategy:

1. Facilitate access to incentives and support packages
2. Facilitate access to infrastructure
3. Promote value chain linkages
4. Support technical and managerial training
5. Facilitate access to appropriate technology
6. Facilitate access to business development services

The implementation of this strategy is to be aligned with the implementation of the Smallholder Development Programme, the Zero Hunger Plan, and the Marketing Strategy of the DAFF to realise its intended objectives.

IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

Developing and supporting the currently underserviced agro-processing SME has been identified as key to achieving government's priority targets of promoting job creation, economic growth, and equity. The findings of the Department of Agriculture, Forestry and Fisheries Agro-processing Strategy forms a vital input in formulating the Agri-parks Master Business Plans due to the scope of agro-processing in the national economy.

3.1.6 Strategic Plan for the Department of Agriculture, Forestry and Fisheries (2013/14 – 2017/18)

The *Strategic Plan for the DAFF* was guided by other key policies such as NGP, NDP, IPAP and the work of the Presidential Infrastructure Coordinating Commission (PICC); aimed at tackling the challenges of poverty, inequality, and unemployment. The Strategic Plan for the DAFF sets out programmes of action and projects for a period of five years (2013/14 – 2017/18), and is formulated to improve and develop production by means of entrepreneurship promotion in the AFF sectors.

STRATEGIC PRIORITIES / FOCUS AREAS
The Strategic Plan of the DAFF aims to address the social and economic challenges that the AFF sectors are faced with. It further sets new opportunities for service delivery with relation to job creation, food security, rural development, and skills development. The opportunities or action areas highlighted for key policy development include the following: • Food security production programmes • Strategic plans for supporting small producers • Aquaculture programmes • Agro-processing strategic frameworks The strategic goals set out in the document are the following: • Increased profitable production of food, fibre, and timber products by all categories of producers. • Sustained management of natural resources. • Effective national regulatory services and risk management systems. • A transformed and united sector. • Increased contribution of the sector to economic growth and development. • Effective and efficient governance.
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The Strategic Plan of the DAFF supports the development of the Agri-parks development. Agro-processing is highlighted to play a key role in ensuring an equitable food-secure economy. Interventions should focus on developing processed agricultural products, while at the same time targeting increased export-trade. Investment in agro-processing should be increased as a means of reinvigorating specific strategic value chains such as soya beans, rooibos, beverages, fruit and vegetables, as well as forestry. An equitable food-security economy will improve access to markets, especially for smallholder farmers.

3.1.7 National Policy Framework on the Development of Small and Medium Agro-Processing Enterprise in the Republic of South Africa

The *National Policy Framework on the Development of Small and Medium Agro-Processing Enterprise in the Republic of South Africa* was initiated by the DAFF.

STRATEGIC PRIORITIES / FOCUS AREAS
The objectives of this document are the following: • Rural industrialisation through the establishment of agro-processing industries that are closer to production areas. • Local economic growth through increased trade in rural areas. • Job creation through the establishment of SME agro-processors to improve livelihoods of both smallholder agro-processors and producers. However, the specific challenge that this policy aims to address is the limited active participation of rural-based SMEs agro-processors in the agro-processing mainstream value chain. The strategic objective is to create a profitable, competitive and thriving small and medium agro-processing industry. To achieve this, the policy seeks to: • Provide entrepreneurial support to small and medium agro-processors. • Support enterprise development through facilitating access to markets, finance, incubation, and mentorship. • Facilitate agro-processing industry research and technology transfers. • Facilitate infrastructure investment specifically within rural areas.
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The major constraints to developing the thriving agro-processing value chain identified in the framework are lack of appropriate technology, inadequate infrastructure, access to finance, and low levels of technical and entrepreneurial skills. The Agri-Parks developments will focus on providing continuous support to small and medium scale agro-processing enterprises. Continuous support will assist in increasing the number of enterprises and address the challenges they face with integrating and actively participating in the mainstream economy.

3.1.8 Strategy for the Development of Small and Medium Agro-Processing Enterprises in the Republic of South Africa (2014 – 2019)

The *Strategy for the Development of Small and Medium Agro-processing Enterprises in the Republic of South Africa* was developed to support increased participation of small and medium scale agro-processing enterprises in the agro-processing sector. The strategy aims to support the vision of the DAFF, which aligns with the NDP and IPAP, while linking directly to the outcomes of the Medium Term Strategic Framework (MTSF, 2009).

STRATEGIC PRIORITIES / FOCUS AREAS
The strategy seeks to articulate how the small and medium agro-processing enterprises within the agriculture, forestry and fisheries sector in South Africa can be supported and developed at all levels of government (national, provincial, and local).
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The *Strategy for the Development of Small and Medium Agro-processing Enterprises in the Republic of South Africa* informs the Agri-parks Master Business Plan through identifying the following four intervention pillars needed to for the development of Small and Medium Agro-processing Enterprises: 1. Entrepreneurial support 2. Enterprise development (Access to finance, market access and incubation) 3. Industry research and technology transfer 4. Infrastructure investment

3.1.9 Agriculture, Forestry and Fisheries: Integrated Growth and Development Plan 2012

The *Integrated Growth and Development Plan (IGDP)* was developed for the Medium Term Expenditure Framework (MTEF) (2011/12 – 2014/15) with the aim of providing a long-term strategy for the growth and development of the agricultural, forestry and fisheries sector in South Africa. The IGDP seeks to address the current realities and challenges that these sectors face, and to develop a common vision that will ensure equitability, productivity, competitiveness, and sustainability.

STRATEGIC PRIORITIES / FOCUS AREAS
The strategic priorities of the IGDP for the agricultural, forestry, and fisheries sector are the following: ◦ Attaining equity and transformation ◦ Equitable growth and competitiveness ◦ Environmental sustainability ◦ Good governance
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The IGDP identifies that in terms of agro-processing, there is a need to support South African exporters to position their products better in fast-growing, developing country destinations and Africa. This may require focused export intelligence and marketing support, as well as intergovernmental assistance to ensure that South African products are not unfairly subject to nontariff barriers. Greater emphasis and investment is required in the understanding and

managing of international trade standards and regulations, especially in the areas of food safety and sanitary and phytosanitary measures.

3.1.10 Department of Rural Development and Land Reform: Comprehensive Rural Development Programme

The Comprehensive Rural Development Programme (CRDP) is aimed at being an effective response against poverty and food insecurity through maximising the use and management of natural resources to create vibrant, equitable, and sustainable **rural communities**. A CRDP must improve the standards of living and welfare, but also rectify past injustices through rights-based interventions and address skewed patterns of distribution and ownership of wealth and assets. The strategic objective of the CRDP is therefore, to facilitate integrated development and social cohesion through participatory approaches in partnership with all sectors of society. This document therefore, serves as the policy framework document for the Comprehensive Rural Development Programme - or 'CRDP'. The document thus, aims to set out the programme principles.

STRATEGIC PRIORITIES / FOCUS AREAS

The vision of the CRDP is to create vibrant, equitable, and sustainable rural communities include: contributing to the redistribution of 30% of the country's agricultural land; improving food security of the rural poor; creation of business opportunities, de-congesting and rehabilitation of over-crowded former homeland areas; and expanding opportunities for women, youth, people with disabilities, and older persons who stay in rural areas.

The ultimate vision of creating vibrant, equitable, and sustainable rural communities will be achieved through a three-pronged strategy. The components of this three-pronged strategy are also the key elements that characterise the CRDP and are as follows:

- Coordinated and integrated broad-based **agrarian transformation**,
- Strategically increasing **rural development**,
- Improved **land reform**.

IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

The types of priorities that are typically catered for in the CRDP, categorised according to the three key strategies mentioned above, include – but are not limited to – the following:

A. Economic Development

Agrarian Transformation

- Livestock farming and related value chain development (exploring all possible species for food & economic activity).
- Cropping and related value chain development (exploring all possible species, especially indigenous plants for food and economic activity).

Rural Development

- The establishment of business initiatives, agro-industries, cooperatives, cultural initiatives, and vibrant local markets in rural settings.

B. Social Development

Rural Development

- The empowerment of rural communities, especially women and the youth, through facilitating and mediating strong organisational and institutional capabilities and abilities to take full charge of their collective destiny.
- Capacity building initiatives, where rural communities are trained in technical skills, combining them with indigenous knowledge to mitigate community vulnerability to, especially, climate change, soil erosion, adverse weather conditions and natural disasters, hunger and food insecurity.

C. Physical and Infrastructure Development

Rural Development

- Revitalisation and revamping of old, and the creation of new economic, social, and information communication infrastructure and public amenities and facilities in villages and small rural towns.

D. Institutional Development

Land Reform

- Projects will be linked to the acquisition of, and access to, land through the three land reform programmes (redistribution, tenure, and restitution). All projects implemented through the three programmes will be implemented efficiently but in a sustainable manner linked to the strategic objective of the CRDP.

3.1.11 Department of Agriculture, Forestry and Fisheries

1. COMPREHENSIVE AGRICULTURE SUPPORT PROGRAMME (CASP)
To ensure the commercial viability of emerging farmers from a household food security level to a commercial level, a farmer-to- farmer mentorship policy has been developed. The department regards skills development as one of its critical focus areas and this obviously includes providing hands-on training to emergent farmers in various fields of farm management.
2. MICRO- AGRICULTURAL FINANCIAL INSTITUTIONS OF SOUTH AFRICA (Mafisa)
The Micro- Agricultural Financial Institutions of South Africa (Mafisa) encourage partnerships between established agricultural enterprises and emerging farmers and entrepreneurs by providing access to finance for farmers, especially beneficiaries of the land restitution, redistribution, and land tenure reform programmes. The Land Bank administers the credit scheme on behalf of the department and provincial departments provide assistance to access the scheme. Four development finance institutions are currently participating in the disbursement of Mafisa funds in the provinces.
3. ILIMA-LETSEMA
The grant provides for farmers who lack access to credit to be assisted to access agricultural production inputs. The inputs are necessary to increase agricultural production and hence, to improve household and national food security. Jobs are sustained and new ones created when farm enterprises are made operational, and this requires provision of the production inputs
4. AGRICULTURAL BROAD-BASED BLACK ECONOMIC EMPOWERMENT (AgriBEE)
The AgriBEE Charter seeks to provide direction on the integration of emerging participants into mainstream agriculture by creating linkages, partnerships, and networks for balanced, mutually benefiting results for all concerned. It specifically encourages partnerships between established agricultural enterprises and emerging farmers and entrepreneurs. It seeks to ensure enhanced competitiveness and sustainable development with improvement/expansion of the existing businesses, rehabilitation of ailing agricultural business concerns, and expanded entry for new businesses in the sector.

3.2 Provincial

3.2.1 Mpumalanga Spatial Development Framework

Spatial Development Framework (SDF) is a planning tool informed by the international, regional and national initiatives and legislations. The purpose of the SDF is to strategically plan the implementation of development projects in the province.

STRATEGIC PRIORITIES / FOCUS AREAS
The framework identifies the economic sector growth strategies in agriculture as follows: • The exploitation of competitive advantage in agricultural and forestry sector within Msukaligwa LM, Mkhondo LM, Dr Pixley Ka Isaka Seme LM, Dipaleseng LM, Victor Khanye LM, Emakhazeni LM, Umjindi LM and Nkomazi LM. • The roll-out of the Comprehensive Rural Development Programme must assist in expanding agriculture potential to ensure food security and provide for agro-processing • The application of new sources of water for irrigation and water technology to provide sustainable agricultural products for agro-processing and commercial farming
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The challenge of new sources of water will impact Agro-Parks in commercial crop farming and agro-processing. Agro-processing systems will need factor the shortage of water and develop water saving processes. Research in Agri-Parks will need to factor such challenge and come up will innovative and water-saving processes.

3.2.1 Mpumalanga Economic Growth and Development Path (2011)

Mpumalanga Economic Growth and Development Path (MEGDP) illustrate economic landscape of Mpumalanga with a view of future economic growth and development. The MEGDP correlates with the National Growth Path in identifying job drivers and economic sectors with the potential to generate high employment. The provincial plan takes into consideration province-specific comparative and competitive advantages and the linkages to key provincial strategic objectives.

STRATEGIC PRIORITIES / FOCUS AREAS
Key objective of MEGDP is to promote economic growth that creates jobs and reduce poverty and inequality in Mpumalanga. Key sectors that promote job creation were identified, which included agriculture among other priority sectors. Interventions to facilitate growth and job creation in the Province are identified as: • Infrastructure development: pack houses, dams, silos, agro-processing infrastructure • Skills development • Support to small-scale farmers and agri-businesses

• Fast-track the settlement of outstanding land claims
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
The interventions needed by the Province to develop skills and support small-scale farmers will be provided by the Agri-Park. The Agri-Park objectives is fulfilling the provincial plan of supporting small-scale farmers and develop infrastructure in the agricultural sector.

3.2.2 Mpumalanga Vision 2030: Strategic Implementation Framework

The provincial vision sets specific targets that are required to develop the province using the long-term approach. Specific targets are in line with a number of factors that influence such targeted development. The vision is aligned with the National Development Plan

STRATEGIC PRIORITIES / FOCUS AREAS
The province has identifies employment and education as top two critical needs for the long term development of the province. Mpumalanga has then set the following targets for development: • Economy and employment priorities: Specific targets are set for increased employment and GDP growth for year 2030 • Education, training and innovations: The province has targeted to improve the pass rate to 80% in 2030 • Create an effective social welfare system • Improve health care system
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT
Objective of creating sustainable employment and offer relevant training in agricultural activities serves priority of employment while increasing production and provincial economy of Mpumalanga

3.3 District Policy Review

3.3.1 Ehlanzeni Local Economic Development Strategy (LED) 2014 -2019

Local Economic Development strategies set out local initiatives using local resources and skills to stimulate growth and development.

STRATEGIC PRIORITIES / FOCUS AREAS
The Local Economic Development Strategy (LED) aims to achieve the following goals: • Reduce Ehlanzeni District (ED) economy concentration and dependence on Mbombela • Grow ED economy through targeting economic sectors that are rooted in value chain networks

- Support development of small and emerging businesses by targeting support programmes across sectors
- Ensure improved livelihoods, reduce poverty, unemployment and inequality

IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

Value chain promotion across sectors is the anchor strategy for Ehlanzeni DM LED strategy. The LED strategy further identified current projects in agricultural sector and agro-processing as anchor strategies. The Agri-Parks promote value chains in agriculture and will encourage local communities to develop enterprises in the value chain networks. This agricultural economic activity taking place in Bushbuckridge LM will fulfil a goal of reducing dependence on Mbombela LM and desired by the District.

3.3.2 Ehlanzeni District Integral Development Plan Review (IDP) – 2015/16

Integral Development Plan (IDP) is an approach to planning that identifies the best solution to long-term development. The IDP outlines the projects and programmes that municipality has well thought out in order to bring about development for the people on the District. The Plan is aimed at aligning with the National Development Plan and other key strategic planning tools such as Millennium Development Goals

STRATEGIC PRIORITIES / FOCUS AREAS

The District strategic objectives include:

- Ensuring integrated development planning for the district as a whole
- Promoting bulk infrastructural development and services for the district as a whole
- Building the capacity of local municipalities
- Promoting equitable distribution of resources between local municipalities

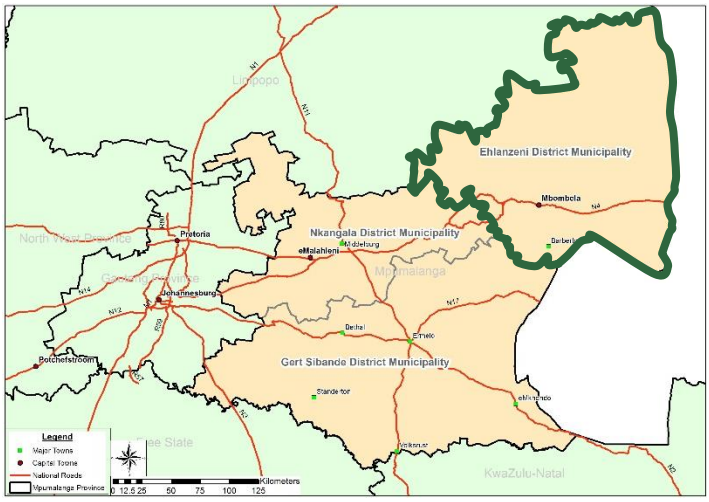
IMPLICATIONS FOR THE AGRI-PARKS DEVELOPMENT

Establishment of Agri-Parks promotes transformation in rural communities. The project is set to develop necessary infrastructure and bring about human capacity development such as capacity building and mentorship to farmers and other market participants. The project is set to benefit all District municipalities and thud distributing resources equitably between local municipalities

4 Locational Context

4.1 District Description

Map 3.1: Ehlanzeni Location



Ehlanzeni District is the eastern District of Mpumalanga bordering Limpopo, Swaziland, and Mozambique. The District covers an estimated 1,670,575 hectares of land, of which a large portion is the Kruger National Park in the east of the District.

Source: Urban-Econ GIS Unit, 2015

Source: Municipalities, 2015

Ehlanzeni District is divided into 5 local municipalities:

1. Mbombela LM
2. Nkomazi LM
3. Thaba Chweu LM
4. Umjindi LM
5. Bushbuckridge LM

Mbombela LM is home to the capital city of Mpumalanga which is also a regional service centre. Nkomazi LM and Bushbuckridge LM have large areas of land which are under traditional authorities.

According to the Mpumalanga SDF, Mashishing (Thaba Chweu LM) also serves as a regional activity node. Other economic growth points within the District include Barberton (Umjindi LM), White River (Mbombela LM), Hazyview (Mbombela LM) and Sabie (Tbaba Chweu LM),

4.1.1 Transport Routes

Ehlanzeni District has numerous important transport links, provided routes for freight and tourists. The two major roads include the **N4**, which links Gauteng to Mozambique going through Mbombela, Malelane and Komatipoort and the **R40**, which links Swaziland to Limpopo and traverses the District from south to north going through Barberton, Mbombela, White River, Hazyview and Bushbuckridge. Another important road includes the **R532** which links Mashishing, Sabie and Graskop to the R36 in Limpopo. The R532 is a valuable tourist route within the District.

4.1.2 Economic Activities

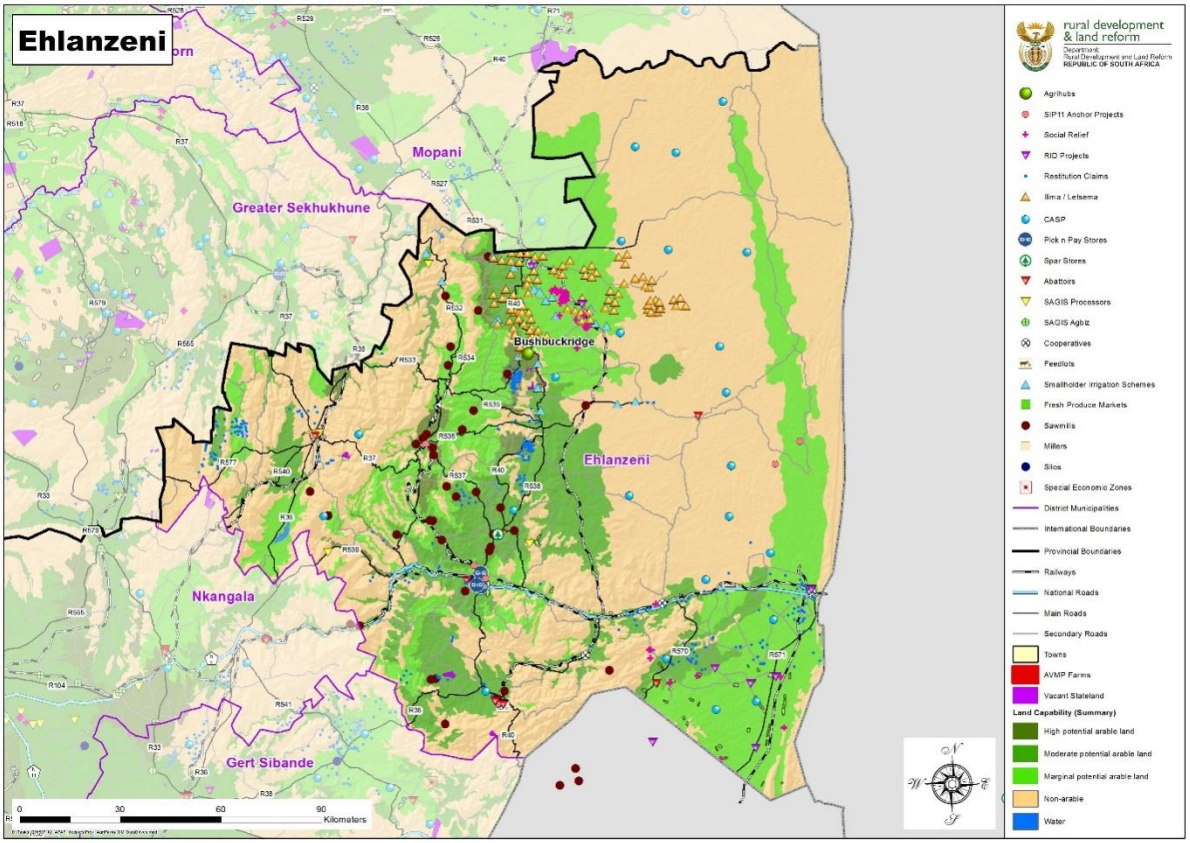
The main economic activities in the Ehlanzeni District include:

- **Mining**: gold mining activities occur near around Barberton while Mashishing has extensive chrome mining
- **Agriculture:** The subtropical climate in the eastern areas allow for extensive farming activities in fruits such as bananas, macadamia nuts and oranges. Large sugarcane farming occurs in Nkomazi LM along the Crocodile River.
- **Forestry:** Forestry plantations occur mostly along the escarpment in the Sabie, Graskop and White River areas. Processing of wood occurs mostly in the Sabie/Graskop area and there is a large SAPPI processing facility at Ngodwana.
- **Tourism:** The District has attractions that are very popular among domestic and international tourists, these include the Kruger National Park, Pilgrim's Rest, Blyde River Canyon, God's Window, Bourke's Luck Potholes and Marloth Park.

4.2 Location of Agri-Park

The Agri-Park for Ehlanzeni will be located in Mkhuhlu, Bushbuckridge Local Municipality as seen in the Map below.

MAP 4.1: EHLANZENI DISTRICT AGRI-PARK



MAP 4.2: AGRI-PARK SITE

(Source: Google Earth, 2015)

The site for the Agri-Park has already been identified, and is situated next to the R536. The site is approximately 22 km from Hazyview (along the R536) and 85.5 km from Mbombela (via R40). There is an existing Mill on the site.

The **selection criteria** for determining locations of the agri-hub include the following elements:

1. Existing Land Capability
2. Existing Agricultural infrastructure (e.g. silos, abattoirs, millers, ginners, food processors, fresh produce, etc.)
3. Proximity to potentially vacant state land parcels
4. Proximity to water sources (dams, rivers, reservoirs)

5. Proximity to CASP, Ilima-Letsema, PLAS, Restitution claims, recapitalisation projects
6. Identification of enterprise areas (DAFF 1936) e.g. cattle, sheep, maize
7. Proximity to social relief projects
8. Proximity to EDD gateways
9. Existing Road and Rail connectivity
10. Proximity to retail markets (SPAR, Pick N Pay food stores)
11. Proximity to PIMD poorest wards
12. Proximity to Land Care projects
13. Proximity to rural towns
14. Proximity to AVMP farms
15. Proximity to existing CRDP wards

4.3 Economic Infrastructure

4.3.1 Roads

All of the nodes in the District are connected via tar roads, although the conditions of these roads are not always up to standard. In rural areas, there is an extensive network of gravel roads. Upgrades to the road network will become critical for logistics and transport of goods to the agri-hub.

4.3.2 Electricity

Electricity supply is critically important to the farming of some agricultural products and essential to all agro-processing activities. Most areas within major centres in the District are able to be electrified relatively easy. Farms situated in rural areas may require significant electricity infrastructure investments.

4.3.3 Water

The quality of water is a big concern amongst farmers, retailers and financial institutions. The poor maintenance of sewerage systems and water from old mines has the effect that water is not treated before it flows into catchment dams. The water from catchment dams is used to irrigate fresh produce and other crops. If the quality of water is poor, it influences not only the quality of crop, but can also cause diseases in humans and animals.

High volumes of water remain unaccounted for and in order to provide a sustainable and cost effective service, it is necessary that this be urgently addressed. Water infrastructure investments

will be a major consideration for future farming projects to assist with the delivery of water for irrigation and livestock to deep rural areas.

4.3.4 Telecommunications

According to the 2011 Statistics South Africa Census, only 4.9% of the households in Ehlanzeni District have a landline – the majority of households with a landline reside in Mbombela LM (7.9%) and Thaba Chweu LM (7.4%). The majority of households do however have cell phones (90.9%), with the majority of households, again, residing in Mbombela LM (92.3%) and Thaba Chweu LM (90.4%). Despite the majority of households having access to cell phones, many households do not have access to the internet, about 70% of households in the District have no access to the internet. Of those that have access to the internet, 15% access the internet from home and 62% access the internet from their cell phones.

5 Main Role Players

The following Table will outline the various role-players in the Ehlanzeni District Municipality who would play role in the Agri-Park (AP) and Agri-Hub (AH). There are three categories of role-players which will be discussed, namely **government, private companies, and associations and organisations.**

Table 4.1: Main Industry Role Players

Category	Role Player	Fit to Agri-Park Model
Government	Department of Rural Development and Land Reform (DRDLR)	Support the management of Agri-Parks to ensure sustainability Support Agri-Parks financially
	Department of Agriculture, Forestry and Fisheries (DAFF)	Provide extension services to Small Holder and Farmers and Large Scale Farmers
	Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA)	Support the management of Agri-Parks to ensure sustainability
	Ehlanzeni District Municipality (EDM)	Manage Agri-Parks stakeholders
	Local Municipalities (LM)	Support farmers and FPSUs
	National Development Agency (NDA)	Supports agri-businesses in FPSUs and co-operatives
	Department of Trade and Industry (DTI)	Financing incentives to local municipalities and communities

Category	Role Player	Fit to Agri-Park Model
	Small Enterprise Development Agency (SEDA)	Supports FPSUs and other businesses in the agricultural value chain
	Mpumalanga Economic Growth Agency (MEGA)	Supports FPSUs ad RUMC
Financial Companies and Institutions	First National Bank (FNB)	Financing of Small-Holder Farmers, Large-Scale Farmers, FPSUs
	Standard Bank Agriculture	
	ABSA Agribusiness	
	Land Bank	
Organisations and Associations	Emerging Farmers	Supports small farmers and co-operatives
	Poultry Disease Management Agency (PDMA)	Information sharing to farmers in poultry industry.
	South African Poultry Association (SAPA)	
	National African Farmers Union (NAFU)	Directly support FPSUs and Agri-Hubs
	African Farmers Association of South Africa (AFASA)	
	Forestry South Africa (FSA)	Information-sharing to forestry farmers
	Women in Agriculture (WARD)	Supports Small-Holder Famers and agricultural co-operatives
	Agriculture Resource Council (ARC)	Information-sharing to RUMCs, FPSUs and farmers
Training	University of Mpumalanga	Provide skills and relevant knowledge to FPSUs and RUMC
	AgriSETA	Relevant training to farmers, agri-hubs

5.1 Government

5.1.1 Extension services

Extension services refer to continuous and changing process in the rural area. The process of extension involves four elements as identified by Food and Agriculture Organization of the United Nations (FAO); namely:

- Knowledge and skills: Extension brings farmers more information and transfer skills to farmers in different business areas, such as business management, record keeping
- Technical advice and support: technical support applies directly to production activities of the farm and action needed to improve production
- Farmer organization: Extension services also help to set up, structure and develop organizations of local farmers

- Motivation and confidence: extension programmes seek to support and motivate farmers to take the initiative and participate in these services rather that work in isolation.

A number of private companies in partnership with government departments offer services in a form of training in business, mentorship, capacity building

The Department of Agriculture is currently developing the national policy on extension and advisory services for agriculture, forestry and fisheries. The process of developing the policy has started in partnership with Agricultural Research Council. The policy purpose is to guide and regulate the provision of extension and advisory services in the country.

Table below summarises a few of government department or agencies that offer extension services to various businesses in agriculture.

TABLE 5.1: EXTENSION SERVICES OFFERED BY GOVERNMENT AND PRIVATE ORGANIZATIONS

Agency	Description
Small Enterprise Development Agency (Seda)	Provides information to small enterprises and perspective entrepreneurs that will help and encourage them to start and build sustainable businesses. Services provided by SEDA includes: information advice and referrals; import and export training; trade information; technical support; business mentoring; market access
Grain South Africa: Farmer Development Programme	Grain SA in partnership with a number of organizations and government department offer extension advisory through individual contact with the farmers, mentorship, study groups and specific training courses.
South African Sugarcane Research Institute	Offers extension services to producers in the sugar industry. The services include regional extension (service medium to large scale commercial growers) and small-scale grower extension.
Agricultural Research Council: Subtropical Crops extension and advisory services	Agricultural Research Council division of Subtropical crops offers extension and advisory services to its members in a form of organising study groups, farm visits develop government extension advisors.

5.1.2 Financing services

Government has a number of agencies mandated to finance businesses in agricultural sector. A number of these financing products developed are aimed at promoting small businesses to better participate in the economy of the country. Financing is available in different forms such as loans, grants, incentives schemes.

The department of Trade and Industry (DTI) together with other government formed agencies has a number of funding programmes for businesses involved in agricultural activities or located in rural areas with disadvantaged backgrounds.

TABLE 5.2: GOVERNMENT FUNDING PROGRAMMES

Department of Trade and Industry programmes	
Programme	Description
Business Process Services Incentive (BPSI)	BPSI aims at attracting investment and creating employment opportunities in South Africa through offshoring activities. The BPSI comprises of two components as follows: 4.2.1 A base incentive, a two-tier differential incentive for non-complex jobs and complex jobs, based on the Rand value per job determined by fully loaded costs. The base incentive is a five-year operational expenditure (OPEX) grant that tapers down in line with the narrowing cost gap between South Africa and other offshoring destinations.
Critical Infrastructure Programme (CIP)	CIP is a cost sharing grant for projects designed to improve critical infrastructure in South Africa.
The Co-Operative Incentive Scheme (CIS)	The CIS is a grant scheme that supports broadening economic participation by historically disadvantaged communities to enter the mainstream economy
Incubation Support Programme (ISP)	ISP to develop incubators and create successful enterprises with the potential to revitalise communities and strengthen local and national economies. ISP aims to ensure that SMMEs graduate into the mainstream economy through the support provided by the incubators.
Black Business Supplier Development Programme (BBSDP)	BBSDP is a cost-sharing grant offered to small black-owned enterprises to assist them to improve their competitiveness and sustainability in order to become part of the mainstream economy and create employment.
The Technology and Human Resources for Industry Programme (THRIP)	THRIP is a partnership programme funded by the dti and managed by the National Research Foundation (NRF). On a cost-sharing basis with industry, THRIP supports science, engineering and technology research collaborations focused on addressing the technology needs of participating firms and encouraging the development and mobility of research personnel and students among participating organisations.
SEDA Technology Programme (STP)	STP was created as part of government's national strategy of consolidating and rationalizing small enterprises support interventions across the different government departments and government agencies, within the overall objective of improving the delivery of small business support services to entrepreneurs and small enterprises. STP is a merger of the following programmes: • Godisa Trust, • the National Technology Transfer Centre (NTTC), • the three business incubators of the dti, • the Technology Advisory Centre (TAC),

Department of Trade and Industry programmes	
Programme	Description
	• the technology-transfer activities of the Technology for Women in Business (TWIB) programme • and the support programmes for small enterprises of the South African Quality Institute
Isivande Women's Fund (IWF)	IWF aims at accelerating women's economic empowerment by providing more affordable, usable and responsive finance. The IWF assists with support services to enhance the success of businesses. It pursues deals involving start-up funding, business expansion, business rehabilitation, franchising and bridging finance.
Black Business Supplier Development Programme	This cost-sharing grant is offered to black owned small enterprises to assist them in improving their competitiveness and sustainability. The programme provides grants to a maximum of R1 million: • R800 000 for tools, machinery and equipment on a 50:50 cost sharing basis • R200 000 for business development and training interventions on n 80:20 cost sharing basis The programme will be administered up to 31 July 2017
Agencies	
National Development Agency	Public entity that grants funds to civil society organisations to implement community-driven programmes with key focus areas in : • Early childhood development • Food security • Income generation and • Capacity building

5.2 Financial companies and institutions

Financial companies and institutions participate in the development of agricultural businesses by offering financial products to finance small businesses. The major four banks have specialised divisions that focus on this field. The need for specialised agricultural financing in these financial institutions is of great importance in developing agricultural sector. This directly or indirectly impact on rural development and poverty alleviation in the country. The specialised financial institutions are:

- ABSA: Agribusiness
- First National Bank: Agriculture Lending Solutions
- Nedbank: Agribusiness
- Standard Bank: Agriculture

The specialisation of banking put emphasis on financing emerging farmers as well as businesses in agriculture value chain.

Government has also established a specialist agricultural bank, Land Bank. The bank main objective is to provide financial services to commercial farming sector and agri-business. Financial products are designed to facilitate access to finance by new entrants with historically disadvantaged backgrounds. Land bank financial products include: long-term loans, revolving loan facilities, instalment finance, special mortgage loans and insurance

5.3 Associations

Industry associations facilitate information sharing and promote industry development. Associations discussed below are specifically related to the district priority commodities. A number of associations are not discussed below, such as National Emerging Red Meat Producers Organisation, because red meat and livestock agriculture is not identified as the district priority commodity in Ehlanzeni district.

5.3.1 African Farmers Association of South Africa (AFASA)

The continental association in farming, AFASA was forms to assist African farmers develop and form a strong business relationship to improve and promote agricultural sector. The organisation is formed by individuals that strive to be efficient and effective in promoting farmers.

5.3.2 South African Poultry Association (SAPA)

The Poultry Association acts as a channel for any matter that the industry needs to address. Information is shares and detailed studies are done in order to assist industry participants in any area of the business. The national associations has dealt with a number of issues in the industry such as; agricultural trade policy, food safety issues, training and technology transfer, curtailing smuggling, developing poultry farmers and codes of practice to name a few.

5.3.3 National African Farmers' union of South Africa (NAFU)

The national association was formed to address access to land, financial resources, development opportunities and skills amongst black farmers. The Association has formed an Agri Business Chamber that focuses purely on the business side of NAFU.

Agri-Business Chamber functions are:

- Build a good relationship with government department and various stakeholders in the industry
- Develop Agri linkages to build capacity of smallholder farmers in doing business
- Build agri-business institution to address the needs of smallholder farmers
- Facilitate development of viable projects according to farmers needs
- Build Agri-Business Chamber as a BBBEE agricultural institution for the country.

6 Economic and Socio-Economic Analysis

6.1 Demographic Analysis

6.1.1 Population and Household

Error! Reference source not found. below indicates the population figures and number of ouseholds in Ehlanzeni DM.

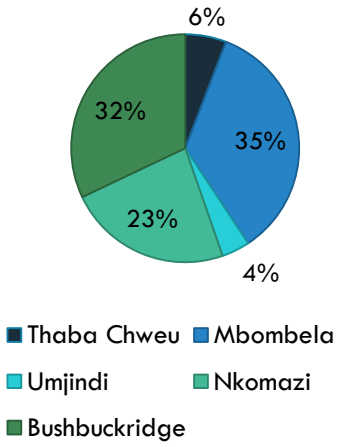
TABLE 6.1: POPULATION AND HOUSEHOLD FIGURES

	2011 Census	Average Annual Growth Rate 2001 – 2011	Estimated Population 2030
Population	1,688,617	1.74%	2,283,774
Households	445,086	2.4%	695,549

(Source: Statistics South Africa Census 2011)

Ehlanzeni DM has a slightly lower population growth rate compared to the other Districts in Mpumalanga. In local municipalities which are more prosperous, the average population growth is generally higher. Mbombela LM accounts for the largest population due to the municipality being the economic and business hub of the District. Bushbuckridge LM also has high population and unemployment which aligns with Agri-Parks objective to create sustainable employment and alleviate poverty.

FIGURE 6.1: POPULATION DISTRIBUTION, 2011



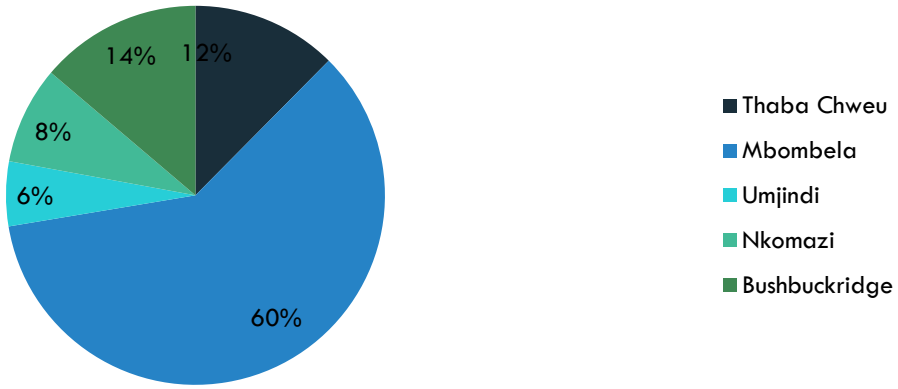
(Source: Statistics South Africa Census 2011 and Urban-Econ Calculations, 2014)

6.2 Economic Profile

6.2.1 Production Structure

Mbombela LM contributes the most to the local economy of Ehlanzeni DM. By comparing Figure 6.1 and Figure 6.2 it is evident that there is a large positive correlation between the size of the local economy and the average annual income. This is indicated by Mbombela population which accounts for 35% to the district population distribution. Mbombela also contributes the highest percentage (60%) towards the district economic activity.

FIGURE 6.2: EHLANZENI DM GVA CONTRIBUTION, 2013



(Source: IHS Global Insight Regional Explorer, 2013)

TABLE 6.2: EHLANZENI DM AVERAGE ANNUAL GDP GROWTH, 2003 – 2013

Ehlanzeni DM	1996 - 2013	2013 - 2018	Potential High Growth Sectors
Thaba Chweu LM	3.9%	1.9%	Agriculture, mining and tourism
Mbombela LM	2.4%	2.7%	Agriculture, trade and tourism
Umjindi LM	0.4%	2.7%	Agriculture and tourism
Nkomazi LM	1.2%	2.8%	Agriculture
Bushbuckridge LM	2.0%	2.8%	Agriculture and tourism

(Source: IHS Global Insight Regional Explorer, 2013)

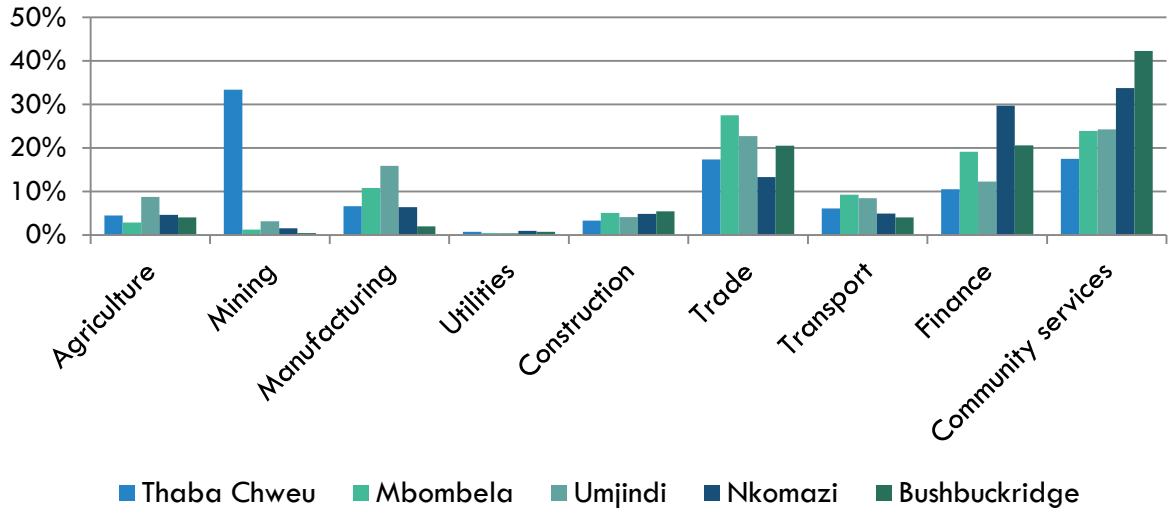
Table 6.2 above estimates average annual growth rates in the district. The table also indicates sectors that have potential in growing and improving overall growth in the district economic activity. It is evident that agriculture has a lot of potential in Ehlanzeni district, hence the intervention of Agri-Park programme.

Figure 6.3 below depicts the district production structure per sector. Agricultural activities do not indicate high production in the district. This is the need that Agri-Parks seek to fulfil. Proper marketing, distribution and overall management of Agri-Parks in the District will improve production in the sector and the sectoral contribution towards the District GDP.

The contributions to the economy by the tertiary sectors in the local municipalities are significantly higher than the contributions made by the primary and secondary sectors; except in Thaba Chweu LM which has a very prominent mining and forestry sector. A large tertiary sector is indicative of a more developed local economy. Nkomazi LM and Bushbuckridge LM are largely

dependent on the government sector; it is necessary to develop other local sectors that will contribute to sustainable employment creation. Agri-Parks aim to fulfil this gap of job creation, hence the strategic location of agri-hub.

FIGURE 6.3: SECTORAL PRODUCTION STRUCTURE, 2013



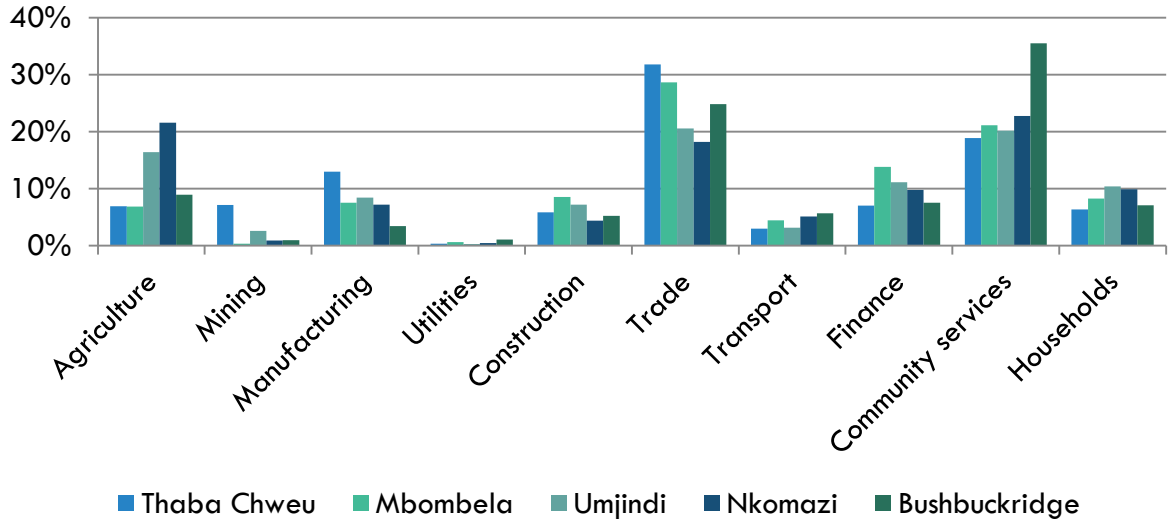
(Source: IHS Global Insight Regional Explorer, 2013)

6.3 Employment

6.3.1 Sectoral Employment

Employment sector in the municipalities of Ehlanzeni DM is indicated in the figure below. The sectors in Ehlanzeni DM which employ a large number of people in most of the municipalities include agriculture, trade and community service. A large number of people are employed in the tertiary sector which generally employs more skilled and highly skilled people. Agricultural sector mostly employs semi- and unskilled labour. Agri-Parks aims to bring about training to promote sustainable employment and skilled labour in the industry through partnerships with relevant training institutions.

FIGURE 6.4: SECTORAL EMPLOYMENT, 2013



(Source: IHS Global Insight Regional Explorer, 2013)

6.3.2 Unemployment

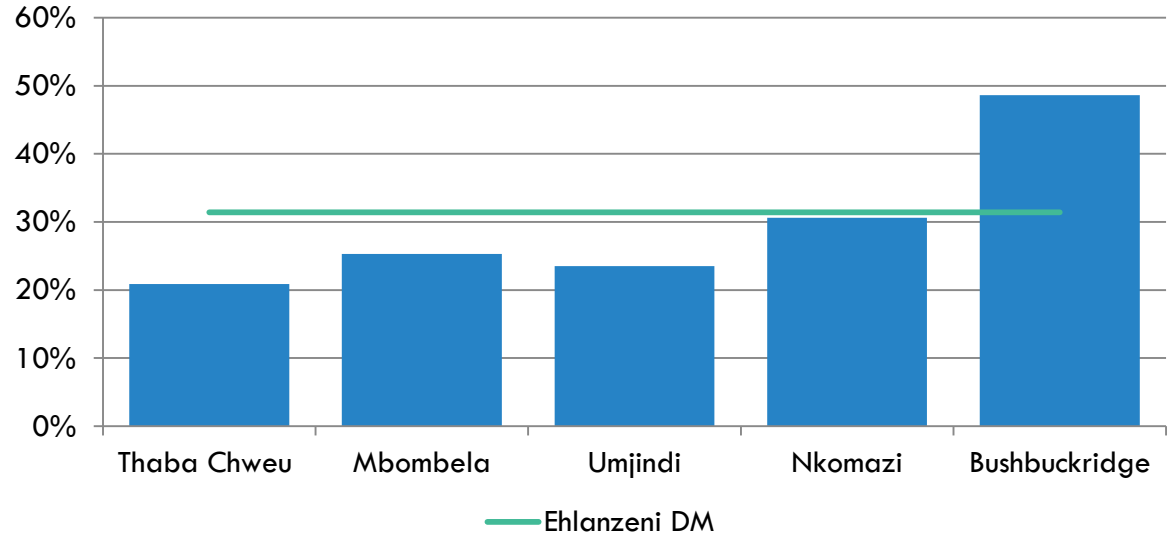
This subsection distinguishes between three major groups of employment:

- Employed individuals
- Unemployed individuals
- The Not Economically Active (NEA) portion of the population

Agri-Parks intervention should assist to decrease unemployment as well as encourage not economically active people to participate in the economy in order to decrease their dependence on the working population, especially in Nkomazi LM and Bushbuckridge LM. Unemployment rates are very high in Bushbuckridge LM. The government intervention of developing Agri-Park and strategically locate Agri-hub in Bushbuckridge LM ensures creation of sustainable job opportunities.

By analysing the unemployment rate together with the levels of education, it is evident that in general, the higher the levels of education, the lower the lower unemployment rate will be. Therefore, the first step in Bushbuckridge and Nkomazi LM would be to develop skills and improve the levels of education which are one of key objectives of Agri-Park in partnership with other stakeholders.

FIGURE 6.5: UNEMPLOYMENT RATE

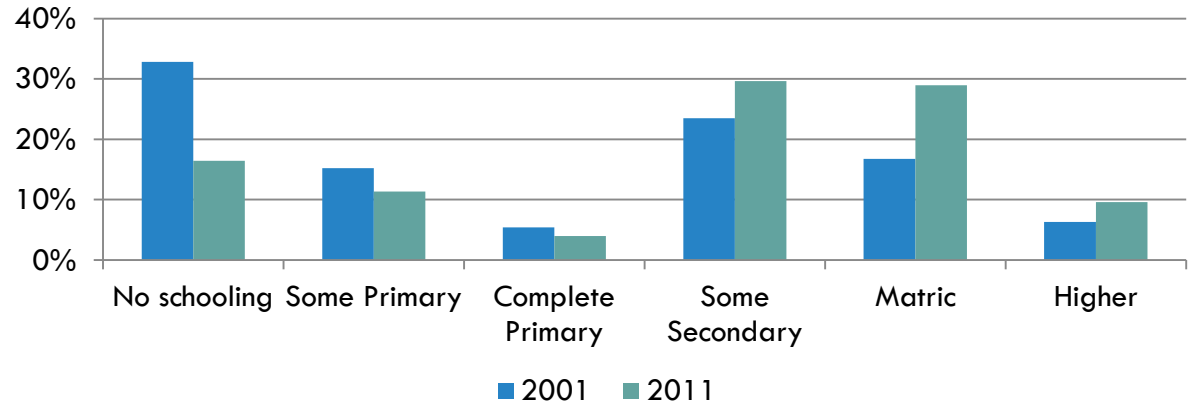


(Source: IHS Global Insight Regional Explorer, 2013)

6.4 Level of Education

The Figure below indicates the highest level of education in Ehlanzeni DM for people older than 20. Data is obtained from the 2001 and 2011 National Census (StatsSA).

FIGURE 6.6: LEVEL OF EDUCATION (AGE 20+)



(Source: Statistics South Africa Census 2011 and Urban-Econ Calculations, 2014)

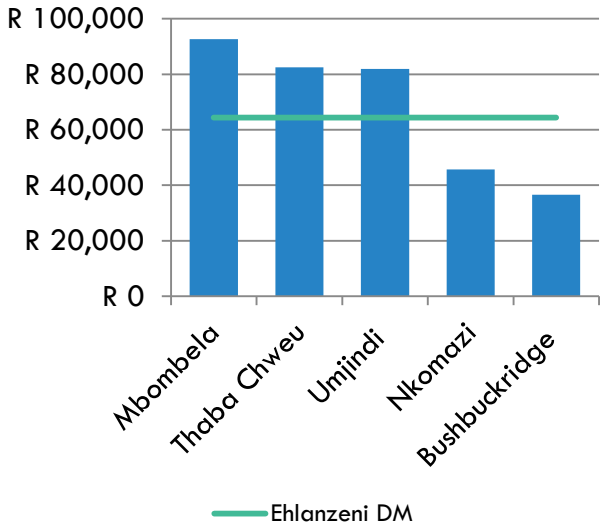
The level of education has improved considerably since 2001. The amount of people (older than 20 years) with no schooling decreased from 33% to 16%, while adults with Grade 12 increased from 17% to 29%. There is still a large amount of people who only have some secondary education (30%). Vocational skills training and FET programmes should be utilised to promote careers in agricultural sector. Mpumalanga University has been identified to focus on agricultural studies. This will ensure the success of Agri-Parks management with skilled workforce.

6.5 Income and poverty

Figure 6.7 indicates the average annual household income in the municipalities of Ehlanzeni DM. This figure assists to drawing attention to the importance of higher levels of education.

Mbombela LM has the highest levels of education and the highest level of average annual income. In contrast, Nkomazi LM and Bushbuckridge LM have lower levels of education, higher unemployment and considerably lower levels of average household income.

FIGURE 6.7: AVERAGE ANNUAL HOUSEHOLD INCOME, 2011



(Source: Statistics South Africa Census 2011 and Urban-Econ Calculations, 2014

6.6 Level of Concentration: Tress Index

Tress index is used to measure level of concentration which indicates how diverse the economy of the District is. A tress index of zero represents a much-diversified economy, while a number closer to 100 indicates a high level of concentration. It is recommended that the District aims at diversifying its economy instead of depending on one sector. Economy has to balance its dependence on a number of sectors rather that heavily dependent on one sector

TABLE 6.3: TRESS INDEX, 2013

Ehlanzeni DM	Tress Index
Thaba Chweu LM	46.99
Mbombela LM	52.81
Umjindi LM	43.82
Nkomazi LM	56.01
Bushbuckridge LM	66.01

(Source: IHS Global Insight Regional Explorer, 2013)

From Table 6.3 it is evident that the municipalities of Ehlanzeni DM are not very diverse, especially Nkomazi LM and Bushbuckridge LM. It is therefore necessary that Agri-Park intervention in the municipalities of Ehlanzeni DM strive towards diversifying the respective local economies and create linkages between municipalities in agricultural activities.

6.7 Comparative Advantage: Location Quotient

This subsection aims at revealing the sectors in the study area economy that have a comparative advantage. To have a comparative advantage means that this economy has the ability to render or produce a product or service more effectively and efficiently, than its counterparts. The element that determines the comparative advantage of a region is the

Location Quotient (LQ) this is used mainly to determine the levels of concentration within the study area. The industry groups that dominate a specific area will have a higher LQ and vice versa.

TABLE 6.4: LOCATION QUOTIENT INTERPRETATION

LQ	Label	Interpretation
Less than 0.75	Low	Local needs are not being met by the resident sector. The region in important goods and services in this particular sector.
0.74 – 1.24	Medium	Most of the local needs are being met by the resident sector. The region is both importing and exporting goods and services in this sector
1.24 – 5.00	High	The sector is serving needs beyond the sector, exporting goods and services from this sector
More than 5.00	Very High	The is an indication of a very high level of local dependence on a sector, typical a "single-industry" community

TABLE 6.5: LOCATION QUOTIENT, 2013

Sector	Thaba Chweu LM	Mbombela LM	Umjindi LM	Nkomazi LM	Bushbuckridge LM
Agriculture	1.53	1.00	3.14	1.84	1.46
Mining	3.11	0.18	0.54	0.24	0.04
Manufacturing	0.61	0.90	1.38	0.58	0.17
Electricity	0.30	0.14	0.17	0.32	0.26
Construction	0.90	1.26	0.98	1.22	1.38
Trade	1.32	1.91	1.53	0.94	1.46
Transport	0.76	1.05	0.92	0.60	0.51
Finance	0.49	0.82	0.51	1.32	0.92
Community Services	0.82	1.02	1.01	1.47	1.86

(Source: IHS Global Insight Regional Explorer, 2013)

The municipalities of Ehlanzeni DM have high comparative advantages in numerous sectors. All local municipalities of Ehlanzeni District have high comparative advantage in agriculture sector, except for Mbombela. This advantage confirms that the district can efficiently increase production in the sector and Agri-Parks are designed to ensure that production is maximised.

7 Agriculture Sector Overview

7.1 Sector Analysis

Ehlanzeni District has a prominent agriculture sector and is the second largest citrus producing area in South Africa. In the Nkomazi LM there is also a prominent sugarcane farming and sugar processing industry. The majority of farming is commercial irrigated farming (91,835 ha), followed by subsistence farming (59,991 ha), and commercial dry land agriculture (56,679 ha). Valuable assets in terms of agriculture development in this District include the existing agro-processing facilities, the SEZ in Nkomazi Local Municipality, as well the development of the Fresh Produce Market in Mbombela. Table 5.1 illustrates the agriculture potential of the District.

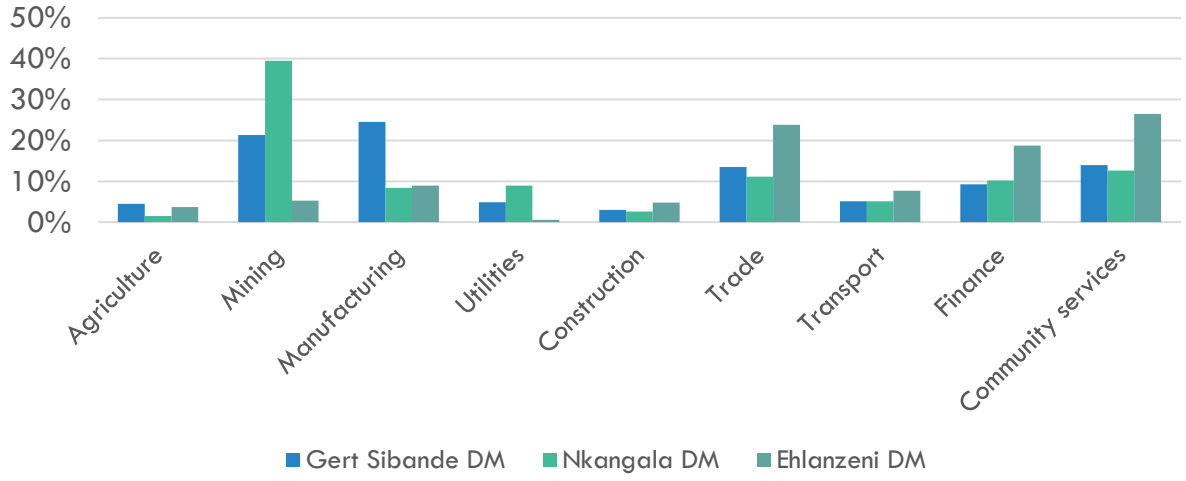
TABLE 7.1: AGRICULTURE POTENTIAL OF EHLANZENI DM, 2015

Local Municipality	Total Area (Ha)	Commercial Dry Land	Commercial Irrigation	Subsistence Agriculture	Crop Potential Area (%)
Bushbuckridge	258 926	-	-	38 023	14.68%
Mbombela	341 175	12 817	23 170	6 706	12.51%
Nkomazi	324 030	3 986	53 423	12 680	21.63%
Thaba Chweu	571 906	28 935	11 119	1 582	7.28%
Umjindi	174 538	10 941	4 123	-	8.63%

Source: DARDLEA, 2015

In terms of contribution to the local economy, the agriculture sector in Ehlanzeni contributed an estimated R2 billion to the economy of the Province. However, compared to other sectors in the economy, the agriculture sector in the province makes only a small contribution, especially compared to the mining sector and the trade sector.

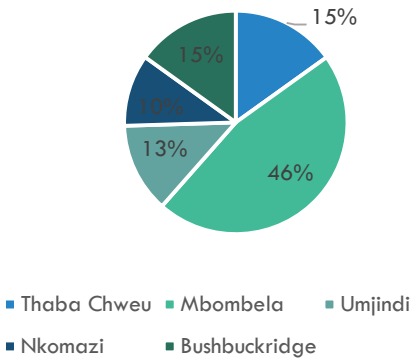
FIGURE 7.1: DISTRICT SECTORAL GVA CONTRIBUTION, 2013



Source: IHS Global Insight Regional Explorer, 2013

The agriculture sector in Mbombela contributes the most (46%) to the agriculture sector of the District.

FIGURE 7.2: EHLANZENI AGRICULTURE SECTOR



Source: IHS Global Insight Regional Explorer, 2013

7.1.1 Local Projects

Existing projects in the District include the irrigation schemes, co-operatives that are being supported through various means, the land acquisition programme, Recap programme, RID programme, REID programme as well as projects facilitated by DARDLEA. Table 7.2 and Table 7.3 illustrates the various farms that are supported by the department. The projects range from feedlots, vegetable production, pack houses and irrigation projects.

TABLE 7.2: FARMERS TO BE SUPPORTED

Association	Number of Farmers	Total Hectares Under Production	Commodities
Irrigation Schemes	1,364	2,650	Fruit and vegetables
Primary Agricultural Co-operatives	90	124	Fruit, vegetables and grain
Land reforms farms	1,250	180	Citrus
Total	**2,705**	**2,954**	**-**

TABLE 7.3: REGISTERED PROJECTS ALIGNED TO AGRI-PARKS

Project	Name
Land Acquisition	Mount Sheba
	Sweet Waters
RECAP	Maobrabjang CPA
	Noko development Trust
	Zoeknog
	New Forest and Dingledale
	Endlovini CPA

Project	Name
	Mdluli Trust
	Mashobotho CPA
REID	Dikgapa Environmental
	Market linkages related to Bushbuckridge Agri-park
	Hydroponics at Nwandlamari (Mala Mala)
	New Forest and Dingledale – Vegetable Enterprise
	LangeloopSkhwahlane and Mawewe AVMP project (Livestock Improvement project)
	Women and youth cooperative
RID	Scooping and Lining of dams in New Forest and Dingledale
	Bushbuckridge pack house
	Nwandlamari (Malamala villages) hydroponics projects
	Welverdiend and New Forest (Bushbuckridge AVMP)
	Justicia Farm (Justicia village) AVMP
	Nkomazi AVMP
	Mzinti Feedlot
	Nkomazi Irrigation

Table 7.4 provides details on DARDLAE projects registered within the Ehlanzeni District. The projects are located in Umjindi LM, Mbombela LM, Bushbuckridge LM and Nkomazi LM. The projects are mostly vegetable and livestock related.

TABLE 7.4: DARDLAE REGISTERED PROJECTS

Municipality	Name of Farm	Hectares	Commodity
Umjindi	Barberton Environmental Centre	30.00	Vegetables
Mbombela	Zwartfontein Farm	1 569.00	Livestock production
Nkomazi	Farm Matebula	63.00	Vegetables and sugarcane
Bushbuckridge	Zoeknog	100.00	Vegetable production and irrigation development
	Motlomobe	194.00	Vegetables and poultry
	Allandale Citrus Farm	500.00	Fruit and vegetables
Total	**-**	**2 456.00**	**-**

There are some existing developments that will support the Agri-Park, however, not all of the infrastructure is in working order. See Table 7.5.

TABLE 7.5: CURRENT DEVELOPMENT WITHIN AGRI-PARKS

Support Infrastructure	Location	Approx. Distance from Agri-Park	Condition
Maize Mill	Mkhuhlu	0 km	Completed
Chicken Abattoir	Casteel	53.2 km	Dilapidated, needs revitalisation
Red Meat Abattoir	Tsuvulani	40 km	Design and planning stage
Pack House	Casteel	53.2 km	Design and planning stage

7.2 Resource Analysis

Ehlanzeni District is characterised high mountainous areas with steep slopes in southern and western areas while the eastern areas are characterised by plains and rolling hills. The most prominent type of soil occurring in the District is freely drained structureless soil and this soil type is located mostly in the western areas of Ehlanzeni.

It is important to note that Ehlanzeni District has a large number of protected areas. These protected areas cover almost half of the District, and the largest of these protected areas is the Kruger National Park.

Ehlanzeni District is situated within the Olifants- and Inkomati Catchment Area and is well drained rivers such as the Timbavati-, Klaserie-, Blyde-, and Krokodil River. Major Dams in the District include the Kwena Dam, Driekoppies Dam, Witklip Dam, Klipkoppie Dam, De Gama Dam and Injaka Dam.

The eastern areas of the District has a subtropical climate where maximum temperatures can reach up to 34°C and minimum temperatures are on average above 8°C. The mountainous western area is a more moderate climate due to the high altitude with cooler minimum temperatures (between 2°C and 6°C) and maximum temperatures rarely exceeding 26°C.

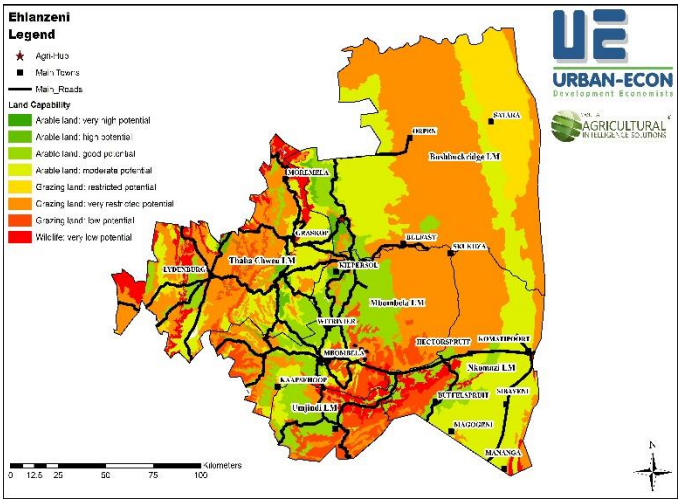
Due to the different topographical features across the District, the District also experiences different annual rainfalls. The area that typically experiences a higher average annual rainfall is along the escarpment (Thaba Chweu LM, Umjindi LM and western Mbombela LM) where altitudes are higher; the average annual rainfall is between 866 mm and 1,648 mm. This is in contrast to the eastern and north eastern areas which are much drier and experience an average annual rainfall of between 392 mm and 574 mm.

7.2.1 Agriculture Potential

Soil that is suitable for agriculture is classified as follows:

- Not suitable for arable agriculture
- Suitable for forestry and grazing where climate permits
- Soils of intermediate suitability for arable agriculture where climate permits
- Soils highly suited for arable agriculture

Figure 5.3: Land Capability



Source: Manstrat, 2015

There are small corridors of soil that is highly suitable for arable agriculture in Mbombela LM, in the east of Nkomazi LM and in Thaba Chweu LM near Mashishing and Sabie. The majority of land as seen in the Figure that is highly suitable for arable agriculture is found in the Kruger National Park.

Large portions of the Districts are not suitable for arable agriculture but is suitable for forestry and grazing – especially along the escarpment.

7.3 Commodity Selection Criteria

The evaluation criteria that has been developed to select the top commodities for the Ehlanzeni Agri-Park can be divided into four broad categories, namely:

A. Biophysical criteria
B. Enterprise viability criteria
C. Economic development criteria
D. Political and social criteria

The Table below indicates the selection criteria for each category as well as the weights used.

FIGURE 7.3: COMMODITY SELECTION CRITERIA

Criteria	Weight
A. Biophysical Criteria	
Temperature	3
Water/moisture	3
Land type, capability and soil	2
Weed, pest and disease resilience	1
Adaptability to adverse conditions	1
B. Enterprise Viability	
B.1 Transport, Market Access and Demand	
Distance to market and transport cost	3
Current demand	3
Future market growth potential	2
Market openness	1
B.2 Strategy, Payback and Profitability	
Business strategy and positioning	2
Payback period	1
Profitability	3
B.3 Human-, Physical- and Financial Capital	
Familiarity and local knowledge/skills	2
Labour cost and productivity	2
Implements and infrastructure	1
Ease to finance	2
C. Economic Development Criteria	
C.1 Linkages and Processing Opportunities	
Forward and backward economic linkages	1
Processing opportunities at district level	3
C.2 Job Creation	
Direct, on-farm creation	1
Indirect and induced job creation	1
Job quality/decency	1
C.3 Local Development	
Local opportunities and agglomeration	3
Agro-intensification and local GDP growth	1
C.4 Global Competitiveness and Trade	
Global competitiveness	3
Export potential	2
Import substitution potential	3
D. Political and Social Criteria	
D.1 Political and Institutional Issues	
Government priority, including APAP	2

Criteria	Weight
Shortlisted by the District	2
Existing successful or planned projects	1
State/communal land suitability	1
D.2 Social Issues	
Acceptability (local "buy-in")	2
Income equality	3
Black smallholder suitability	3
Crime and vandalism resilience	1
D.3 Food Security and Sustainability	
Contribution to food security	3
Sustainability	1

Each commodity is scored in between 0 and 3 based on the criteria listed above.

TABLE 7.6: SCORING

Score	Details
0	Impossible to grow or almost certainly not profitable or competitive, or highly unfavourable condition that are unlikely to be managed successfully. A score of zero disqualifies the crop except where otherwise stated.
1	Within marginal range (technically possible but probably not profitable or competitive)
2	Within near-optimal range, sufficiently favourable but not ideal condition
3	Within optimal range, most favourable or ideal condition

7.4 Commodity Identification

The list below has been identified as a preliminary list of commodities within Ehlanzeni.

- Livestock (cattle, goats)
- Citrus
- Vegetables
- Agroforestry
- Aquaculture
- Macadamia nuts
- Sugarcane
- Cotton
- Cassava and yams
- Medicinal plants
- Poultry
- Miscellaneous grains and legumes for small-scale production

7.5 Commodity Prioritisation

The commodities listed below where scored based on the Selection Criteria as listed in Table 7.7. The Table below lists the top 5 commodities.

TABLE 7.7: TOP COMMODITIES

Commodity	Score	Comment
Macadamia Nuts	89%	The Barberton area has the biggest Macadamia planting outside of Australia, and are probably amongst the most favourable places on earth to cultivate this very high value crop. Highly recommended for this district.
Vegetables	88%	Very competitive in Tomatoes, Green bean, Pepper, Potatoes, and strong commercial potential also exists for Cabbage, Carrot, Cucumber, Green mealie, Lettuce, Onion, Pumpkin, Phaseolus bean and Sweet potato.
Agroforestry	87%	Various tree species (including drought tolerant indigenous trees and shrubs) tailored to the area can be planted to produce wood (for timber, energy or craft), food (including honey, indigenous fruits e.g. marula, etc.), fodder to increase animal carrying capacity, medicinal plant material, environmental functions etc. Require little capital, skills, effort or water. Highly suitable for marginal land where no other crop can be grown or animal enterprise can be cost efficiently established. Important guard against possible future food security and climate change impacts, and income generation potential for the poorest of the poor.
Sugar cane	84%	Favourable climate in the southeast and ample support from the commodity organisation (SASA) and local miller (TSB) available, however, water for irrigation are limited.
Cassava and yams	83%	There are indications that the southwest corner of the district may be highly suitable for cassava and especially yams. Although staples in some other countries, it can be produced as a niche crop locally. There are large markets for such products in Gauteng and several other major urban areas in SA, and a local market can be developed. It is particularly important for these two crops to conduct field trials and market research before large scale plantings commence.
Poultry (broilers and layers)	82%	Viable due to size of local market and relative proximity to major feedstock sourcing areas.

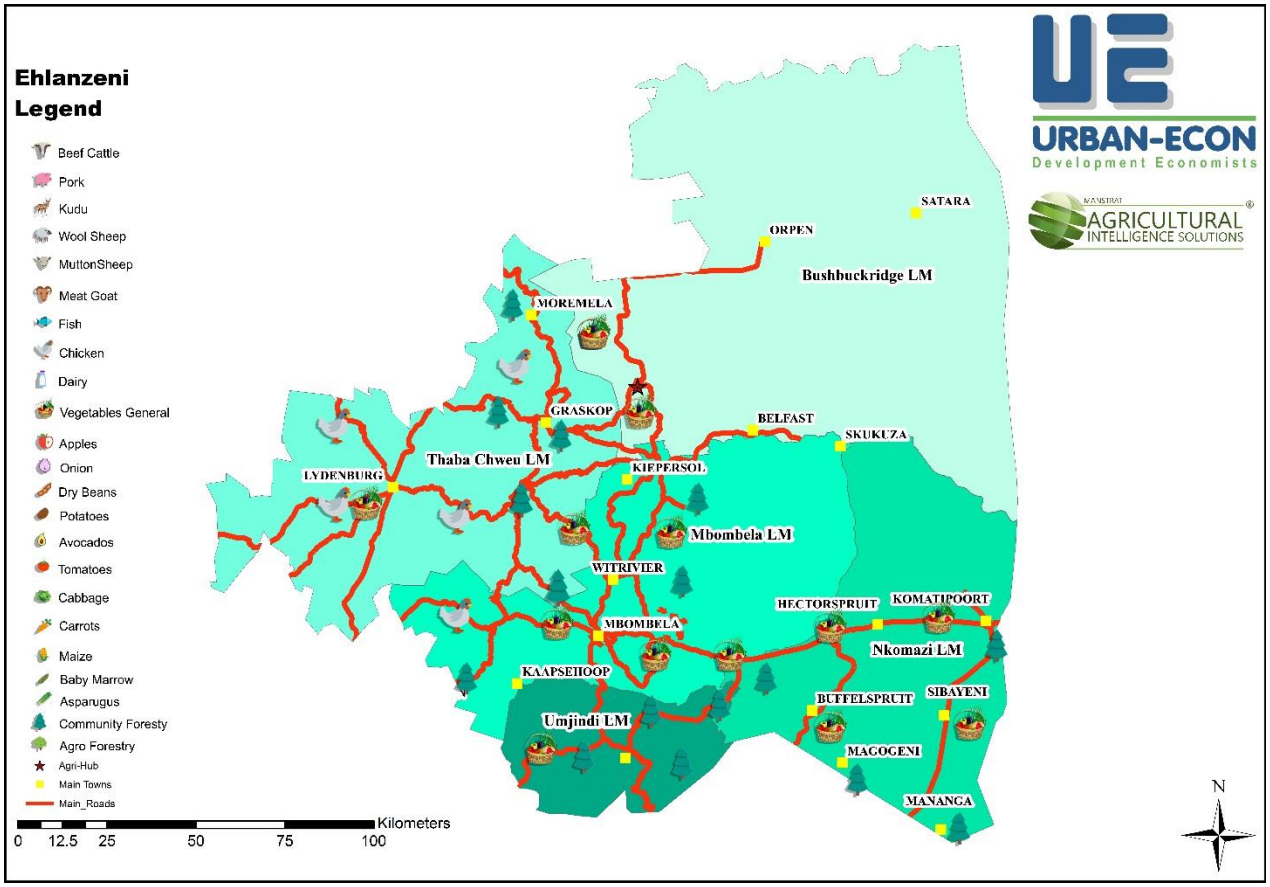
Based on the discussions with stakeholders, the following has been identified as the top 3 commodities for Ehlanzeni District:

- Vegetables
- Agroforestry
- Poultry

Macadamias will not be considered as a top priority for the Agri-park due to the lack of current support and high skills requirement for the industry. Sugarcane will also not be considered as a

priority for the Agri-park – TSB Sugar is the major sugarcane processer in Nkomazi LM and not only purchases sugarcane from commercial farmers but also from local SMME farmers.

MAP 7.1: COMMODITY LOCATION POTENTIAL



Source: Manstrat, 2015

7.6 Commodity Description

7.6.1 Vegetables

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.

The production of vegetables in South Africa for the period 2009/10 to 2013/14 compares as summarised in Table 7.8.

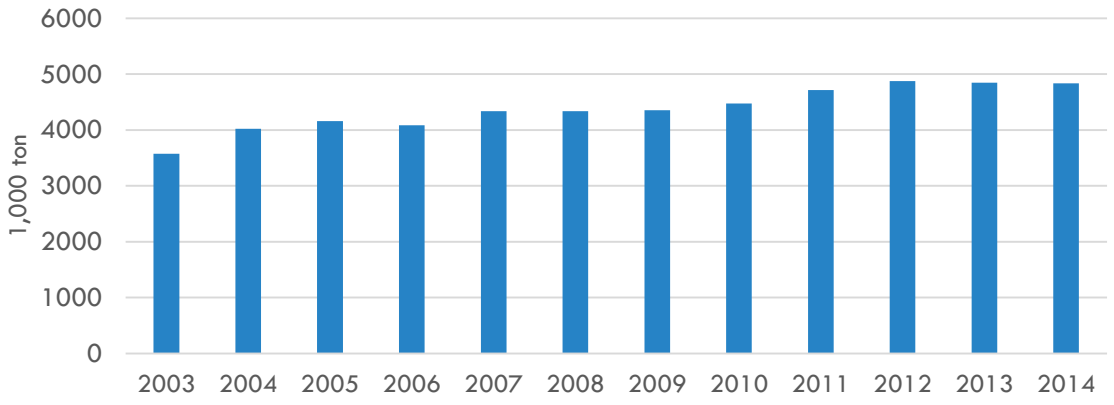
TABLE 7.8: PRODUCTION VOLUMES OF VEGETABLE TYPES

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

Since 2003 there has been a general increase in vegetable production in South Africa, as seen in Figure 5.4. Although, since 2012, production has started to decrease. 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 potatoes increased by approximately 12 000 tons or 21.2%. Most of the vegetable crops, however, decreased over the period.

FIGURE 7.4: TOTAL VEGETABLE PRODUCTION, 2003 – 2014



Source: DAFF, 2015

TABLE 7.9: RELATIVE IMPORTANCE

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

The relative importance of the major vegetable types, according to gross value of production, during the 2013/14 season, is depicted in Table 7.9

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%

FIGURE 7.5: DISTRIBUTION CHANNELS, 2014

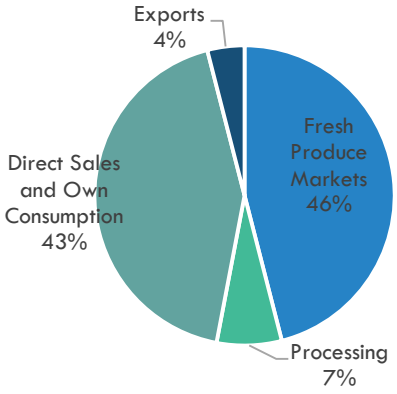
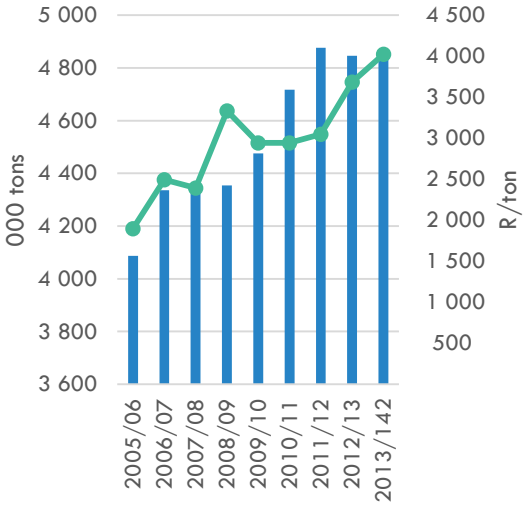


Figure 7.5 illustrates the main distribution channels for vegetables. The majority of fresh vegetables are either sold directly by farmers or it is sold at fresh produce markets. Only 7% of vegetables are used for further processing while only 4% is exported.

FIGURE 7.6: VOLUMES AND SALE PRICE



Source: Abstract of Agricultural Statistics, 2015

From Figure 7.6 it is evident that the sale of vegetables at fresh produce markets has increased from 4087 tons in 2005 to 4 835 tons in 2013 while the price (Rand/ton) has nearly doubled from almost R2 000 per tonne to R4 000 per ton.

TABLE 7.10: AVERAGE PRICE OF VEGETABLE TYPES

Product	2011	2012	2013	20142	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 7.10 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

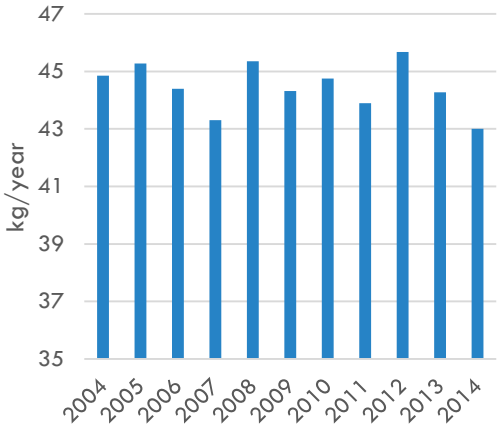
The importance of vegetables in a healthy diet is being strongly promoted by all the stakeholders in the fresh produce marketing chain. The per capita consumption of fresh vegetables was 43.01kg during 2014, approximately 2.8% lower than the previous year. Table 7.11 summarises consumption of vegetables (excluding potatoes) between 2010 and 2014.

TABLE 7.11: 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

FIGURE 7.7: PER CAPITA CONSUMPTION TREND



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 7.7 illustrates the fluctuations in per capita consumption of vegetables between 2004 and 2014.

7.6.2 Agroforestry

The Association of Temperate Agroforestry defines agroforestry as *"an intensive land management system that optimises the benefits from the biological interactions created when trees and/or shrubs are deliberately combined with crops and/or livestock"*. In Ehlanzeni District, agroforestry can be used for the production of wood (along with typical forestry) for timber, energy sources and craft markets. The production of honey and medicinal plants can also occur.

The forest resources can be classified in 3 broad categories:

- **Natural forests**: In the vicinity of Knysna and George, which is in the Western Cape Province, in the Amatola Mountains of the Eastern Cape Province, and in isolated patches some other provinces including Mpumalanga indigenous forests are used for timber. However, South Africa's indigenous forests are very limited and under ecological pressure. **Harvesting of indigenous forest patches in Mpumalanga holds little if any significant potential and should not be the focus of the Agri-Park system.**
- **Woodlands** (dry, low forests and savannah trees): The most extensive tree resources in South Africa as a whole and in Mpumalanga (especially in Ehlanzeni DM) are the woodlands, originally about 42 million hectares of open savannah, of which as little as half now remains. The major constraints to successful livestock raising in the summer rainfall areas of South Africa, are the shortage of fodder available to livestock during winter. Fodder from woodland trees can provide valuable fodder during the winter, but also during the summer and cause an overall rise in carrying capacity in case planting

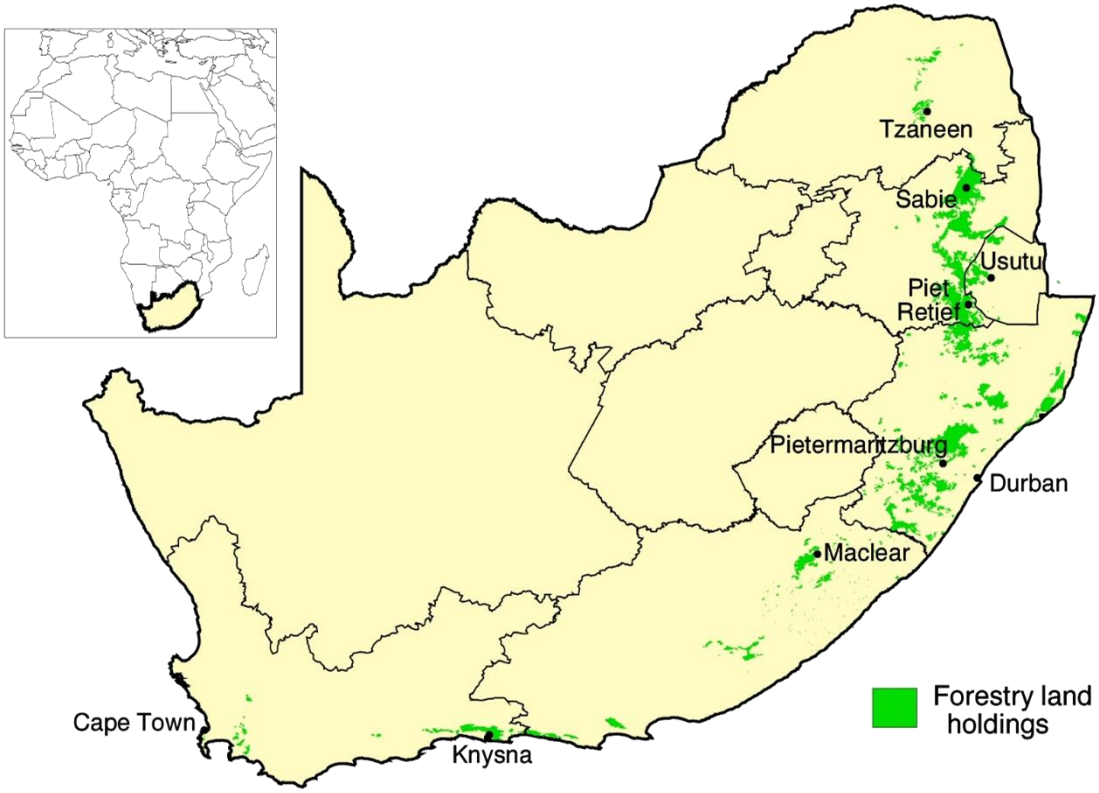
density and tree species choice are carefully done. Also, due to low rainfall and poor soil quality, trees may be associated with higher levels of bio-production than a grassed landscape. In Mpumalanga, the Gert Sibande District and especially the Ehlanzeni District do have significant potential for indigenous tree agroforestry in woodland/savannah areas.

- **Community forestry: Small scale industrial or planted forests** (afforestation) at small scale or community level: There are about 1.49 million hectares of industrial forest plantations (1.3 percent of national land). These plantations support a multi-billion rand industry, employing over a hundred thousand people, which is managed for sustainable production. In Mpumalanga, extensive parts of Gert Sibande as well as some parts of Ehlanzeni districts do have significant industrial afforestation potential.

i. Industrial Forestry Sector Overview

Table 7.12 indicates the total hectares used for plantations in each of the Provinces for 2012 and 2013.

MAP 7.2: FORESTRY AREAS



Source: Forestry SA, 2015

TABLE 7.12: PROVINCIAL AFFORESTED AREAS

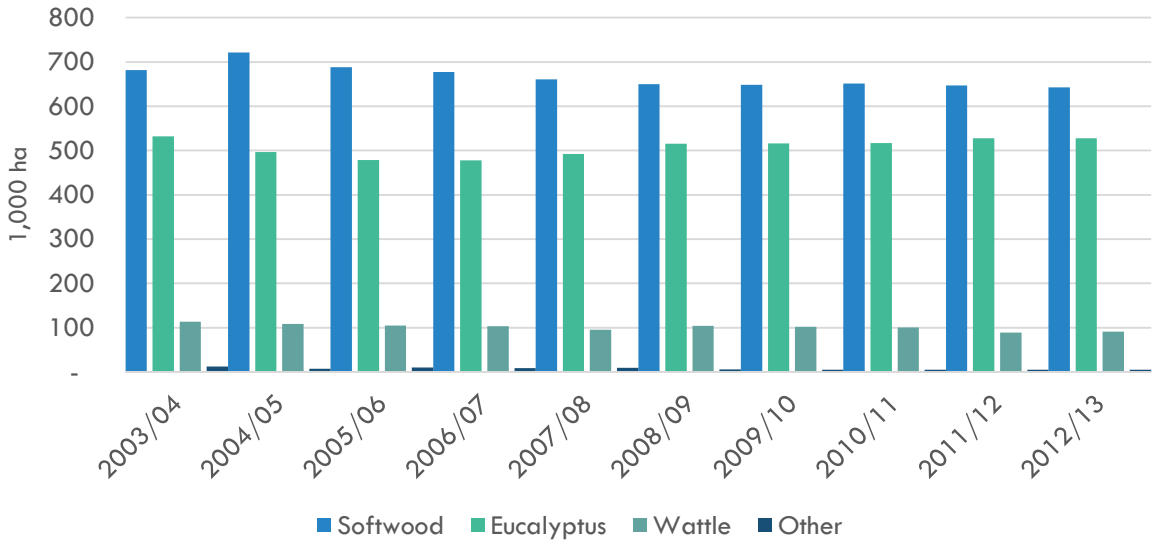
Province	2013		2012	
	Hectares	%	Hectares	%
Limpopo	47 953	3.8	48338	3.8
Mpumalanga	**519 210**	**41.0**	**519058**	**40.9**
North West	304	0.0	304	0.0
Free State	0	0	0	0
KwaZulu-Natal	501 808	39.6	502692	39.6
Eastern Cape	142 175	11.2	142458	11.2
Western Cape	54 361	4.3	55594	4.4
Total	**1 265 811**	**100.0**	**1268443**	**100.0**

Source: DAFF, Report on Commercial Timber Resources and Primary Roundwood Processing In South Africa

From Table 7.12 it is evident that the major forestry areas include Mpumalanga (519 210 hectares) and KwaZulu-Natal (501 808 hectares). In Mpumalanga there are two forestry zone: Zone 1 is the areas of Barberton, Mashishing, Mbombela, Pilgrim's Rest, White River and Mapulaneng (all in Ehlazeni District) while Zone 2 is the areas of Carolina, eMkhondo, Eerstehoek, Wakkerstroom, Ermelo and Emgwenya (all in Gert Sibande District).

Figure 7.8 indicates the distribution of timber in terms of area planted under softwood, eucalyptus, wattle and other hardwood timbers. It is evident that softwood (pines) and eucalyptus is the prominent varietals used in the forestry industry.

FIGURE 7.8: DISTRIBUTION OF TIMBER, 2003-2013



Source: DAFF, 2015

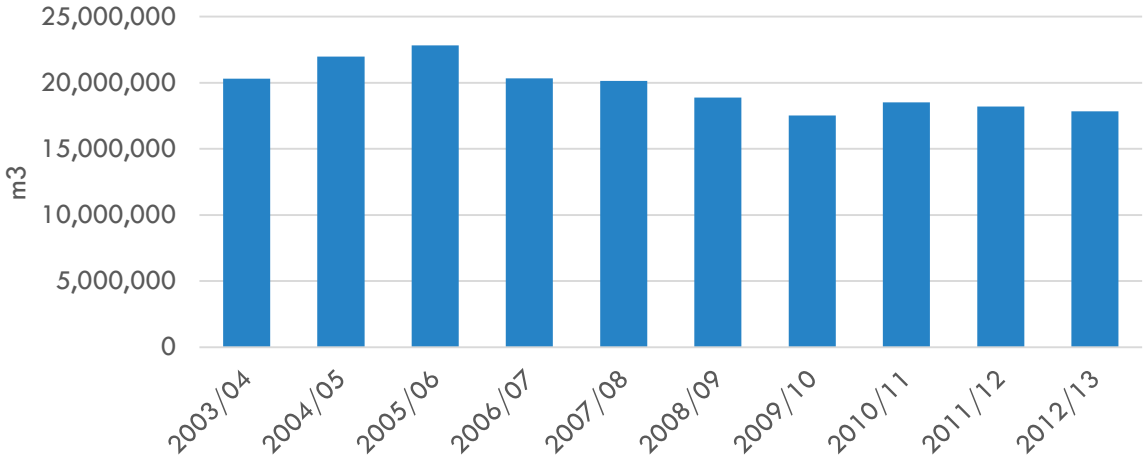
Table 7.13 indicates the distribution of timber (2012/2013) in Mpumalanga.

TABLE 7.13: DISTRIBUTION OF TIMBER, HECTARES (2012/13)

Area	Pines and other softwood (ha)	Eucalyptus species (ha)	Wattle (ha)	Other hardwood species (ha)
Mpumalanga North	163 117	73 571	27	103
Mpumalanga South	125 199	116 231	13 501	2 634
South Africa	642 408	527 291	91 194	4 919
Mpumalanga % of South Africa	**45%**	**36%**	**15%**	**56%**

Source: DAFF, Report on Commercial Timber Resources and Primary Roundwood Processing In South Africa

FIGURE 7.9: PRODUCTION OF TIMBER PRODUCTS, 2003-2013

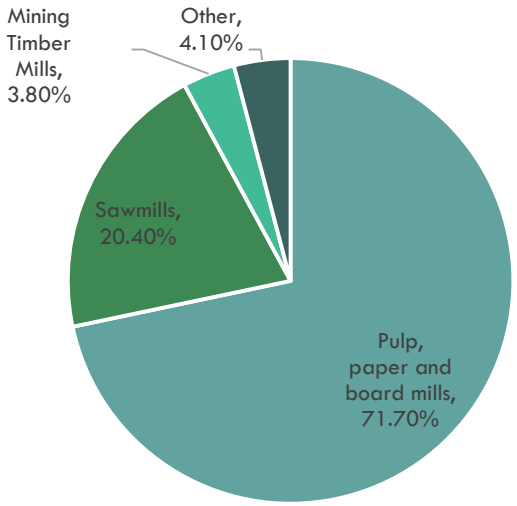


Source: DAFF, 2015

Since 2005/06 there has been a steady decline in the production of timber products in South Africa by an estimated average annual rate of 1%. In 2013, there was 143 processors of timber in South Africa.

Figure 7.10 illustrates the Roundwood processing for 2013.

FIGURE 7.10: INTAKE OF ROUNDWOOD INTO PROCESSING PLANTS, 2013



According to the Figure, the majority of Roundwood in South Africa for 2013 was processed at pulp, paper and board mills (such as Sappi) followed by sawmills. Only 4.1% of Roundwood is processed at veneer mills, match factories and charcoal plants.

Source: Forestry SA, 2015

Table 7.14 indicates the sales of Roundwood by types of products. Mpumalanga is a prominent producer of mining timber.

TABLE 7.14: ROUNDWOOD SALES BY PRODUCT, 2012/13

Area	Sawlogs and Veneer	Poles and Droppers	Mining Timber	Pulpwood	Charcoal & Firewood	Other
	m^3	m^3	Tons	Tons	Tons	Tons
Mpumalanga North	1 190 018	45 809	299 465	696 997	5 073	11 727
Mpumalanga South	783 067	14 413	61 913	1 464 101	20 813	12 935
South Africa	4 459 650	361 222	439 346	9 587 262	201 236	90 517
Mpumalanga % of South Africa	**20%**	**17%**	**82%**	**24%**	**13%**	**27%**

Source: DAFF, Report on Commercial Timber Resources and Primary Roundwood Processing In South Africa

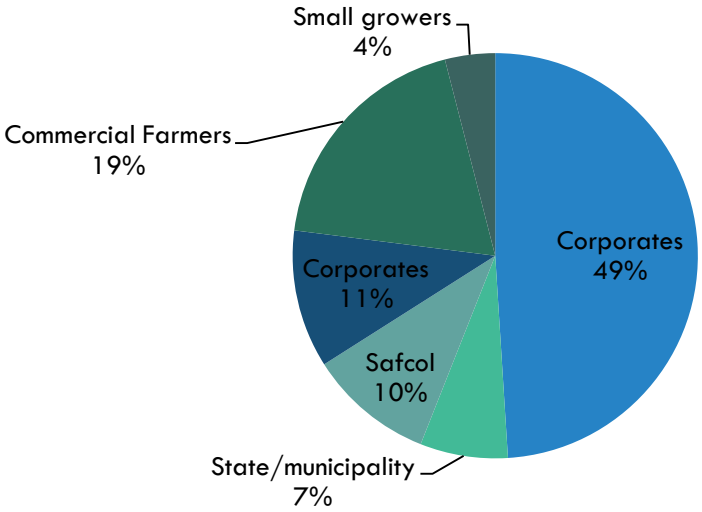
ii. Community Forestry

Community forestry is an evolving branch of forestry whereby local community plays a significant role in forest management and land use decision making by themselves in the facilitating support of government as well as change agents. Community forestry was established to cover fuel wood, job creation and food security in rural areas. Community forestry is designed to meet social and economic needs in rural areas. Honey is another type of food

which one can get from the forest. The honey industry in South Africa has an average turnover of R3.2 billion and produces 2000 ton a year.

The Figure below illustrates the ownership of plantations in South Africa. Only a very small portion of plantations are owned by small owners.

FIGURE 7.11: PLANTATION AREA BY OWNERSHIP, 2013



Source: SA Forestry magazine, 2013

iii. Agroforestry – Woodland Indigenous Trees

There are no reliable data on the location or extent of broad agroforestry (including woodland agroforestry and related products) in Mpumalanga or South Africa as a whole.

Woodland agro-forestry in South Africa is mainly practiced in the tree-rich savannah veld, such as parts of the Eastern Cape, northern Natal, the Lowveld or Bushveld parts of Mpumalanga and Limpopo and the Kalahari where livestock farming is practiced. In these areas trees are protected for the production of additional fodder for drought season, as a source of fencing material and firewood, for stabilizing soil, for providing shade to livestock and for general environment conservation purposes. There are large scope to use agroforestry best practices to enhance these services and to produce a variety of products for the market to directly generate cash.

Biomass initiative: The Biomass Initiative was launched in 1992 to address the growing fuel wood problem in rural South Africa, as part of a holistic approach to rural development. The project

was motivated by the need to address the rapidly deteriorating energy situation in rural areas, symptomatic of increasing poverty, in which 90 percent of households are dependent on wood for energy in some areas. It also attempted to halt the environmental degradation due to pressure on the land. The expected benefits of the Biomass Initiative were the stabilized provision of firewood, revitalized subsistence farming, provision of food and fodder, improved soil fertility, stimulation of the local economy, improvement in health (particularly of wood collectors), prevention of natural resource degradation, improved water catchment management and greater protection of habitats.

Potential avenues of intervention were identified including:

- agroforestry and social forestry systems focusing mainly on individual households;
- community woodlots and small plantations;
- control of invader bush in game, commercial farming and water catchment areas;
- utilization of forestry waste from the commercial forestry industry.

The production component of Biomass Initiative involved:

- tree planting communal or individual woodlots, or agroforestry;
- nurseries owned by individuals or communities;
- training people in social forestry extension;
- fencing certain areas to protect scarce indigenous species and allow natural regeneration;
- installing biogas plants to assess their acceptability.

This component showed that although there is no general tree-planting ethic in rural areas, rural people are amenable to tree planting and veld management for their own benefit (Plant for Life, 1996).

Trees recommended for woodland agroforestry in Ehlanzeni District are listed in Table 7.15.

TABLE 7.15: RECOMMENDED TREES FOR WOODLAND AGROFORESTRY

Tree name	Speed of growth*	Fodder value for livestock	Honey bee potential	Timber potential	Fuel wood potential	Fruit potential	Game birds growing potential	Medicinal uses	Other economic potential
Common hook-thorn	4	Game only	No	Excellent for furniture, high quality, attractive	Good, long burning	No	No	Yes	Leather tanning, basket weaving.
Sweet thorn	5	Excellent for livestock and game	Excellent	Fair to low	Excellent	No	Yes	Yes	Sweets can be made from the sap. Rope from bark.
Paper-barked thorn	5	Moderate to good, but livestock eat only the pods, and is poisonous in large quantities. Therefore good for occasional feeding but not primary fodder.	No	Fair as general timber.	Poor	No	No	Yes	Sap of excellent quality.
Umbrella thorn	3	Good	No	Fair	Good	No	No	No	Sap edible
Shepherd tree	4	Excellent	No	No	Poor	No	No	Yes	Root can be used to produce coffee replacement.
Matumi	4	No	No	Excellent	Fair	No	No	No	None
Sagewood	4	No	Excellent	No	Fair	No	Good	Yes	Can be planted as a hedgerow or natural fence.
Red bush-willow	2	Excellent for livestock and game	Fair	Fair, well suited for fence posts.	Excellent	No	Good	Yes	None
Common cabbage tree	4	Excellent for livestock and game		No	Poor	No	No	Yes	None

Tree name	Speed of growth*	Fodder value for livestock	Honey bee potential	Timber potential	Fuel wood potential	Fruit potential	Game birds growing potential	Medicinal uses	Other economic potential
Wild pear	5	Good for livestock and game	Excellent	Excellent for furniture, general woodwork and fence posts.	Fair	No	Poor	Yes	Very strong rope from bark.
Puzzle bush	3	Fair for livestock and game	No	No	Poor	Fair	Excellent	No	None
Cape ash	4	Fair	No	Good for furniture and general woodwork	Fair	No	No	Yes	Leather tanning agents from bark
Ana tree	5	Excellent	No	No	Poor	No	No	Yes	Food from pods and seed.
Giant raisin	2	Fair for livestock and game	No	No	No	Excellent for fruit wine or beer, fair to eat. High sugar content.	Excellent	No	None
Silver raisin	3	Good for livestock and game	No	No	No	Good for eating	Excellent	No	Rope from bark and a poor quality tea from leaves.
Cross-berry	4	Good for livestock and game	No	No	No	Excellent for fruit wine or beer, excellent to eat, excellent to make a milk beverage. High sugar content.	Poor	No	None

Tree name	Speed of growth*	Fodder value for livestock	Honey bee potential	Timber potential	Fuel wood potential	Fruit potential	Game birds growing potential	Medicinal uses	Other economic potential
Tree fuchsia	4	Fair for livestock and game	Good	No	No	Fair to eat	No	No	None
Bead-bean tree	2	Excellent for livestock and game	No	No	No	No	No	Yes	None
Wild olive	4	Excellent for livestock and game	No	Excellent for furniture, carving and fence posts (last 100 years).	No	No	No	No	Stabilisation of eroded land, wind breaks.
Jacket-plum	3	Excellent for livestock and game	No	No	No	Good for preserves, poor to eat, fair to produce vinegar.	No	Yes	High viscosity oil with industrial applications.
African wattle	4	Good for livestock and game	Very good	Good for furniture	No	No	No	Yes	None
Apple-leaf	3	Excellent for livestock and game	Excellent	Fair for carving	No	No	No	Yes	None
Sneeze wood	3	No	No	Excellent for timber, furniture, construction, and fence posts (very long lasting) etc. Can be harvested after 30 year but an excellent investment.	Excellent	No	No	Yes	None

(1=very slow to 5=very fast)

7.6.3 Poultry (Broiler and Layers)

The broiler industry in South Africa is spread throughout the country, with a large number of broiler farmers producing chicken for domestic consumption as well as for export. The term 'broiler', refers to the meat-type (as opposed to egg-layers) poultry, which include males and females.

The South African poultry industry remains an important contributor to not only the country's economy, (Gross Domestic Product) but also to food security. More poultry meat is produced and consumed in a year than any other meat protein (mutton, beef, fish, and pork).

i. Production

FIGURE 7.12: MARKET SHARE OF BROILERS PER PROVINCE

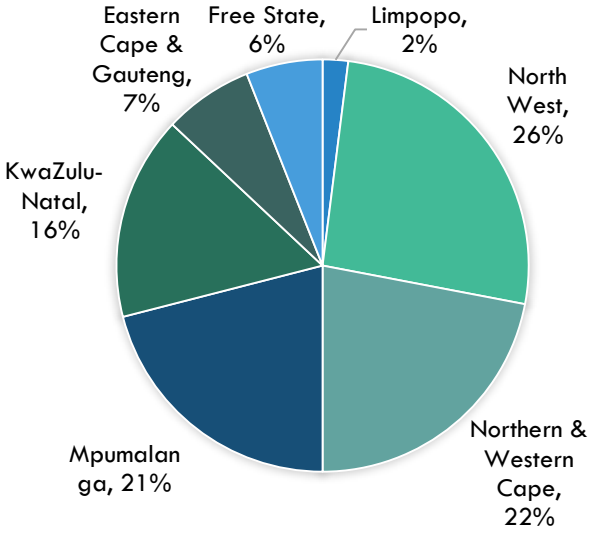
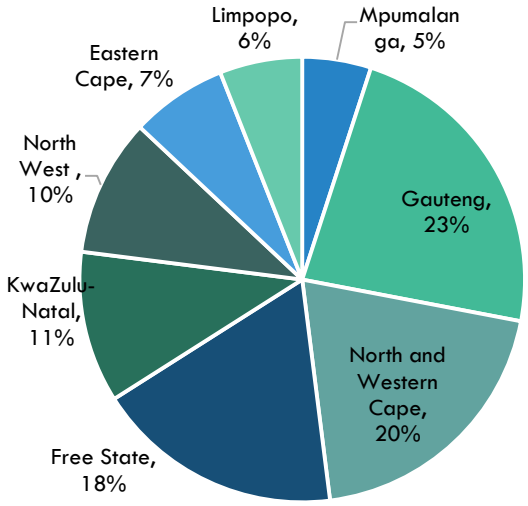


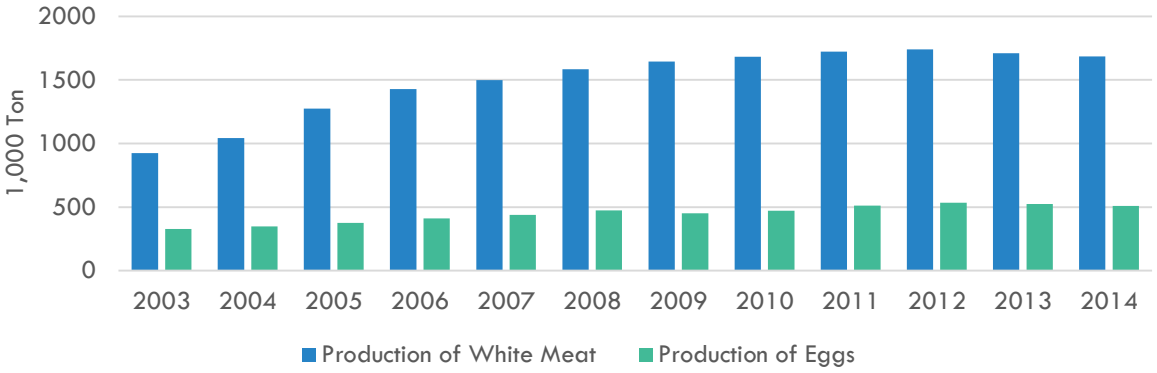
DIAGRAM 7.1: PROVINCIAL DISTRIBUTION OF LAYERS



Source: DAFF, 2014

The majority of broilers are located within the North West Province (26%), followed by the Northern- and Western Cape (22%) and Mpumalanga (21%). In contrast, the majority of layers are in Gauteng, Northern- and Western Cape and the Free State.

FIGURE 7.13: PRODUCTION OF WHITE MEAT AND EGGS



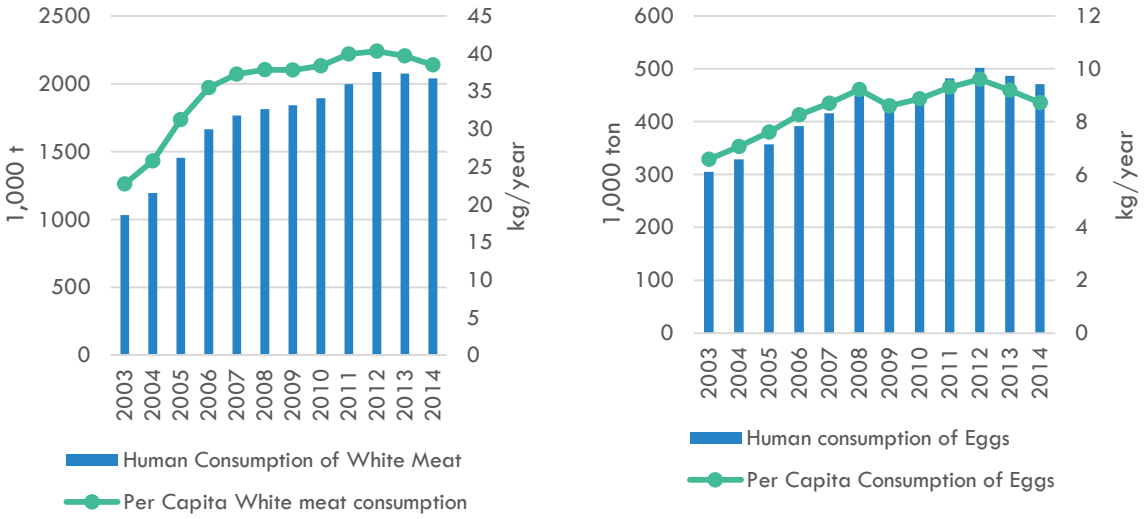
Source: DAFF, 2015

There has been a significant increase in the production of white meat and eggs since 2003 (see Figure 7.13). In 2003, 925 000 tons white meat was produced and increased by an average annual rate of 6% to almost 1 700 000 tons in 2014. Egg production increased by an annual average rate of 4% since 2003 to 509 000 tons in 2014. However, since 2012 the production for white meat and eggs has declined slightly.

ii. Consumption

Consumption with white meat and eggs are indicated in the Figure 7.14.

FIGURE 7.14: CONSUMPTION OF WHITE MEAT AND EGGS

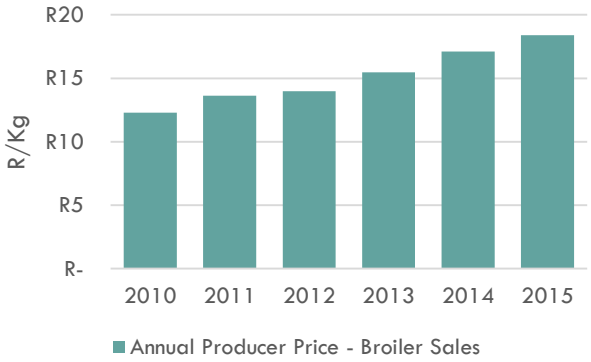


Source: DAFF, 2015

The consumption of white meat has increased from approximately 1 000 000 tons in 2003 to 2 000 000 tons in 2014 with an increase in per capital consumption from 22 kg per year in 2003 to 39 kg per year in 2014. The consumption of eggs also increased by an annual average rate of 4% between 2003 and 2014.

iii. Producer Price

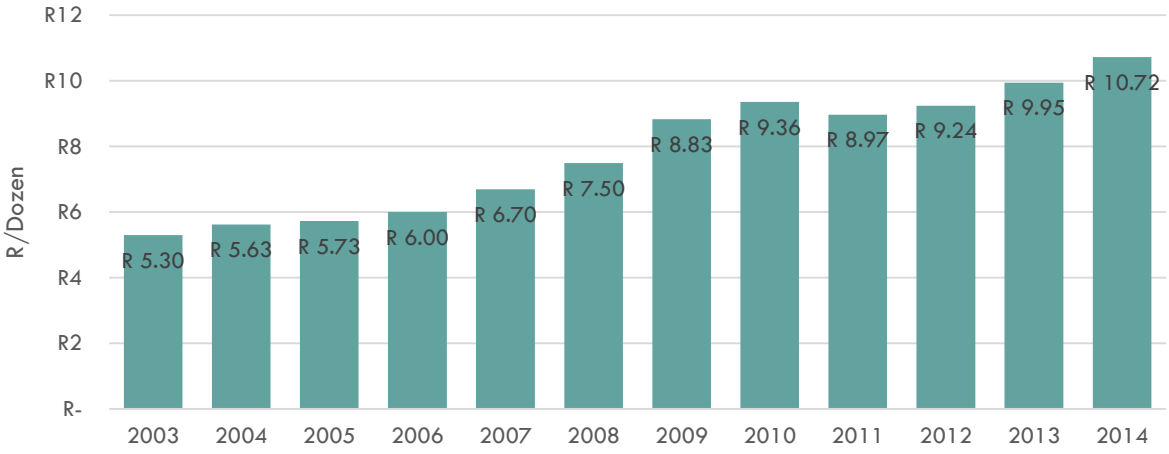
FIGURE 7.15: ANNUAL PRODUCER PRICE



Source: SA Poultry Association, 2015

The annual producer price for broiler sales has steadily increased since 2010 by an average rate of 8% per annum, from R12.28 per kg to R18.40 per kg, as seen in Figure 7.15. The price for eggs (Rand per dozen) has also increased by a steady average annual rate of 7% since 2003, when eggs priced R5.30 per dozen, compared to R10.72 per dozen (see Figure 7.16).

FIGURE 7.16: PRICE OF EGGS

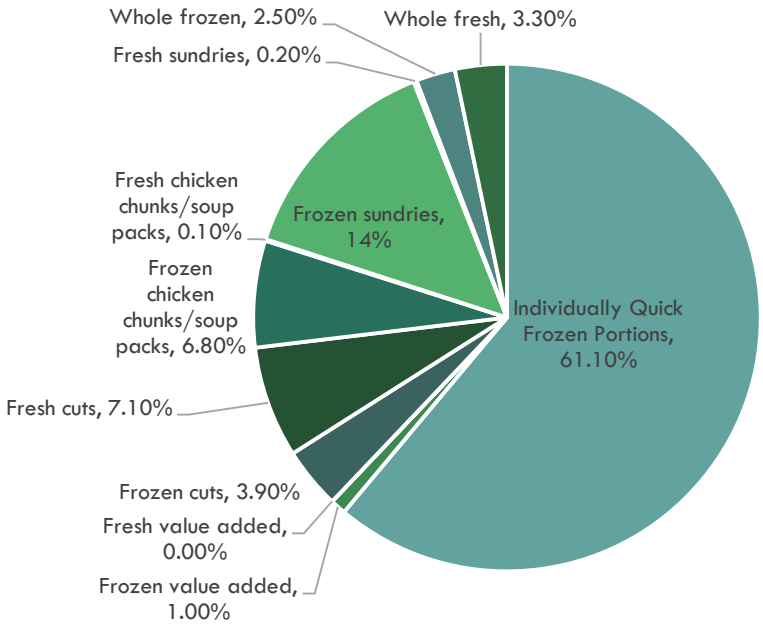


Source: DAFF, 2015

iv. Broiler Product Mix

Figure 7.17 indicates the annual product mix for broiler meat in 2014. The majority of broiler meat is used for IQF (Individually Quick Frozen) mixed portions, followed by frozen sundries and fresh cuts.

FIGURE 7.17: BROILER PRODUCT MIX



Source: SA Poultry Association, 2015

8 Commodity Analysis – Vegetables

The vegetables that have identified as having a competitive advantage in Ehlanzeni include: **carrots, tomatoes, potatoes, onions and cabbage.**

8.1 Local Markets

In South Africa carrots, cabbages and potatoes are sold through different marketing channels such as the National Fresh Produce Markets (NFPMs), via wholesalers such as Freshmark, direct sales to retailers in both the formal and informal sectors – e.g. supermarkets, greengrocers, hawkers, farm gate sales, to processors; and surplus produce are also exported

Sales of potatoes at the NFPMs have been declining over the years but NFPMs remain the most important channel for the sale of fresh potatoes in South Africa (36% of the potato crop in 2013). Johannesburg fresh produce market with 32% share is the biggest potato market followed by Tshwane with 18%, Cape Town with 10% and Durban with 10% share. In 2013 the Informal Markets (primarily comprised of street hawkers) made up the second largest distribution channel with 28% of the total crop sold via this channel. The remainder of the crop was used for processing (20% of the total crop), for export (8% of the crop) and for seed (8% of the crop).

The majority of cabbages (74%), carrots (60%), onions (56%) and tomatoes (70%) are also sold via NFPMs. The remaining produce is sold via other distribution channels and markets.

Local marketing channels for vegetables include:

- Direct sales (farmer-to-consumer)
- Street hawkers/visiting hawkers
- Free markets, wet markets and informal auctions
- Small independent shops and or supermarkets
- Large retail chains
- Restaurants and hospitality businesses
- Public and private institutions that provide meals to their residents, inmates, learners or patients, and food schemes
- National Fresh Produce Markets
- Packhouses, vegetable packers, wholesalers and exporters
- Vegetable processors

The local marketing channels which provides the greatest opportunity for cabbages, carrots and potatoes are listed in the Table below.

TABLE 8.1: MARKETING CHANNEL OPPORTUNITIES

Marketing Channel	Opportunities
Street hawkers and visiting hawkers (bakkie traders)	High priority because it is such an important and profitable channel, however, a system should be implemented to coordinate transactions using modern technology (e.g. computerized scheduling of supply and logistics, and instant message communication) otherwise dealing with large numbers of small transactions will be unviable.
Large retail chains	Very high priority because this is becoming the main modern marketing channel for fresh produce, and farmers can collectively access this market through the Agri-Parks scheme. The Agri-Park system are in a good position to develop a system that enables traceability when targeting this channel.
Large restaurant and fast food chains, large hospitality groups and large employers that provide meals to their employees (potatoes only)	High priority because this may be a large, consistent and fairly easy channel to target and especially to distribute to.
Public and private institutions that provide meals to their residents, inmates, learners or patients, and food schemes	Very high priority, especially for government-run institutions and food programs.
National Fresh Produce Markets	High priority during the initial phase simply because it is the easiest marketing channel for potatoes, cabbages and carrots to start with, however, priority should soon decrease as contracts via more profitable marketing channels are secured
Packhouses, vegetable packers, wholesalers and exporters	High priority in areas where packhouses that handle carrots, cabbages and potatoes are situated, and low or no priority in areas where such packhouses are absent. The Agri-Park system should develop a system to enable traceability when targeting this channel.
Vegetable processors	High priority because financial and non-financial support provision can be negotiated, and could be a low-risk marketing channel to start with during the initial phases of the Agri-Park scheme. This is however not a priority for the sales of onions because processors are not a major buyer of onions in the region, and the value chain are very open, therefore farmers have little bargaining power as suppliers to processors.

Role of stakeholders in supporting small-holder farmers in finance and other information-sharing services that will improve quality of products is critical in the Agri-Park programme. The

programme encourages small farmers to participate in order to get support from government and other role-players in the agricultural sector.

8.2 Global Markets

Potatoes

In 2013 approximately 8% of the total crop was exported. Potatoes are probably the most suitable of the major vegetable types for the export market (easy to grade and pack and under correct conditions the shelf life is much longer than most other vegetables). Unfortunately the bulkiness of potatoes and the need for refrigerated transport (especially where the distance is very long), make the export of potatoes expensive and for this reason South Africa's primary export markets are located within the SADC region (with 95% of exports going to Mozambique, Angola, Zimbabwe and Zambia). For the reasons outlined above South Africa is not considered to be a major exporter worldwide with its exports contributing only 0.49% of total potato exports and it is ranked number 27 in the world potato exports. Whilst there is scope to increase our export market share (both into Africa and the Middle East) it should be noted that other African countries (such as Malawi, Egypt and Algeria) all produce twice as much potatoes as SA and will probably be more competitive than SA given the prohibitively high costs of transporting potatoes over long distances.

Zambia applies 0.00% preferential tariff, to potatoes originating from South Africa. However other African markets are highly protected with Mozambique and Angola applying 15%, Congo 30%, Zimbabwe 40% and Ghana 20% to potatoes exports originating from South Africa. SA has a preferential trading agreement (PTA) with the EU and they apply zero tariffs to potatoes originating from South Africa.

The potato industry is one the few fresh produce industries currently in South Africa which has a full quality assurance service at all the fresh produce markets in the country. The potato industry acknowledges the importance of this service and recognizes the added benefit that results from this, such as traceability of the product. The quality assurance is provided to the potato industry by PROKON (Product Control for Agriculture) an article 21 company. PROKON is charged with establishing and maintaining product quality for the benefit of all, from farmers to the potato consumer.

Cabbages

South Africa is not a major cabbage exporter; more than 70% of cabbage produced is absorbed by the domestic fresh market. In 2013, it represented 0.26% of world exports and it

was ranked number 29 in the world. South African cabbage exports were mainly destined to Lesotho, Botswana, Swaziland, Namibia, Angola and Mozambique. .

Cabbage exports from South Africa over the past 10 years reveal considerable fluctuations (linked primarily to changes in production volumes) and the highest volumes were exported in 2008 (1 000 tons to the value of R 6 million). During 2013, South Africa's cabbage export amounted to approximately 900 tons. South African cabbage exports were mainly destined to Lesotho, Botswana, Swaziland, Namibia, Angola and Mozambique.

A review of provincial shares towards national cabbage exports shows that the Western Cape, Gauteng and Mpumalanga provinces have commanded the greatest share of exports for the past ten years. The above leading export provinces derive their advantage from the fact that the registered exporters are based in their provinces and they also have exit points for cabbage exports.

During 2013, South Africa has diversified 89.2% of its cabbage exports to Lesotho, Botswana, Swaziland and Namibia. These countries apply 0% Intra SACU rate to cabbage export originating from South Africa. South Africa also exported to Mozambique, and Angola and these countries apply 15% and 50% tariff respectively, in spite of the existence of the SADC-FTA *(Profile of Cabbages Market Value Chain, 2014)*.

Carrots

South Africa is not a major carrot exporter. In 2013, it represented 0.59% of world exports and its ranking in the world was number 23. Most of carrots produced were destined for domestic markets and only a relative small surplus of 20 000 tons were available for export. South Africa's carrot exports were mostly destined for countries in the SADC region (Angola, Namibia, Mozambique, Botswana, Swaziland and Lesotho) and the United Kingdom.

In 2013 Angola commanded a 26.7% share of South Africa's carrots export, followed by Namibia (13%), and Mozambique (12%). Of interest is the fact that South Africa's carrot exports to the United Kingdom have increased by 34% and 5% in value and quantity respectively between 2009 and 2013 period. In total approximately 14 000 ton was exported in 2013. Angola and Mozambique are still protected by high import tariffs of 15% in spite of the existence of the SADC-FTA.

A review of provincial shares towards national carrot exports shows that the Western Cape, Gauteng, Free State and KwaZulu-Natal to a lesser extent consistently registered exports during the past ten years. The Free State province contribution can be attributed to carrots exports to neighbouring Lesotho and similarly the North West province export to neighbouring Botswana. The high export values for Western Cape and Gauteng can be attributed to the export exist points and the registered exporters located in these provinces.
(Profile of Carrots Market Value Chain, 2014).

Onions

i. Exports

During 2013, South Africa's onion export markets were mainly in African countries (Angola and Mozambique). Angola has increased the tariffs applied to onion exports originating from South Africa from 15% to 50% whilst the Mozambique tariff remained at 2.50%. These markets are protected, in spite of the existence of SADC-FTA. In 2013, South Africa diversified a small percentage of onion exports to Botswana, Lesotho and Swaziland since these countries apply 0% Intra- SACU rate to onion export originating from South Africa. Zimbabwe and Congo markets are highly protected by 40% and 30% tariff respectively. Malawi, Zambia and Namibia apply preferential tariff of 0% tariff to South Africa's onion exports

It should be noted that the Mpumalanga Province only contributed to a very small percentage of total exports despite the fact that the Ehlanzeni District has good production potential. This clearly raises concerns about the availability of marketing infrastructure and agro-logistics (e.g. registered exporters) in the province and serves as motivation for the establishment of such capacity at the planned agri-hubs to be located in the District.

ii. Imports

Onion imports fluctuated over the past decade aligned to changes in the size of domestic production. In 2013 South Africa's imports represented 0.07% of world imports for onion and its ranking in world imports was 101. South Africa imported onions mainly from Netherlands, Namibia, Kenya, Spain, New Zealand, Botswana and Egypt. Import volumes remained low (despite an increase of 180% in imports for the period 2010 to 2013

Tomatoes

South Africa is not a major exporter of tomatoes with approximately 14 000 tons exported in 2013 – which is a 17% drop from the 17 000 tons exported in 2012. South Africa's tomato exports represented 0.05% of world exports and its ranking was number 34 in world tomato

exports. Most tomatoes produced are destined for the domestic market and very little percentage of raw tomatoes and processed tomatoes are exported to others countries. In terms of processed tomatoes, less than one percentage is exported to the other countries *(Profile of Tomatoes Market Value Chain, 2014)*.

Globally, Mexico was the biggest exporter of tomatoes in 2011, exporting over 1 493 316 tons a year and accounting for 25.2% of the world export market in tomatoes. Second was the Netherlands with 18.4% market share followed by Spain (14.1 %) and Morocco (5.4%). In 2011, Morocco was the fourth largest exporter of tomatoes in the world, the only significant exporter of tomatoes in Africa.

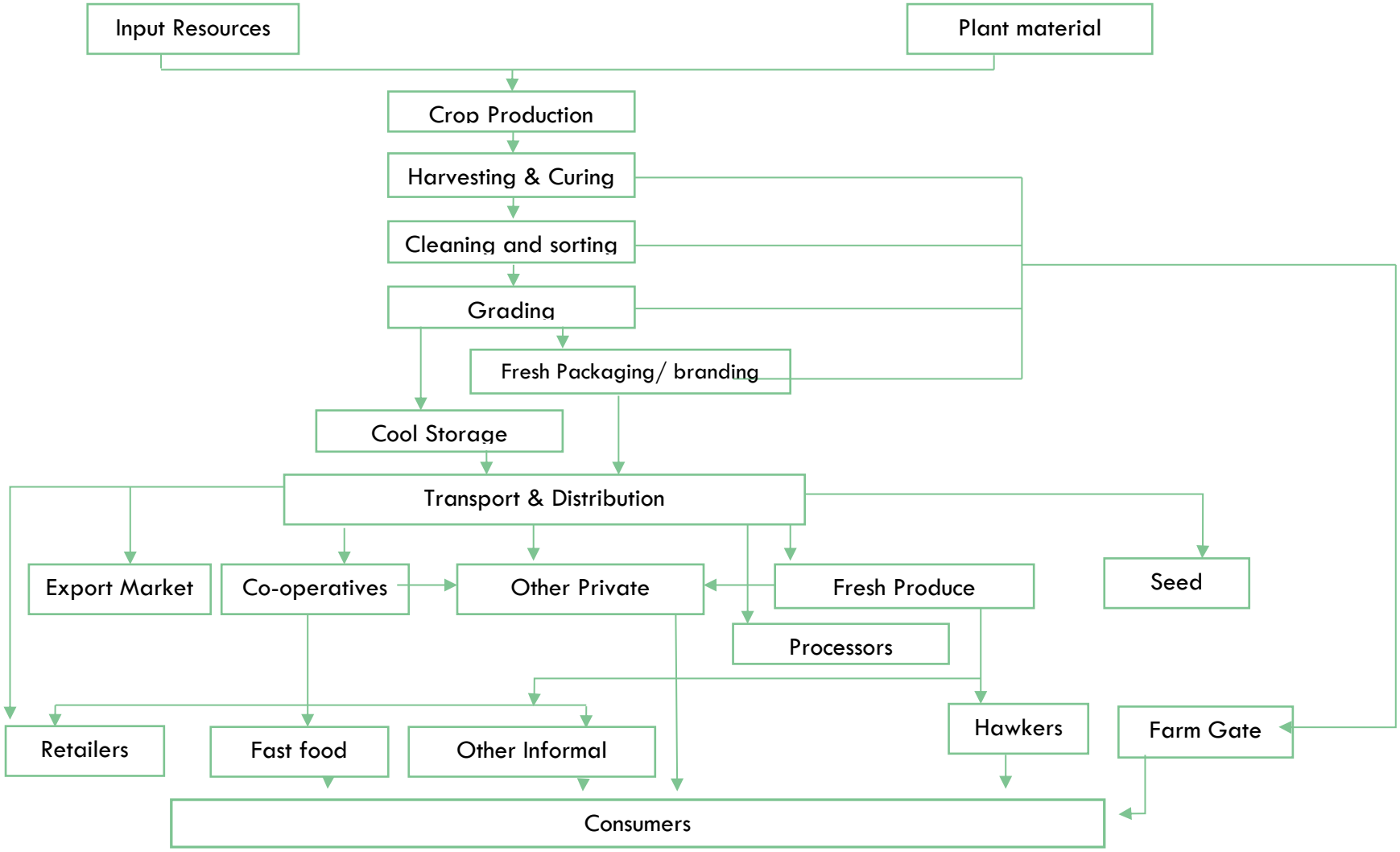
South Africa exports most of its tomatoes to the Southern African Development Community (SADC) countries. During 2013, Botswana was the largest market for South African tomato exports with 27.8% share, followed by Namibia with 22.3%, Mozambique with 21.5% share and Lesotho with 19.1% share. South Africa has diversified its tomato exports from its traditional markets (Angola, Mozambique and Zimbabwe) to Southern African Customs Union (SACU) members (Botswana, Namibia, Lesotho and Swaziland).

A review of provincial shares towards national tomato exports shows that the Western Cape, Gauteng and Kwa-Zulu Natal provinces have commanded the greatest share of tomato exports for the past ten years. This is in spite of the fact that Limpopo, Mpumalanga and the Eastern Cape provinces are the leading producers of tomatoes. The above leading export provinces derive their advantage from the fact that the registered exporters are based in their provinces and they also have exit points for tomato exports. The above scenario however raises concerns about the availability of marketing infrastructure and agro-logistics in the major tomato producing provinces of South Africa (e.g. Limpopo and Mpumalanga) and serves as motivation for the establishment of such capacity at the planned agri-hubs to be located in the relevant provincial districts. Tariffs applied by the various markets to tomatoes originating from South Africa during 2010 and 2013 reveal that Mozambique, Angola and Zambia each apply a 15% import tariff, Zimbabwe 40% and the Seychelles 0%*(Profile of Tomatoes Market Value Chain, 2014)*

Opportunities for increasing fresh tomato exports are limited owing to the fact that tomatoes tend to compare unfavourably in terms of value to mass.

8.2.1 Value Chain Assessment

DIAGRAM 8.1: VALUE CHAIN – VEGETABLES



8.3 Agro-processing

Agro-processing involves a number of activities that occur after the harvesting of agricultural product to the final stage of presenting the product to the market. Table 8.2 below represents the different types of agro-processing that be done with vegetables.

Agro-processing activities will take place at different stages in the Agri-Park model. Basic processing such as sorting can occur at FPSUs. Major processing that requires massive equipment and larger human capital such as packing and branding will mostly occur at the three identified Agri-Hubs. Agri-Hubs will then require major financial support and management from market participants to finance the processing activities.

TABLE 8.2: VEGETABLES AGRO-PROCESSING

Vegetable	Processing Activities
Potatoes	• **Sorting** • **Fresh packing and branding** • Crisps • Frozen fries • **Fresh fries** • Mixed vegetables (canned and frozen) Other: baby food, reconstituted potato products, potato starch etc.
Carrots	• **Fresh packing and branding** • Pickling (usually with other vegetables) • Freezing • **Sweet jam or conserve**
Cabbages	• **Trimming and grading** • **Fresh packing (smaller varieties or where relevant) and branding** • Freezing • Canning, pickling and/or fermentation including sauerkraut and other products • Chutney production • Preserve, jam or jelly production
Onions	• **Fresh packing and branding** • Drying • Onion powder • Freezing • **Pickling** • Stringing
Tomatoes	• Storage, ripening, washing and sorting • **Fresh packing and branding** • Freezing of whole tomatoes • Tomato puree: Canned or frozen

Vegetable	Processing Activities
	• Tomato soup: Canned or frozen • **Tomato paste** • Dried tomatoes, possibly stored in oil • Tomato powder • Tomato cooking sauce or pizza/pasta sauce base (frozen or canned) • Ketchup style tomato sauce • Canning/bottling of tomatoes • Pickled tomatoes • Tomato jam or preserve • Ripe tomato chutney • Green tomato chutney

The top priorities for agro-processing for each of the proposed vegetables are printed in **bold** in the Table above. In the case of potatoes, fresh fries is a high priority because it may be worth the investment as this product category is fairly well shielded from global competition, and once the market has been entered, it is characterised by low transaction cost.

There are a number of processing opportunities available for tomatoes, as can be seen in the Table, however, the majority of them how low development potential due to a lack of demand for the specific products such as tomato chutney or preserve or the sector is highly competitive such as ketchup style tomato sauces.

8.4 Competitors

The main industry competitors in terms of processing of vegetables include:

- Dimpho Fresh Food
- Golden Harvest
- McCain
- Tiger Brands
- Koo
- Rhodes Food Group
- Giants Canning
- Nestle
- Ashton Canning Company
- All Gold

Industry Associations Include:

- PotatoeSA
- Fresh Produce Exporters' Association
- South African Fruit and Vegetable Canners' Association
- Tomato Producers Organization

8.5 Stakeholders

Table 8.3 lists the stakeholders within the vegetables industry within the District.

TABLE 8.3: STAKEHOLDERS - VEGETABLES

Name	Type
Mpumalanga Fresh Produce Market	Market
Nelspruit National Market (Lowveld)	Market
Eric's Stall and Chalets	Packers
Fruit and Veg City (Nelspruit)	Packers
Matumi Distributors CC	Packers

8.6 Market Segmentation

As discussed in Table 8.2 under the importance of and opportunities posed by the specific marketing channels, the following market segments seems to be the most promising for potatoes, onions and carrots:

- National Fresh Produce Markets and potato processors during the early phases, thereafter moving on to more profitable segments as listed below.
- Street hawkers and visiting hawkers (bakkie traders) - coordinate transactions using modern technology to facilitate streamlined distribution of potatoes to informal markets.
- Large retail chains.
- Large restaurant groups and fast food chains.
- Government-run institutions and food programs
- Packhouses and vegetable packers in areas where packhouses that handle vegetables are situated.

However, in the case of tomatoes, the following market segments is the most promising:

- Initially, in areas where packhouses that handle tomatoes, these packhouses should be priority. In all areas not served by such packhouses, fresh produce markets will be the most convenient to target.
- Next, informal traders should be targeted, however, it is essential to establish a streamlined and low cost distribution system tailored to their needs.
- After production issues are resolved and participating farmers can produce tomatoes in sufficient quantity and quality, the increasingly important channel of large retail chains should be targeted.
- Government institutions such as schools, prisons and hospitals.
- Processors, especially in areas that are situated near such processors

Regarding value adding, the most important opportunity for potatoes is to produce fresh (uncooked, unbaked and not frozen) French fries in "catering-size" air-tight plastic bags, to brand it properly, position it as a steady, convenient and cost efficient source of ready-to-fry chips to local catering businesses, restaurants, fast food outlets and government institutions.

In terms of cabbage production, the most important opportunities include simple fresh packaging and branding (huge opportunity for improvement in the local and national market), but further processing will probably not be viable for cabbages in the current market situation

In terms of carrot production, the most important opportunities include simple fresh packaging and branding (huge opportunity for improvement in the local and national market) and possibly the production of a sweet jam (although extensive direct customer orientated market research is needed to assess viability).

Regarding value adding related to tomatoes, the most important opportunity is to brand the tomatoes in fresh or processed form properly. After fresh tomato sales channels are sufficiently penetrated, specific processing opportunities as discussed in the previous subsection can be considered.

In terms of onion farming, the most important opportunities include fresh packaging and branding (huge opportunity for improvement in the local and national market). The only viable market for processed onions at this stage will only be pickling of small white onions.

8.7 Technology

Technology plays a vital role in the development of the agricultural industry and today farmers use technology to assist in producing food for a growing world. High tech advances have been assist in making farming life easier and more profitable. Smaller farmers can hold their own by moulding the technology to fit their management techniques and needs.

The Table below indicates the various technologies that the Agri-Park can use within the Ehlanzeni District. By utilising the various technologies, the small scale and emerging farmers can improve on the production of the variety of livestock and vegetables farmed and ultimately increase their profit.

The technologies were rated on a scale of 0 (not at all) to 3 (highly applicable), for the purpose of identifying the most suitable only those rated 2 and 3 are provided in the Table.

TABLE 8.4: TECHNOLOGIES – VEGETABLE FARMING

Technology & Description	Function/Benefit to Farmer
Mechanisation	
New generation small hand tools	Many farming activities, especially repetitive day-to-day work, can be greatly enhanced by hand tools designed for the particular task, speeding up production and reduce health and safety risk (e.g. back strain, wearing of joints and skin, etc.).
Small-scale implements and tractors: New generation of farming implements and tractors tailored for small-scale farming.	Farmers benefit from modern mechanisation and large leaps in productivity even though they farm at small scale, and at a much lower cost compared to conventional implements used by large commercial farmers.
Precision farming, integrated farm management systems and software	
Precision farming: Gaining real-time or exact information within particular parts of a single field e.g. moisture and nutrient levels, soil type and depth etc., to determine the most appropriate rate of application of water, fertilizer and to adjust implement settings automatically and instantly. Precision farming can also be applied to animal production, aquaculture and agroforestry systems.	Optimising and tailoring production levels at precise and small-area level so that yield is maximised and inputs are minimised.
Integrated farm management software: Combines information and management systems from various on- and off-farms sources to coordinate farming activities in a highly efficient manner. Includes a variety of technologies e.g. farm asset tracking systems, cloud computing, record keeping, accounting, mapping, water and soil management, weather forecasting etc.	Maximise profitability and efficiency automate some management and administrative tasks. Coordinate and simplify management processes.
Plan-A-Head Nursery System Software: Management of nurseries for flower, vegetable and tree (forestry or even agroforestry) seedlings.	Integrate with other Plan-A-Head farming software to allow for whole-farm enterprise management. Particular strong features include germination monitoring and marketing (especially order taking and dispatch).
Plan-A-Head Vegetable Management Software Program with Vegetable Management System: Management system for a vegetable production enterprise.	Integrate with other Plan-A-Head farming software to allow for whole-farm enterprise management. A particular strong feature of the system is the fact that it facilitates precision farming due to excellent monitoring, control and record keeping at field and even sub-field level, and its mapping capability.

Technology & Description	Function/Benefit to Farmer
SimJunior: Basic financial management and accounting software for the small-scale farmer.	Easy to use. Ideal for the small-scale farmer
Accord: Complete human resource management system for farmers, including payroll, HR record keeping and administration.	Particular strong features of the system include its simplicity and coverage of basic employment legislation.
Duet: Fruit and vegetable marketing and distribution software dealing with different products, grades and varieties, prices, market agents, packaging, distribution and even workers involved in these marketing activities.	Integrated with Technofresh (a market price information provider).
Groundwater access via wells or boreholes	
Manual well digging or borehole drilling: Although mechanical drilling can reach depths of 150 meters, it is generally too expensive for small-scale farmers. In case the groundwater table are less than 45 meter deep and the subsoil material are soft, manual drilling or well digging are a cost efficient option.	Gain access to groundwater resources much more cheaply compared to conventional mechanical drilling.
Water pumping/lifting	
Treadle pump: human-powered (stepping on pedals) suction water pump. Can be fixed (Lowe cost) or portable.	Enables small-scale irrigation and larger scale animal watering at a very low cost in areas with a shallow water table.
Rope pumps: human-powered (usually by hand crank) water pump.	Enables small-scale irrigation and larger scale animal watering at a very low cost in areas with a deep water table.
Hand piston pump: pump water from depths up to 35 meter.	Relative low cost option to pump small quantities of water from a groundwater depth of up to 35 meter.
Bulk and long-term water storage in-ground storage	
Pond lining fabric: Ponds and earth dams may lose large quantities of water through seepage, or may not be able to hold water at all if the soil is too permeable. Lining will prevent this water loss to occur.	Can store very large quantity of water at very low cost.
Ferro-cement -lined tank: In-ground storage tanks made of cement and iron wire mesh.	Can store fairly large quantity of water at fairly low cost.
Conventional plastic tank:	Can store fairly large quantity of water at moderate cost.
Conventional cement in-ground tank:	Can store fairly to very large quantity of water.
Header tanks for soon-to-be-used irrigation water	
Header bag: large open plastic bag suspended above the field on a frame that can be produced from local materials.	Provide water for a drip irrigation system at about half the cost compared to conventional in-field tanks. Can store a very small quantity of water but at a very low cost.

Technology & Description	Function/Benefit to Farmer
Earth mound bag:	Provide water for a drip irrigation system at about half the cost compared to conventional in-field tanks. Can store a moderate quantity of water at very low cost. Can supply a fairly large field of 200m2. Robust and easy to maintain - it can be repaired using same materials, tools and techniques that is required for tyre repair.
Jumbo Thai Jar:	Can store a small quantity of water at a moderate cost. Can be build and maintained by farmers themselves using locally available material. Requires only a small space. Ideal closely spaced farms or urban agriculture.
Irrigation systems (water delivery)	
Pre-punched drip tape: tubes comes with holes already provided, therefore easy to install.	Low water pressure requirement. Very simple and low cost.
Button emitter irrigation: button emitters are fitted to irrigation lines, which transport water directly to the root zone.	Low water pressure requirement.
Baffle pre-punched drip irrigation: Plastic sleeves/baffles localize water flow from pre-punched holes in the drip line.	Low water pressure requirement. Use 50 - 70 percent less water compared to conventional drip irrigation.
Mini sprinkler irrigation: Low flow system that require less pressure and is more water efficient than impact sprinklers and conventional sprinkler irrigation.	Can irrigate flat and sloping land. Ideal for hilly or sloping terrain or soils prone to water erosion, or areas planted with closely spaced crops but water are too scarce for higher flow irrigation systems such as impact sprinklers.
Impact sprinkler irrigation: higher flow system that requires more pressure and water compared to mini sprinkler systems.	Can irrigate flat, sloping and hilly terrain. Ideal for closely spaced crops on larger fields where water scarcity prohibits flood irrigation.
Veldt management	
Land rehabilitation techniques: May differ in technological complexity from as simple as brush packing to as complex as biodegradable or long lasting soil cloths and mesh materials.	Stabilise soil, control or reverse erosion damage and restore degraded land so that it can again be utilised for agricultural purposes.
Soil improvement and prevention of soil erosion	
Mulching technology: A variety of new and efficient mulching materials are developed. Mulching material are any material that cover the soil surface. Biodegradable mulches are also available.	Mulching material minimise or eliminate weed growth and water losses through evaporation, and also control various pests and diseases as well.

Technology & Description	Function/Benefit to Farmer
Biochar: Activated carbon ground into a course powder, then worked into the soil.	Significantly increase yield by assisting with water and nutrient retention and improving soil structure. Can be produced on-farm or at farmer community level using fairly simple techniques. Almost any plant or organic biomass can be turned into biochar. Lasts for thousands of years.
In-field rainwater harvesting: Small basins (that can be made with a shovel) capture rainwater, preventing it from immediately running off the field during a rain event. Apart from cultivated fields, micro-basins can also be established on pastures to increase carrying capacity of animals.	Enable the soil to absorb much more water that would have run off the field. Depending on the type of soil, the additional moisture may benefit the crop for several months and may increase yield significantly.
Farm Energy	
Wind energy: Wind energy has been used for a long time in South Africa in the form of wind pumps. New generation wind technology allows for uses beyond wind pumping, including electricity generation at micro or farm level scale.	Wind is a renewable form of energy and some areas in South Africa do have sufficient wind development potential, especially when micro-climatic and small-area topographic factors are considered which is appropriate for very small-scale operations. Less vulnerable to theft compared to solar panels.
Solar technology incl. photovoltaic and thermal panels and solar drying and cooking: There are two main forms of solar energy harvesting, i.e. photovoltaic panels that produces electricity, and thermal solar panels or tubes that heat water. Solar energy is also widely used on farms for solar drying and solar cooling.	Solar is a renewable form of energy and most areas in South Africa do have sufficient wind development potential. In fact, some parts of the southern and western Free State, western Limpopo, Gauteng and especially the Northern Cape and North West have excellent solar power potential even at global standards.
Farm protection, security and visual monitoring	
Video and photographical technology: Fixed point photography, security camera systems and remote sensor-triggered photography.	Valuable to monitor veldt condition, effects of grazing or fire control regime, rehabilitation efforts, and to monitor animal or criminal activity in remote parts of the farm. Some systems notify the farmer by SMS of sensed activity and immediately send the footage by MMS or video clips to the farmer's mobile device (in additional to conventional recording and storage of images or video).
Apps for mobile phones and tablets	
AgriApp: Farmer information tool for crop production.	Useful general overview from a production perspective.
Horticulture: General description of horticultural crop production, including apples and vegetables.	Useful general overview from a production perspective.

Technology & Description	Function/Benefit to Farmer
Online and mobile information portals	
AgriSuite Online: Internet based agricultural information system developed and maintained for farmers. Provide a variety of general agricultural information directly to farmers.	The system can be accessed on a PC or Mac, on tablets and smartphones, in the office or on the farm. Contains the most essential, useful and concise information in a very simple and user-friendly format.
FAO Ecocrop: Provide 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.	Enable the farmer to select suitable crops to farm with, and to diversify the farm's enterprises.
Other	
Recombinant DNA technology and genetic modified varieties: The process of natural selection by traditional breeders can be accelerated by deliberate insertion of genes that code for a particular trait into the host organism, thereby it is possible to develop crop varieties that have more desirable traits.	Large gains in traits such as drought, salt, pest, pathogen or herbicide tolerance, superior yields, nitrogen uptake ability, taste and texture etc. Particularly important to sustain future expanding populations and to compensate for climate change effects are drought and salt tolerance, nitrogen metabolism and even fixation, herbicide tolerance (to facilitate weeding, a major agricultural problem) and general yield improvements.
Drones: Un-manned aircraft capable of exploring the farm and taking photos from the air.	Very useful for general inspections, monitoring and mapping. Advanced models can even perform some remote sensing functions.
In-field soil and crop sensors: Measure a variety of soil factors, most importantly moisture, pH, organic matter, salinity and temperature levels. Crop sensors can sensor water stress, nitrogen and other nutrient levels.	Know exactly when to irrigate or provide additional fertilizer, and how much water/fertilizer to apply. It may also indicate the best time to harvest.
No-till or conservation tillage: Land preparation for crop production without tilling the land at all, or just partially breaking up of the soil.	Significant cost savings in terms of diesel (very energy intensive to lift the soil of an entire field, especially in case of deep tillage). Increased moisture retention. Reduced soil erosion.
Remote sensing: Interpreting satellite images to make farming decisions. Satellite images provide valuable information on biomass production, soil and air mass temperature, soil moisture, plant stress levels, fire warnings etc.	Enable the farmer to make well informed decisions based on information that otherwise would have been too difficult or expensive to obtain. Provides complete information of the entire farm. Some information is provided daily or instantly.

Technology & Description	Function/Benefit to Farmer
Integrated weed and pest management incl. biological control agents: Pests and weeds are major threats to farmers and food security. Chemical control has been effective for some pests and diseases but it is expensive and causes harm to human health and the environment. Consumers and governments locally and to export markets place increasing pressure on farmers to adopt integrated management practices to reduce reliance on only chemical control. Especially important is biological control where the natural enemy of the weed or pest are released locally to control population levels. It is not only applicable to crop farmers but to all extensive and semi-intensive animal farmers as well (pasture or veldt management).	Usually much more effective and sustainable than chemical control on its own.

8.8 Demand and Needs Analysis

The most important marketing channels and channel related opportunities include 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, government institutions, as soon as the farmers become reliable suppliers, large retail chains should become major priority after the farmers have gained experience in production and the Agri-Parks system successfully established quality control and streamlined logistical arrangements, and 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 Table below provides a summary on estimated demand on a national and provincial level.

TABLE 8.5: ESTIMATED DEMAND FOR VEGETABLES

Area of Demand	Commodity	Estimated Demand (tons)
South Africa	Vegetables (excl. potatoes)	2 363 130
	Potatoes	1 923 478
Mpumalanga	Vegetables (excl. potatoes)	184 717
	Potatoes	150 351
Nkangala DM	Vegetables (excl. potatoes)	47 024
	Potatoes	38 276

Area of Demand	Commodity	Estimated Demand (tons)
Ehlanzeni DM	Vegetables (excl. potatoes)	59 098
	Potatoes	48 103
Gert Sibande DM	Vegetables (excl. potatoes)	78 594
	Potatoes	63 972

At an average per capita consumption of vegetables at 43kg and potatoes at 35kg, there is a clear demand for vegetables in South Africa. In South Africa there is a demand for 2 363 130 tons of vegetables (excluding potatoes) and a demand for 1 923 478 tons potatoes every year.

8.9 Socio-Economic (Job Creation)

Agriculture and its value chain is one of the key sectors for job creation and a strategic rural development tool for the revival of the economies of small towns. The National Development Plan targets several sectors to create additional jobs by 2030, agriculture being one of these sectors. Estimates of new jobs in the primary production sector are based largely on more land being brought under agricultural cultivation, in particular through irrigation schemes. Commercializing communal land, reviving failed land reform projects and handling current ones better would make millions of hectares of land productive again.

Vegetables are a highly labour intensive and a very large proportion of minimally skilled labour is absorbed in the industry. The vegetable industry has an employment multiplier effect in the following sectors:

- Transport;
- Processing;
- Independent trading;
- Retail;
- Packaging;
- Informal trading

8.10 Contribution to Food Security

Potatoes are the world's most important root and tuber crop. In terms of global production, potato is the fourth most important food crop after corn, rice and wheat. It is grown in more than 125 countries and consumed almost daily by more than a billion people. Hundreds of millions of people in developing countries depend on potatoes for their survival. Potato plays a strong role in developing countries with its ability to provide nutritious food for the poor and hungry.

Its ease of cultivation and nutritive content have made it a valuable food security and cash crop for millions of farmers.

Potato's very crucial role in ensuring food security and hunger alleviation owes to the fact:

- It can be produced all year round
- It is affordable, nutritious and healthy.

Potatoes are a non-fattening, nutritious and wholesome food that supplies many important nutrients to the diet. Potatoes contain approximately 78% water, 22% dry matter (specific gravity) and less than 1% fat. About 82% of dry matter is carbohydrate, mainly starch, with some dietary fibre and small quantities of various basic sugars. A single medium-sized potato contains about half the daily adult requirement of vitamin C. Potato is very low in fat, with just 5 percent of the fat content of wheat, and one-fourth the calories of bread. Boiled, it has more protein than maize, and nearly twice the calcium.

Cabbages are 90% water and a very good source of Vitamin A, C and B as well as minerals which makes cabbage an essential vegetable to combat malnutrition.

8.11 Regulatory Requirements

Local markets are governed by a series of policies that are put in place for various reasons. 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 vegetables throughout SA. This indicates that all vegetables sold in South Africa have to comply with the regulations set out in the norms. The vegetable 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.

The various other acts and policies which also apply to the vegetable industry are included in the Table below.

TABLE 8.6: POLICES AFFECTING THE VEGETABLE INDUSTRY

Act	Description
Agricultural Product Standards Act, 1990 (Act No. 119 Of 1990)	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.

Act	Description
	This relates to all goods made from vegetables e.g. labelling of carrots juice (100% carrot juice; 60% carrot juice with 40% tomato juice) (Department of Agriculture, Forestry and Fisheries, 1998).
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 (Deaprtment of Agriculture, Forestry and Fisheries).
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 (Department of Agriculture, Forestry and Fisheries, 1983).
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 (Department of Agriculture, Forestry and Fisheries, 1947).
National Water Act, 1998 (Act No.36 Of 1998)	This act encompasses laws relating to water resources and the use thereof
The Food Safety Management System FSSC 22000 Certification	The FSSC 22000 Food Safety System Certification provides a framework for effectively managing your organization's food safety responsibilities. FSSC 22000 is fully recognized by the Global Food Safety Initiative (GFSI) and is based on existing ISO Standards. It demonstrates your company has a robust Food Safety Management System in place that meets the requirements of your customers and consumers (FSSC 22000, 2015)
Hazard Analysis and Critical Control Points (HACCP)	HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product (U.S Food and Drug Administration, 2015).

Act	Description
Basic Conditions Of Employment Act, 1983 (Act No. 3 Of 1983)	The act encompasses those regulations associated with fair labour practices (Depart of Labour, 1983).
Municipal By-Laws And Regulations, *(where relevant)*	Municipal by-laws will need to be investigated with regard to the establishment of the vegetable processing facilities in a municipal area.
Marketing Of Agricultural Products 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 products for which standards have been set through regulations is promulgated under the act by the minister of agriculture
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
Conservation Of Agricultural Resources Act, 1983 (Act No. 43 Of 1983)	This Act provides for control over the utilisation of natural agricultural resources in order to promote the conservation of soil, water sources and vegetation, and the combat of weeds and invader plants (Department of agriculture, Forestry and Fisheries, 1963).
Plant Breeders' Right Act, 1976 (Act No. 15 Of 1976)	The Act regulates the granting of certain rights relating to new varieties of certain kinds of plants, the protection of such rights and the issue of licenses in respect of the exercising of the rights.
Perishable Products Export Control Act, 1983 (Act No. 9 Of 1983)	This Act provides for the control of perishable products intended for export from the Republic of South Africa and for the continued existence of a statutory board to bring about the orderly and efficient export of perishable products from the Republic (Department of Agriculture, Forestry and Fisheries, 1983).
Agricultural Produce Agents Act, 1992 (Act No. 12 Of 1992)	This Act provides for the establishment of an Agricultural Produce Agents Council (AAC) and Fidelity funds in respect of agricultural produce agents, and for the control of certain activities of agricultural produce agents (Department of Agriculture, Forestry and Fisheries, 1992). This Act has not been brought into operation in its entirety but will eventually replace the Commission for Fresh Produce Markets Act, 1970 (Act No. 82 of 1970), and the Agricultural Produce Agency Sales Act, 1975 (Act No. 12 of 1975)

Act	Description
Agricultural Credit Act, 1966 (Act No. 28 Of 1966)	The Act provides for a system of assistance to persons carrying on or undertaking to carry on farming operations, and control in respect of assistance rendered (Unknown, 1966). Implication:
Agricultural Development Fund Act, 1993 (Act No. 175 Of 1993)	This Act provides for the establishment of and control over an agricultural development fund for the handling of money received for development (Unknown, 1993).

8.12 Substitute Products

Substitute goods/products are goods which, as a result of changed conditions, may replace each other in use, or consumption. A substitute good, in contrast to a complementary good, is a good with a positive cross-price elasticity of demand, meaning that as the demand for a good increases, the price of another good is increased. Substitutes for vegetables include:

- **Other vegetables:** Consumers would be more likely to substitute for price and preference when substituting various vegetables. For example a consumer may prefer sweet potatoes as an alternative to potatoes.
- **Grains/legumes and cereals:** Grains and cereals may be considered as a cheaper alternative to vegetables, although they are often considered complements. A low income household would, however, closely consider price when deciding to purchase these products.

The consumption of vegetables, in general, is of a habitual nature with most consumers eating vegetables as a complement to their meat, or fish dishes. Given that some vegetables are a staple food item and consumed by habit, there is no real substitute for vegetables other than alternative types of vegetables due to the broad availability. A consumer, for example, may substitute potatoes with sweet potatoes within the vegetable category.

The impact that substitutes for vegetables might have on the Ehlanzeni Agri-Park is likely to be minor, given the relative non-availability of substitutes for vegetables. The Agri-Park model should maintain a diverse vegetable product offering in order to compete with other vegetables available on the market. In addition, producing and processing of staple food vegetables will be a key undertaking in competing against potential substitutes.

8.13 Societal and Cultural Trends

Societal and cultural trends are trends that relate to the social and cultural values and practices within a society, or culture. These are long term trends (at least two to five years) that explain why people behave the way they do. The South African food industry's direction is affected by the growing influence of demographics, especially with respect to societal and cultural trends.

It is important that the Agri-Park positions itself to take advantage of such trends by meeting the demands of society through the processing of relevant products. The following, vegetable specific, cultural and societal trends have been identified and described.

Income: The trend in rising incomes within South Africa has provided the local consumer with increased purchasing power and, therefore, the ability to increase demand for food. Increased purchasing power has also allowed the consumer increased access to a variety of food, including processed, packaged and frozen vegetables (or convenience foods as described below).

Convenience foods or also known as time-saving foods as they are partially, or completely prepared, are increasing in demand as consumers spending power increases and more value is given to time-saving. Vegetable specific convenience foods include microwave meals and chopped, frozen vegetables.

The increasing demand of quick-food has increased the number of quick-food items available to consumers in the last two decades. The most likely consumers to buy these items include modern families (families that lead an individualistic lifestyle and do not sit down to as many traditional meals), middle- to high-income families, and younger families. Within South Africa vegetables are seen as the healthy choice and form part of people's daily diet. They are an important part of healthy eating and are an important source of nutrients, such as fibre, folate, potassium, etc. Vegetables are a good choice of nutrition as they help to reduce the risk of having strokes, cancer, heart disease and type 2 diabetes.

Vegetarianism, which is the practice of abstaining from the consumption of meat has been adopted for many reasons, and as such have a preference for vegetables. A healthy vegetarian diet should be balanced and contain vegetables, fruit, eggs, beans, some dairy products, etc. Becoming a vegetarian has been associated moral and ethical concerns, religious reasons as well as health issues.

Organic food: There has been a growing trend in terms of purchasing organically grown food. Organically grown vegetables provides consumers with produce free of:

- Chemicals, have more nutrients (vitamins, minerals, enzymes, and micronutrients);
- Better taste;
- No GMO (Genetically Modified Organism);
- No hormones, antibiotics and drugs;
- Preserves ecosystem;
- Reduce pollution and protects water and soil;
- Preserves agricultural diversity; and
- Keeps children and future safe.

Non GMO vegetables are growing in popularity. A variety of health risk have been attributed to GMO, such as organ damage, fertility, tumours, etc. (however these effects were noted under laboratory conditions). There are public concerns regarding GMO in terms of food safety, regulation, and labelling as well as environmental impact. Genetically modified crops grown in SA are pre-dominantly white maize, yellow maize, cotton and soya.

8.14 SWOT Analysis

TABLE 8.7: SWOT ANALYSIS – VEGETABLES

Strength	Weakness
• Economic growth advantages • Highly nutritive products • Contributor to food security • Proximity to major market • Availability of natural resources • Optimal soil usage • Wide variety of vegetables can be grown	• Shortage of skilled workers (processing) • Poor farming practices • Poor standard of products • Limited irrigation resources/capacity • Lack of Good Agricultural Practice principles • Short marketing window (perishable product) • Small-scale production not competitive • Local emerging farmers are struggling produce quantity (economies of scale) • Storage
Opportunities	**Threats**
• Intensive production • Organic produce • Local labelling	• Increasing input costs • Market limitations • Competition

• Employment potential • Shift in consumer preference (healthy living) • Growing preference for convenience • Increasing demand for fresh produce globally (export market) • Cooperative farming (alliances – economy of scale) • Technological advancement • Agro-processing opportunities	• Extreme weather conditions (drought, hail, frost) • Pest problems • Disease • Barriers to entry • Food safety issues/quality control • Reduction of local farmer population • Regional competition • Retailer consolidation

9 Commodity Analysis – Poultry

9.1 Market Assessment

a. Eggs

The domestic market consists of 5 main retailers (Pick 'n Pay, Shoprite-Checkers, Spar, Woolworths and Massmart) and SMME's in the retail sector. These retailers buy the largest share of domestic production. In terms of production, the commercial egg industry is stable by nature, meaning that, although demand may decrease or increase, supply remains relatively stable as a result of the lengthy production cycle. A small excess supply lead to a rapid price decrease and a small supply shortfall will be reflected in a rapid price increase. In order to manage this imbalance between supply and demand, producers determine the price of their commercial eggs weekly, on a Monday, by taking into account the number of eggs sold in retail stores during the previous week. The price of eggs increased continuously throughout the past 10 years and reached the peak of R10 per Kg in 2013. *(Profile of SA Eggs Market Value Chain, 2014*

b. Broiler

The broiler meat industry in South Africa is dominated by 2 large producers, namely Rainbow Limited and Astral Foods. Together these 2 companies produce 46% of the total broiler meat production. Rainbow produces approximately 235 million broilers per annum and Astral Food produces about 220 million broilers per annum. Country Bird is the third largest producing 68 million broilers per year. The other 4 medium-sized producers (Tydstroom, Daybreak, Fouries Poultry Farms and Rocklands) produce more than 50 million broilers per year and collectively they supply 22% of the market. These top 7 companies supply about 75% of total South African broiler meat and 25% is supplied by hundreds smallholder producers.

The domestic market consists of approximately 265 formal abattoirs. These abattoirs sell mainly to 5 main retailers (Pick n Pay, Shoprite-Checkers, Spar, Woolworths and Massmart) and SMME's in the retail sector. These retailers buy the largest share of domestic production.

There are a number of direct marketing channels for broiler chickens and eggs, namely:

- Direct sales (farmer-to-consumer)
- Street hawking and visiting hawkers
- Free markets, wet markets and live animal markets
- Small independent shops and supermarkets
- Large retail chains

- Restaurants and fast food outlets
- Public and private institutions that provide meals to their residents, inmates, learners or patients, and well-funded food schemes
- Spent hen depots
- Egg packaging and processing plants
- Bakeries
- Butcheries
- Poultry abattoirs and processors

The marketing channels with the most opportunities for eggs and broiler chickens are listed in the Table below.

TABLE 9.1: MARKETING CHANNELS - EGGS AND BROILER CHICKENS

Marketing Channel	Priority & Gaps/Opportunities
Large retail chains	High priority because retailers are the most important channel to reach poultry consumers of all income groups. High priority for eggs as well because eggs lend itself particularly well for large retail distribution from emerging farmers.
Restaurants and hospitality businesses (broiler chickens only)	Very high potential because of high demand and the fact that farmers organised into the Agri-Park-Park system will be able to secure such lucrative contracts
Public and private institutions that provide meals to their residents, inmates, learners or patients, and well-funded food schemes (broiler chickens only)	High priority for government managed institutions and food programs because sourcing from Black farmers at are organised as in the Agri-Parks scheme is an important government priority, therefore it may be fairly easy to secure large contracts.
Poultry abattoirs and processors	High priority during the initial phase only because it is an easy channel to start with, but more profitable channels e.g. large retailers and fast food chains should be focussed upon later
Egg packaging and processing plants	Very high because this is the most convenient sales channel for mid-sized farmers or small farmers that market eggs collectively.

9.1.1 Global Markets

a. Eggs

Generally, there is no need for South Africa to import eggs because the local production is sufficient to cater for the local demand. As a rule the export volumes far exceeded import volumes and there was a substantial increase of exports quantity in 2013 reaching 12 million kg.

The industry's ability to compete within the global context and the implications for its long term sustainability reveal that based on technical efficiency indicators, South African producers compete well against international counterparts. However, South African feed costs on a per ton basis are significantly higher than the US and Brazil and such costs of production could impact on our competitiveness.

The extent to which international prices are transmitted into domestic egg markets is much more limited than in meat markets, but the high and volatile feed costs over the past few years have also impacted negatively on South African egg production. Production levels declined for the second consecutive year in 2014 and while the egg to maize price ratio improved significantly in 2014, higher feed grain prices resulting from the drought will limit further improvement in 2015. In the medium term however, egg prices are projected to expand at faster rate than maize prices on a continuous basis and egg to maize price ratios are projected to return to favourable levels, allowing egg production to expand by almost 25% over the next decade, matching firm consumption growth (with annual egg consumption expected to reach 10kg per capita in 10 years' time). *(BFAP Baseline Agricultural Outlook, 2015)*

i. Exports

Eggs are exported in the shell and as yolks (liquid and dried). Exports reached a maximum high of 11 million kg in 2013 (which doubled exports for the previous years). Almost all exports were directed to neighbouring countries in SADC. The export destinations of eggs during 2013 to such SADC countries were Mozambique (71%) followed by Angola (19% and Zimbabwe (9%). Import protection measures are applied by these countries and in 2013 Angola and Mozambique applied MFN duties of 20% whilst Zimbabwe applied the highest duties of 40 %*(Profile of SA Eggs Market Value Chain, 2014*.

ii. Imports

South Africa imports almost no eggs

b. Broiler

The industry's ability to compete within the global context and the implications for its long term sustainability has been questioned in light of growing imports to meet domestic demand. From 2001 to 2012, chicken consumption in South Africa increased by 74%, almost 800 thousand tons. Of the additional meat consumed over this period, 65% was produced domestically, with imports accounting for the balance. Since 2010 however, almost 200 thousand tons of additional chicken has been consumed, yet only 35% was produced domestically, with imports accounting for 65%.

In light of these numbers, questions have been raised regarding South African producers' competitiveness in the global context. Based on technical efficiency indicators, South African producers compete well against international counterparts. When the cost of production is considered however, the picture changes, largely as a result of feed cost differentials. South African feed costs on a per ton basis is significantly higher than the US and Brazil. Feed accounts for up to 70% of variable production costs per cycle, hence differences in feed costs are considered the main driver behind differences in production costs across these regions.

In order to ensure its competitiveness, a number of trade measures are applied within the industry. In 2013, an application for an increase in the general duty applied on imported products was approved, yet the composition as well as the origin of imports diminished the impact of these duties on domestic prices, as products originating from the European Union (EU) remained duty free under the Trade, Development and Cooperation agreement (TDCA). Furthermore, antidumping duties have been applied to bone-in portions originating from the United States (US) for more than a decade and in 2014, the industry applied successfully for additional anti-dumping duties on bone-in portions originating from the United Kingdom, the Netherlands and Germany. Beyond the level of tariffs however, the underlying reasons behind the lack of competiveness will need to be addressed in order to ensure the long run sustainability of the sector. *(BFAP Baseline Agricultural Outlook, 2015)*

South Africa import broiler meat to satisfy the domestic demand after exporting smaller quantities. It further shows that the imported quantities exceeded the demand due to the dumping of certain parts of broiler meat from Brazil and United States of America. South Africa imposed anti-dumping duties to USA and increased the general tariff on imported broiler meat to minimize imports from Brazil as this dumping was posing a threat to local producers.

i. Exports

As indicated above SA also exports a small amount of broiler meat to neighbouring countries. Mozambique and Zimbabwe has been competing for dominance throughout the decade.

ii. Imports

South Africa imported approximately 400 million kilograms of broiler meat in 2013 at an estimated value of R 4 billion. The imports quantity and value showed significant increases of 163% and 539% respectively compared to 2003. This drastic increase might have been caused by the alleged dumping of certain pieces of broiler meat from Brazil and Unites States.

9.2 Value Chain Assessment

The two Diagrams below illustrate the value chain for eggs as well as the value chain for broiler chickens.

DIAGRAM 9.1: VALUE CHAIN – EGGS

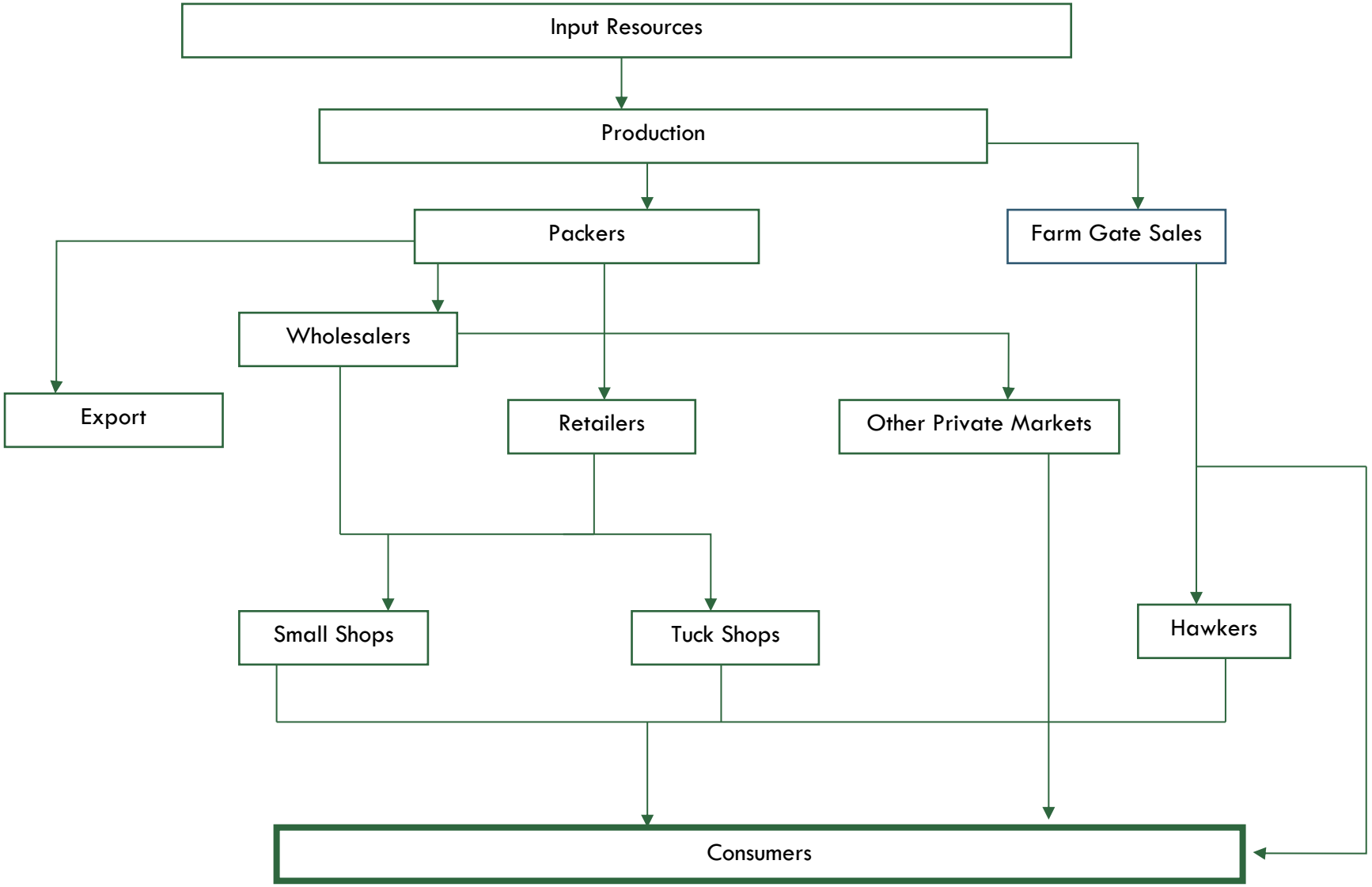
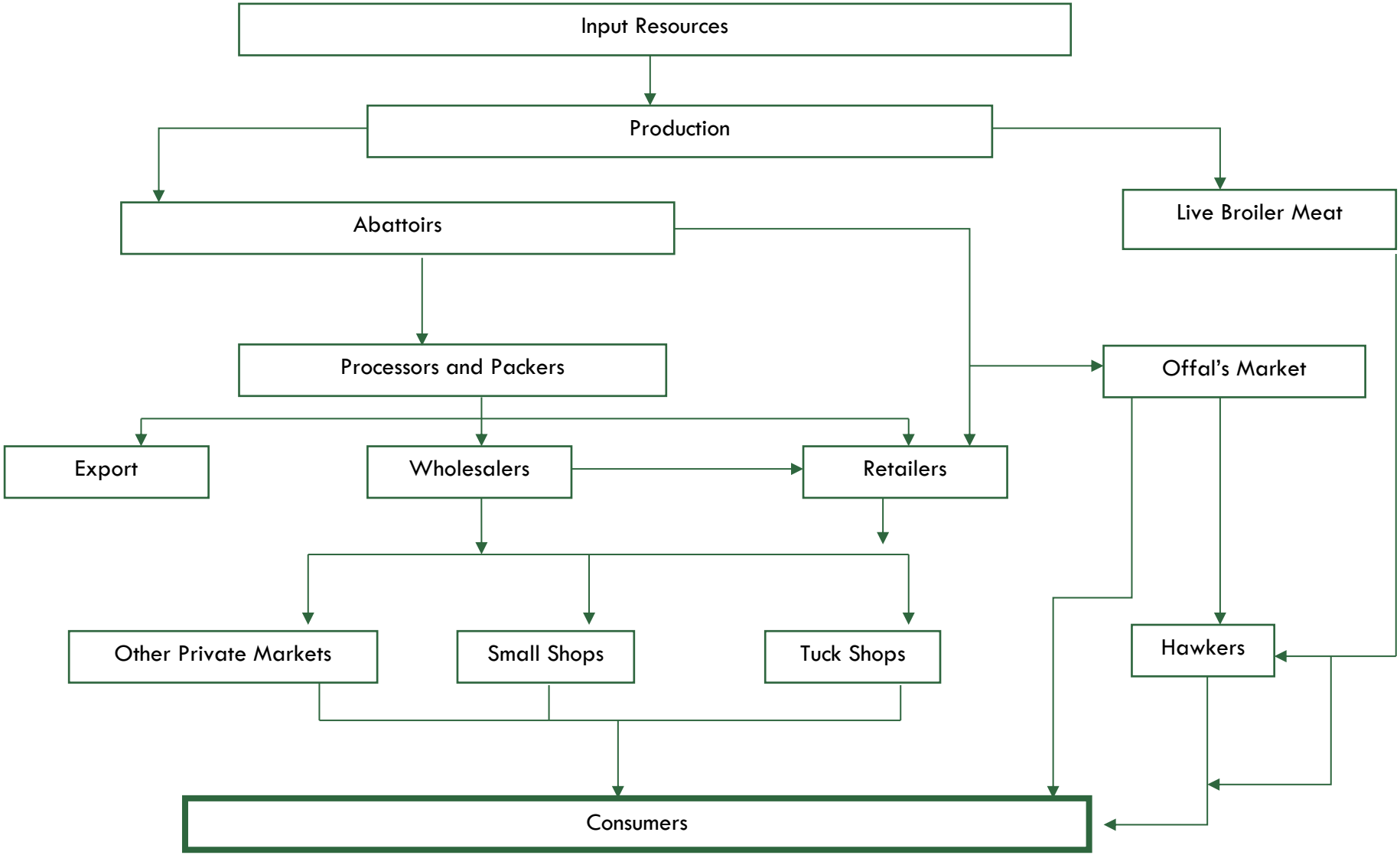


DIAGRAM 9.2: VALUE CHAIN – BROILERS



9.3 Agro-Processing Opportunities

Opportunities for local value-adding to broiler chickens and eggs are listed in Table 9.2.

TABLE 9.2: AGRO-PROCESSING OPPORTUNITIES - BROILERS AND EGGS

Broiler Chickens	Eggs
Slaughtering Packaging and branding Freezing Canning/bottling and pickling Cured and smoked chicken Offal marketing Rendering products of chicken abattoir waste (Very useful products can be produced from chicken rendering and "unusable" offal products including flavouring agents, stock for soup, fat and protein products for pet food etc.)	Oil or plastic coating to enhance shelf life Pickled eggs Pasteurization for protection against *Salmonella* Refrigerated liquid egg (mixed as well as yolk and yellow separated, and low fat liquid eggs) Frozen eggs Spray-dried mixed or yellow egg powder Granule, milled and flaked dried egg whites

Not all opportunities have a high potential for development. Table 9.3 lists the opportunities with the highest potential for development for broiler chickens.

TABLE 9.3: BROILER CHICKEN VALUE-ADDING OPPORTUNITIES

Processing Option	Priority & Gaps/Opportunities
Slaughtering	Very high priority. Opportunities for branding in the way broilers are processed, including Halal, and humane methods. Custom processing is an option in case marketing is desired via channels other than sales directly to abattoirs, e.g. to sell directly to retailers and most other modern channels can only be done via custom processing or establishing an own poultry abattoir.
Packaging and branding	Very high potential. Extensive opportunities for modified atmosphere packaging and vacuum packaging (vacuum packaging are effective for chicken and pork but less so compared to beef and lamb, and is better for boneless than boned cuts), packaging of certain cuts in butcher paper, as well as local or South African produced branding combined with buy local campaigns. Free range certification and branding opportunities for chicken are present but not recommended to pursue because the market are saturated, stagnant due to the current recession and small with little hope for export expansion. There are also no potential for Geographic Indicator branding opportunities for chicken at the present time.
Freezing	High potential, especially to distribute to retailers in all areas in the district and at national level.

9.4 Stakeholders

Role players within the poultry industry include:

- South African Poultry Association (SAPA)
- Developing Poultry Farmers Association (DPFO) – a division of SAPA
- Chick Producers Organisation

There are a number of industry leaders within the poultry industry:

TABLE 9.4: INDUSTRY LEADERS

Function	Industry Leaders
Broiler meat	Early Bird Country Bird Rainbow
Egg Production	Eggbert Nulaid Highveld
Breeders (Broiler meat)	Cobb Rossgro Hybro Multipliers
Breeders (layers)	Hyline Lohnmann
Feed	Meadow Epol Afgri Astral
Hatcheries (layers)	Avichick Nulaid Boskop RossouwHyline

Source: DAFF, 2015

Producers and abattoirs within Mpumalanga include:

- Asikhulisane (White River)
- Elkana (Mashishing)
- Mersan (Hectorspruit)
- Mikon Farming (White River)
- Zaytoon Farms (Mbombela)

9.5 Technology

Technology plays a vital role in the development of the agricultural industry and today farmers use technology to assist in producing food for a growing world. High tech advances have been assist in making farming life easier and more profitable. Smaller farmers can hold their own by moulding the technology to fit their management techniques and needs.

The Table below indicates the various technologies that the Agri-Park can use within Ehlanzeni District. By utilising the various technologies, the small scale and emerging farmers can improve on the production of the variety of livestock farmed and ultimately increase their profit.

The technologies were rated on a scale of 0 (not at all) to 3 (highly applicable), for the purpose of identifying the most suitable only those rated 2 and 3 are provided in the Table

TABLE 9.5: BROILER FARMING – TECHNOLOGY

Technology	Function or benefit to farmer
Mechanisation	
Small-scale implements and tractors: New generation of farming implements and tractors tailored for small-scale farming.	Farmers benefit from modern mechanisation and large leaps in productivity
Precision farming, integrated farm management systems and software	
Precision farming: Gaining real-time or exact information within particular parts of a single field to determine the most appropriate rate of application of inputs.	Optimising and tailoring production levels at precise and small-area level so that yield is maximised and inputs are minimised.
Integrated farm management software: Combines information and management systems from various on- and off-farms sources to coordinate farming activities in a highly efficient manner.	Maximise profitability and efficiency automate some management and administrative tasks. Coordinate and simplify management processes.
Plan-A-Head Poultry Broiler Management Software System: Complete management solution for a broiler enterprise.	Integrate with other Plan-A-Head farming software to allow for whole-farm enterprise management. A particular strong feature of the system is broiler growth monitoring. The light edition is particularly suitable for small-scale farmers.
SimJunior: Basic financial management and accounting software for the small-scale farmer.	Easy to use. Ideal for the small-scale farmer.

Technology	Function or benefit to farmer
Accord: Complete human resource management system for farmers, including payroll, HR record keeping and administration.	Particular strong features of the system include its simplicity and coverage of basic employment legislation.
Animal watering	
Auto-refill watering troughs: Water troughs fitted with a small reservoir and low pressure floating valves to enable automated re-filling.	Steady and easy to clean Re-fill automatically from a small build-in reservoir, minimising contamination and risk of wastage.
Animal health	
Vaccination: Vaccines contains inactive parts 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.	Vaccines have a highly positive effect on disease control and even eradication. Very high return on investment.
Antibiotics: Have two main applications in agriculture: 1) To treat infections, professionals, and 2) As a routine feed supplement to animals in intensive farming systems.	Increased growth rate and resistance against disease in case of routine feeding supplementation.
Farm energy	
Wind energy: Wind energy has been used for a long time in South Africa in the form of wind pumps.	Wind is a renewable form of energy and some areas in South Africa have sufficient wind development potential Appropriate for very small-scale operations. Less vulnerable to theft compared to solar panels.
Solar technology incl. photovoltaic and thermal panels and solar drying and cooking: There are two main forms of solar energy harvesting, i.e. photovoltaic panels that produces electricity, and thermal solar panels or tubes that heat water.	Solar energy is a renewable form of energy and most areas in South Africa have sufficient wind development potential. In fact, some parts of the southern and western Free State, western Limpopo, Gauteng and especially the Northern Cape and North West have excellent solar power potential even at global standards.

Technology	Function or benefit to farmer
Farm protection, security and visual monitoring	
Biogas fermenters: Biogas can be produced from a variety of on-farm sources, especially animal dung of animals kept in confined areas.	Enable the farmer to become independent of imported and increasingly expensive mineral or natural gas. Especially suitable for intensive livestock, pig and poultry farmers which produce large quantities of animal waste. New techniques enable even small farmers with just a few animals to produce gas in a viable manner.
Video and photographical technology: Fixed point photography, security camera systems and remote sensor-triggered photography.	Valuable to monitor veldt condition, effects of grazing or fire control regime, rehabilitation efforts, and to monitor animal or criminal activity in remote parts of the farm. Some systems notify the farmer by SMS of sensed activity and immediately send the footage by MMS or video clips to the farmer's mobile device
Apps for mobile phones and tablets	
The Merck Veterinary Manual Mobile App, available for both Android and Apple. It contains guidelines for the diagnosis, treatment, and prevention of animal disorders and diseases.	Comprehensive animal health and reproduction reference not only to vets but to farmers as well.
Poultry: The app helps you to learn all about poultry farming. This is a complete guide with tools to run a successful poultry farm. The app also has a question, answer tab, to get clarifications from experts.	Useful for the new farmer to help in breed selection.
Online and mobile information portals	
AgriSuite Online: Internet based agricultural information system developed and maintained for farmers. Provide a variety of general agricultural information directly to farmers.	The system can be accessed on a PC or Mac, on tablets and smartphones, in the office or on the farm. Contains the most essential, useful and concise information in a very simple and user-friendly format.

9.6 Demands and Need Analysis

To summarise opportunities in specific market segments as discussed in the previous subsection the most important marketing channels and channel related opportunities include custom

processing arrangements with poultry abattoirs combined with contract farming directly for government institutions, hospitality industry and especially large retailers.

Gaps in the market for processed chicken products are mainly limited to simple value adding techniques, including improved slaughtering, branding (huge scope for further development), packaging and freezing, and to some degree market development for chicken offal products. Extensive processing is not recommended during the establishment phase due to global competition and high capital expenditure.

The most optimal marketing channel for eggs will be large retailers and egg distributors. Forward contracts with processors or large bakeries may also be considered. Regarding processing, at the basic level coating with oil seems to be a viable option. There are good opportunities in dried and liquid egg production for the food manufacturing, baking and hospitality industries. Demand for these products could grow significantly amongst households as well in case product development and branding are focus on them, however, the consumer and hospitality marketing campaigns, branding and product positioning strategies should be tailored separately. The market for pickled egg is small and unlikely to be developed further, therefore it should not be pursued.

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

TABLE 9.6: ESTIMATED DEMAND - BROILER MEAT AND EGGS

Area of Demand	Product	Estimated Demand (Tons)
South Africa	Broiler Meat	2 115 826
	Eggs	479 221
Mpumalanga	Broiler Meat	165 386
	Eggs	37 459
Nkangala DM	Broiler Meat	42 103
	Eggs	9 536
Ehlanzeni DM	Broiler Meat	52 914
	Eggs	11 985
Gert Sibande DM	Broiler Meat	70 369
	Eggs	15 938

There is an estimated demand for nearly 2.1 million tons of broiler meat annually and nearly 480 000 tons of eggs. Mpumalanga contributes 8% to total demand for broiler meat and eggs.

9.7 Socio-Economic (Job Creation)

In 2013, an estimate of 14 481 people were employed by the broiler and rearing industry in South Africa, while 27 564 people were employed in the processing industry and 6073 people were employed by broiler distribution industries. In total, 48 118 employment opportunities have been provided by the broiler industry in 2013. According to the South African Poultry Association (2012), as a significant job creation and formal employment contributor, the poultry industry was responsible for approximately 10% of employment in the agricultural sector. Although, the informal sector is where the contribution of the poultry sector impacts of higher numbers of the South African population, through more than 80% of producers including Small, Medium and Micro Enterprises (SMME).

It is estimated that there was about 1 856 egg producers in South Africa in 2013, of which 85% are emerging farmers. These egg producers own an estimated 24 430 000 laying hens and employ roughly 6 170 workers.

The poultry industry also affects employment in the feed industry of South Africa. According to the Animal Feed Manufacturers Association, 67% of feed produced goes to the poultry industry. There is an estimated 2 500 workers in the feed manufacturing industry.

9.8 Contribution to Food Security

Not only is the poultry industry one of the main contributors to South Africa's GDP but also contributes well in food safety, food security and job creation. The importance of poultry's contribution to food security mainly in its affordability as a source of protein (meat and eggs).

9.9 Regulatory Requirements

The production of poultry is guided by regulatory requirements that need to be met. The Table below provides a list of government's regulatory documents for the poultry meat industry along with a short description.

TABLE 9.7: REGULATIONS

Regulation	Description
Agricultural Product Standards Act, 1990 (Act No. 119 Of 1990)	To provide for the control over the sale and export of certain agricultural products, control over the sale of certain imported agricultural products, control over related products and for matters connected with. Under this Act, the regulations regarding the grading, packing and marking of eggs destined for sale in South Africa is also published (2011)
Foodstuffs, Cosmetics And Disinfectants Act, 1972 (Act No. 54 Of 1972)	To control sale, manufacture and importation of foodstuffs, cosmetics and disinfectants and to provide for incidental matters.
Meat Safety Act, 2000 (Act No. 40 Of 2000)	To provide for measures to promote meat safety and the safety of animal products, to establish and maintain essential national standards in respect of abattoirs, to establish meat safety schemes and to provide for matters connected therewith.
Conservation Of Agricultural Resources Act, 1983 (Act No. 43 Of 1983)	This Act provides for control over the utilisation of natural agricultural resources in order to promote the conservation of soil, water sources and vegetation, and the combat of weeds and invader plants.
Animal Diseases Act, 1984 (Act No. 35 Of 1984)	The Act provides for control measures for the prevention of diseases and parasites and for schemes to promote animal health.
Abattoir Hygiene Act, 1992 (Act No. 121 Of 1992)	This Act provides for the maintenance of proper standards of hygiene in the slaughtering of animals and in the handling of meat and animal products.
Fertilizers, Farm Feeds, Agricultural Remedies And Stock Remedies Act, 1947 (Act No. 36 Of 1947)	The Act regulates the registration of fertilizers, stock feeds, agricultural remedies, stock remedies, sterilising plants and pest control operators. Provision is also made for control over the acquisition, disposal, sale and use of fertilizers, farm feeds, agricultural remedies and stock remedies.
Agricultural Credit Act, 1966 (Act No. 28 Of 1966)	The Act provides for a system of assistance to persons carrying on or undertaking to carry on farming operations, and control in respect of assistance rendered.
Marketing Act, 1968 (Act No. 59 Of 1968)	The Act provides for the introduction of a system of control over the marketing of agricultural products and regulates the quantitative control over the import or export of these products.
Subdivision Of Agricultural Land Act, 1970 (Act No. 70 Of 1970)	The Act regulates the subdivision of agricultural land and Its use for purposes other than agriculture.
Designated Areas Development Act, 1979 (Act No. 87 Of 1979)	The Act provides for measures for the promotion of the density of population and of farming activities in certain areas designated by the Minister for the purpose.

Regulation	Description
Veterinary And Para-Veterinary Professions Act, 1982 (Act No. 19 Of 1982)	This Act provides for the establishment, powers and functions of the South African Veterinary Council, registration of persons practising veterinary and para-veterinary professions and control over the practising of veterinary and para-veterinary professions.
Perishable Products Export Control Act, 1983 (Act No. 9 Of 1983)	This Act provides for the control of perishable products intended for export from the Republic of South Africa and for the continued existence of a statutory board to bring about the orderly and efficient export of perishable products from the Republic.
Agricultural Pests Act, 1983 (Act No. 36 Of 1983)	The Act introduces measures for the prevention and combatting of agricultural pests.
Agricultural Product Standards Act, 1990 (Act No. 119 Of 1990)	This Act provides for control over the sale and export of certain agricultural products and other related products, with a view to the maintenance of certain standards regarding the quality of products and the packing, marking and labelling thereof.
South African Abattoir Corporation Act, 1992 (Act No. 120 Of 1992)	This Act provides for the privatisation of the South African Abattoir Corporation. At the incorporation of the Corporation as a company the Abattoir Industry Act, 1976 (Act No. 54 of 1976) will be repealed.
Societies For The Prevention Of Cruelty To Animals Act, 1993 (Act No. 169 Of 1993)	The Act provides for control over societies for the Prevention of Cruelty to Animals.
Agricultural Development Fund Act, 1993 (Act No. 175 Of 1993)	This Act provides for the establishment of and control over an agricultural development fund for the handling of money received for development.
Government Notice No. R.946 Of 27 March 1992	Regulation concerning the control over the sale of poultry meat
Government Notice No. R198 Of 30 July 1999	Regulation governing general hygiene requirements for food premises and the transport of food.
Government Notice No. R. 1748 Of 26 June 1992	Regulations regarding the classification and marketing of meat.
Government Notice No. R.2718 Of 23 November 1990	Regulations governing the composition and labelling of raw boerewors, raw species sausage and raw mixed- species sausage

Source: Guidelines on Key Requirements for Government Markets & SAPA

The list of regulatory documents displayed by the Table above consists of Acts and Government Gazettes, where the Acts are applicable to all types of meat production and the Government Gazettes include regulations that are specific to the production of poultry meat. As a result of meeting these regulatory requirements, the production of poultry can be controlled and take

place under conditions that ensure clean, healthy, humane and organised production. The Agri-Park's broiler and egg production is bound by these regulatory requirements and the Agri-Park will have to ensure continuous compliance.

9.10 Substitute Products

Substitute products are products which may replace each other in consumption or use, as a result of changing conditions, such as, for example increase in prices, or a change in consumer tastes. Substitutes for chicken and eggs include:

- **Other meat**: Pork, lamb and beef are meat substitutes for chicken. Higher income households are more likely to substitute chicken for lamb or beef while lower income households will substitute chicken for pork.
- **Soya and dry beans:** Soya and dry beans are also protein rich foods; lower income households will likely substitute chicken and eggs for soya and dry beans. Soya is also a good meat substitute for vegetarians.

9.11 Societal and Cultural Trends

There are a few societal and cultural trends that are influential on the trends in the production of poultry. These trends are main linked to society's level of affordability, health consciousness and everyday activities that occupy time.

Affordability: Poultry is an important source of protein and is more affordable than red meets. With a significant amount of South Africa's population receiving low levels of income, it can be expected that poultry is consumed more often than red meat.

Health benefits: Poultry has been identified as not only a cheaper but a healthier option than red meats. With all the red meat linked diseases, many people are consuming poultry more often and replacing red meat. Less fat is found in poultry when compare to red meat, especially when it is skinless.

Cooking time: Poultry is also perceived as easier to prepare than beef. As people become more economically active and have less time for domestic duties, chicken is more likely to be cooked. This also means that processed chicken products can be expected to become more popular since they are usually pre-cooked or ready to eat.

9.12 SWOT Analysis

The following Table contains a SWOT Analysis for the poultry and egg industry.

TABLE 9.8: SWOT ANALYSIS – EGGS

Strengths	Weaknesses
• Highly nutritive products • Contributor to food security • Maximal soil usage • Growing consumer purchasing power • Growing urban consumer population • Relatively low energy costs • Unused capacity for expansion • Relatively cheap protein source	• Shortage of skilled workers • Poor farming practices • Non-standard of product • Lack of Good Agricultural Practice (GAP) principles • Small-scale production not competitive • Lack of access to market • Few parent stock operations • Sourcing feed ingredients • High cost of capital • Old technology in some enterprises • Technical staff need training • Information systems require strengthening • Weak technical know-how • Weak information systems • Access to adequate laboratory testing facility
Opportunities	**Threats**
• Major economic advantages • Intensive production • Free range production • Local labelling (food labelling) • Employment opportunities • Change in consumer preference • Cooperative farming (alliances – economy of scale) • Technological advancement • Investment in new technologies to increase productivity (e.g. incubators, added value processing equipment) • Consumer education • Industry promotion to expand demand • Reduce day-old-chick costs by investing in parent stock • Public financing available	• Increasing input costs • Market limitations • Consumer habit • Competition • Extreme weather conditions (drought, hail, frost) • Pest problems • Disease: Avian Influenza scare lowers demand • Barriers to entry • Food safety issues • Regional competition • Retailer consolidation (preference toward particular producers) • International feed ingredient price fluctuations • Barriers to entry

• Possibility to lower costs through improved management systems • Export potential to neighbouring countries	

10 Commodity Analysis – Agroforestry

10.1 Market Assessment

The woodlands are a valuable source of fuel, building material, craft timber and a variety of non-timber products. These include fruit, fodder, medicinal compounds, honey, meat and mushrooms. They form the backbone of the livelihoods of millions of people. The annual marula-fruit (*Sclerocaryabirrea*) harvest, for example, is worth some R1, 1 billion a year to rural communities

Local markets and their associated marketing channels for agro-forestry products are as follows:

- Timber and wood for woodwork ranging from conventional commercial timber products to small piece hardwood for furniture, carving etc.
- Fuel wood, including various hardwood species that produce excellent copier wood.
- Craft wood to produce various craft items for household purposes.
- Fodder which can increase carrying capacity and serve as very valuable feed during winter and drought periods.
- Honey and other bee products which represents an ideal opportunity for easy cash generation.
- Wild fruits including various fruits that could have potential for commercialisation.
- Game birds including Guinea fouls and various other indigenous and wild poultry or large birds for export or niche poultry meat markets.
- Medicinal plant parts which could supply a multi-million rand local and export industry. There are two major marketing channels: informal traders (mainly local and regional) and formal export (supplying large global pharmaceutical industries with crude plant parts for further processing).
- Other food including gums, resin derived sugars and gelling agents (very large and expanding market) etc.
- Beverages including fruit juices, beers and wines, and some other specialty beverages.
- Industrial products including fine chemicals mainly for the export market.

The forestry industry was a nett exporter of over R2, 2 billion worth of goods in 2012, of which more than 99% took the form of converted value-added products. The forest products industry ranks among the top exporting industries in the country, having contributed 1, 92% to total exports and 1, 4% to total imports in 2012. Capital investment in the industry amounted to an estimated R45 billion in 2011. The value of forest product exports grew by 23% over the past

decade, from R11, 2 billion in 2002 to R13, 8 billion in 2012. In real terms, however (taking inflation into account), this growth was -28% over the period in question.
Consequently, the nett trade balance in foreign trade in forest products decreased from 2002 by -62% in nominal terms (-78% in real terms) to R2, 2 billion in 2012. In 2012, pulp products were the most important exports (R5 890 billion or 43% of the total), followed by paper (R4 707 billion or 34%), solid wood products (R2 680 billion or 19%) and other products (R555 million or 4%). Woodchip exports, mainly to Japan, accounted for 52% (R1 407 billion) of total solid-wood product exports.

As with other export-based industries, the continuing unfavourable economic environment has had a negative impact on demand, particularly in Japan, which is still recovering from the damage caused to some of its pulp and paper mills by the tsunami that occurred in March 2012. As a result of this, exports of forest products from South Africa decreased in value by R1, 2 billion or 7, 7% from R15 billion in 2011 to R13, 8 billion in 2012.

Of the agro-forestry products listed above, the following have export potential:

- Timber
- Craft wood: Wood as well as final craft products.
- Honey and other bee products.
- Wild fruits: Value added products for fruit wines, spirits and specialty beverages, preserves and dried fruit etc.
- Game birds: Value added products including frozen and canned game birds.
- Medicinal plant parts: Value added products ranging from tinctures, powders, frozen or dried plant parts etc.
- Other food and beverage products including gums, extenders, speciality sugars etc.
- Industrial products including fine chemicals.

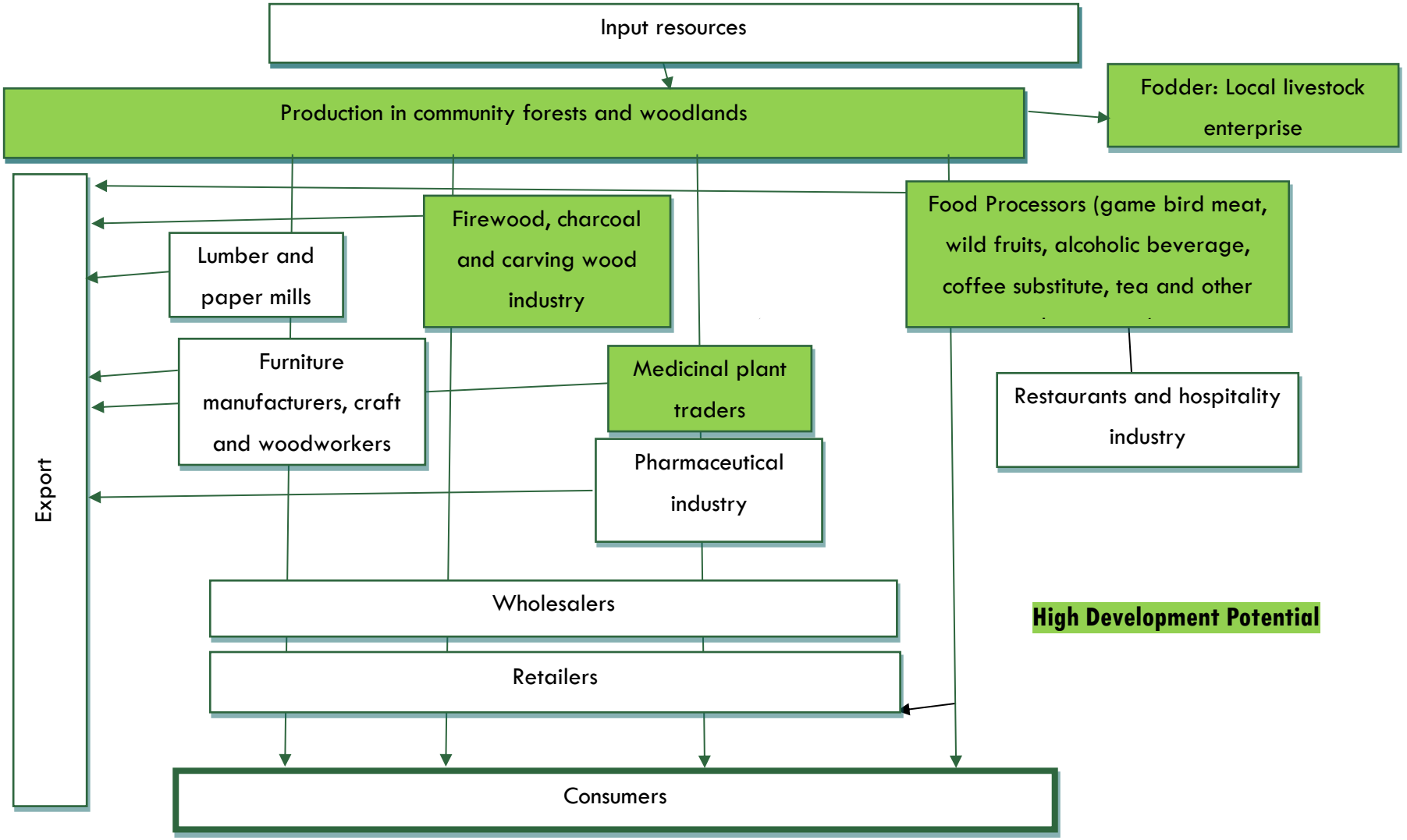
10.2 Agro-Processing

There is a large range of products that could be manufactured from forestry plantations to supply timber logs, processing timber, producing paper, wood chips, timber boards, mining timber, and charcoal to designer furniture. The main challenge in forestry processing is the continued supply of timber from plantation forests.

- **Primary forestry processing** includes sawmills, pulp and paper, treated and dried timber, chipboard manufacturing, floorboards and mouldings.
- **Secondary forestry processing** includes furniture production and construction of products such as wooden doors and windows. Construction and manufacturing of wood products is an important market for local SMME as employment opportunities can be created in this sector.

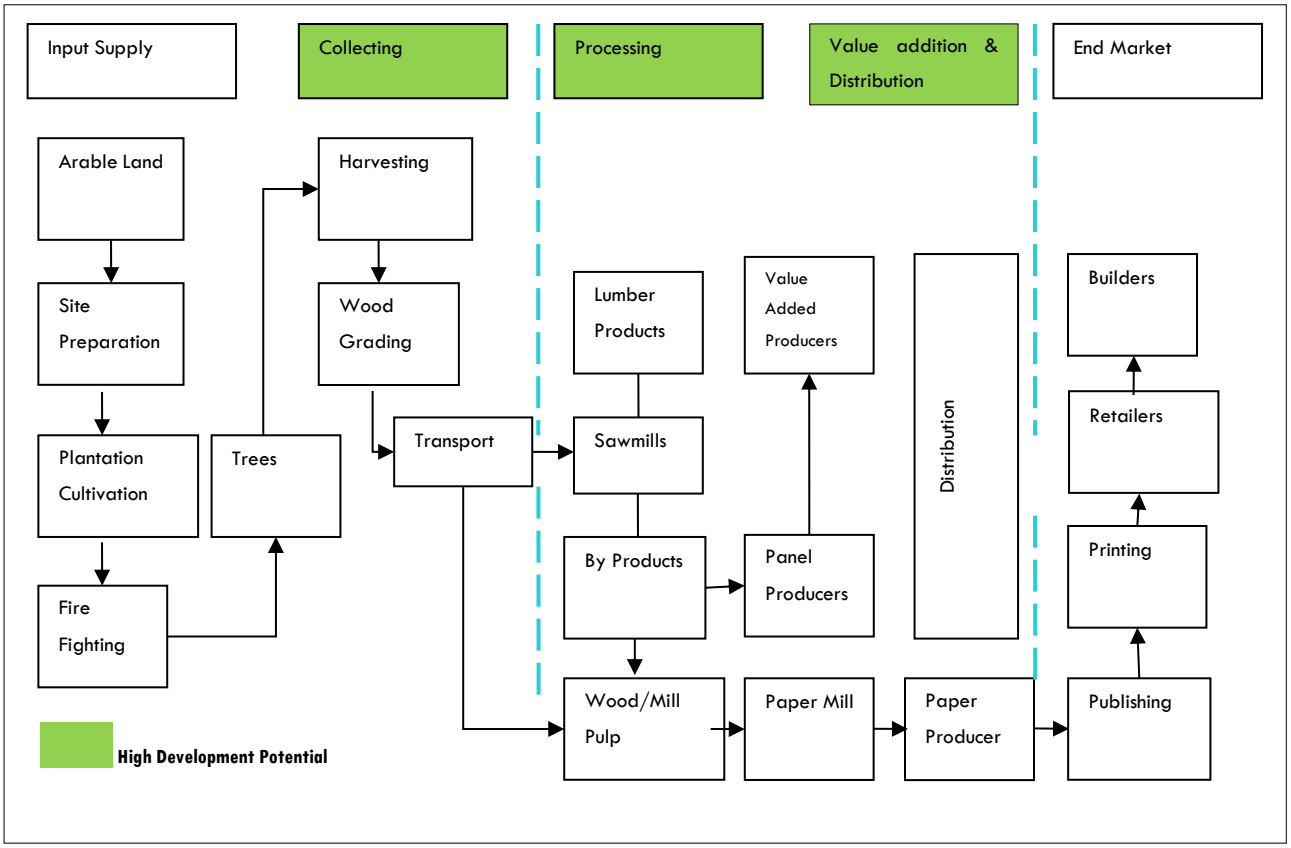
10.3 Agroforestry Value Chain

DIAGRAM 10.1: VALUE CHAIN - AGROFORESTRY



The value chain for agroforestry (using community forests and woodland) is depicted in the Diagram above, while the value chain for industrial forestry activities is shown in Diagram 10.2.

DIAGRAM 10.2: INDUSTRIAL FORESTRY VALUE CHAIN



10.4 Stakeholders

The stakeholders involved in agroforestry within Ehlanzeni District is listed in the Table below.

TABLE 10.1: AGROFORESTRY STAKEHOLDERS

Name	Type
SAPPI	Producer and Processor
Mondi	Producer and Processor
York Timbers	Producer and Processor
Komatiland Forests	Producer
Ngwenya Forestry	Contractors
Imvelo Forests	Producer and Processor
BuhleBetfu Carriers	Timber Transport
Timber24	Timber Transport and Logistics
Hlatini Forest and Garden	Input Supplier

Name	Type
Nukor Forestry	Input Supplier
NCT Tree Farming	Input Supplier and Nursery
Wood SA	Industry Information and Marketing
Forestry SA	Association

10.5 Technology

Technology plays a vital role in the development of the agricultural industry and today farmers use technology to assist in producing food for a growing world. High tech advances have been assist in making farming life easier and more profitable. Smaller farmers can hold their own by moulding the technology to fit their management techniques and needs.

The Table below indicates the various technologies that the Agri-Park can use within Ehlanzeni District. By utilising the various technologies, the small scale and emerging farmers can improve on the production of the variety of livestock farmed and ultimately increase their profit.

The technologies were rated on a scale of 0 (not at all) to 3 (highly applicable), for the purpose of identifying the most suitable only those rated 2 and 3 are provided in the Table.

TABLE 10.2: TECHNOLOGY AVAILABLE - AGRO-FORESTRY

Technology and Description	Function/Benefit to Farmer
Mechanisation	
New generation small hand tools	Farmers benefit from modern mechanisation and large leaps in productivity even though they farm at small scale, and at a much lower cost compared to conventional implements used by large commercial farmers.
Precision farming, integrated farm management systems and software	
Precision farming: Gaining real-time or exact information within particular parts of a single field e.g. moisture and nutrient levels, soil type and depth etc., to determine the most appropriate rate of application of water, fertilizer and to adjust implement settings automatically and instantly. Precision farming can also be applied to animal production, aquaculture and agroforestry systems.	Optimising and tailoring production levels at precise and small-area level so that yield is maximised and inputs are minimised.
Integrated farm management software: Combines information and management systems from various on- and off-farms sources to coordinate farming activities	Maximise profitability and efficiency automate some management and administrative tasks. Coordinate and simplify management processes.

Technology and Description	Function/Benefit to Farmer
in a highly efficient manner. Includes a variety of technologies e.g. farm asset tracking systems, cloud computing, record keeping, accounting, mapping, water and soil management, weather forecasting etc.	
Plan-A-Head Nursery System Software: Management of nurseries for flower, vegetable and tree (forestry or even agroforestry) seedlings.	Integrate with other Plan-A-Head farming software to allow for whole-farm enterprise management. Particular strong features include germination monitoring and marketing (especially order taking and dispatch).
Plan-A-Head Timber Management Software Program with Timber Management System: Assist with the management of expenses and inputs, and control of field activities for forestry projects.	Particular strong features of the system are cost control and yield estimation.
SimJunior: Basic financial management and accounting software for the small-scale farmer.	Easy to use. Ideal for the small-scale farmer
Accord: Complete human resource management system for farmers, including payroll, HR record keeping and administration.	Particular strong features of the system include its simplicity and coverage of basic employment legislation.
Groundwater access via wells or boreholes	
Manual well digging or borehole drilling: Although mechanical drilling can reach depths of 150 meters, it is generally too expensive for small-scale farmers. In case the groundwater table are less than 45 meter deep and the subsoil material are soft, manual drilling or well digging are a cost efficient option.	Gain access to groundwater resources much more cheaply compared to conventional mechanical drilling.
Irrigation systems (water delivery)	
Microtube drip irrigation: micro tubes transport water right to the roots of the plant.	Low water pressure requirement. Especially suitable to irrigate orchards, row crops and other high value crops. Use 30 -70 percent less water compared to conventional irrigation. Produce superior yields of high quality.
Veldt management	
Bush-to-feed converter: Unit that produce feed pellets from shrubs and trees, including species responsible for bush encroachment.	Converts a liability (bushes that reduce the carrying capacity of the veldt) into a valuable asset (feed for game and cattle). Could be an effective method of bush encroachment control.
Land rehabilitation techniques: May differ in technological complexity from as simple as brush packing to as complex as biodegradable or long lasting soil cloths and mesh materials.	Stabilise soil, control or reverse erosion damage and restore degraded land so that it can again be utilised for agricultural purposes.

Technology and Description	Function/Benefit to Farmer
Soil improvement and prevention of soil erosion	
Biochar: Activated carbon ground into a course powder, then worked into the soil.	Significantly increase yield by assisting with water and nutrient retention and improving soil structure. Can be produced on-farm or at farmer community level using fairly simple techniques. Almost any plant or organic biomass can be turned into biochar. Lasts for thousands of years.
In-field rainwater harvesting: Small basins (that can be made with a shovel) capture rainwater, preventing it from immediately running off the field during a rain event. Apart from cultivated fields, micro-basins can also be established on pastures to increase carrying capacity of animals.	Enable the soil to absorb much more water that would have run off the field. Depending on the type of soil, the additional moisture may benefit the crop for several months and may increase yield significantly.
Farm Energy	
Wind energy: Wind energy has been used for a long time in South Africa in the form of wind pumps. New generation wind technology allows for uses beyond wind pumping, including electricity generation at micro or farm level scale.	Wind is a renewable form of energy and some areas in South Africa do have sufficient wind development potential, especially when micro-climatic and small-area topographic factors are considered which is appropriate for very small-scale operations. Less vulnerable to theft compared to solar panels.
Solar technology incl. photovoltaic and thermal panels and solar drying and cooking: There are two main forms of solar energy harvesting, i.e. photovoltaic panels that produces electricity, and thermal solar panels or tubes that heat water. Solar energy is also widely used on farms for solar drying and solar cooling.	Solar is a renewable form of energy and most areas in South Africa do have sufficient wind development potential. In fact, some parts of the southern and western Free State, western Limpopo, Gauteng and especially the Northern Cape and North West have excellent solar power potential even at global standards.
Farm protection, security and visual monitoring	
Video and photographical technology: Fixed point photography, security camera systems and remote sensor-triggered photography.	Valuable to monitor veldt condition, effects of grazing or fire control regime, rehabilitation efforts, and to monitor animal or criminal activity in remote parts of the farm. Some systems notify the farmer by SMS of sensed activity and immediately send the footage by MMS or video clips to the farmer's mobile device (in additional to conventional recording and storage of images or video).
Online and mobile information portals	
AgriSuite Online: Internet based agricultural information system developed and maintained for farmers. Provide a variety of general agricultural information directly to farmers.	The system can be accessed on a PC or Mac, on tablets and smartphones, in the office or on the farm. Contains the most essential, useful and concise information in a very simple and user-friendly format.

Technology and Description	Function/Benefit to Farmer
FAO Ecocrop: Provide 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.	Enable the farmer to select suitable crops to farm with, and to diversify the farm's enterprises.
Other	
Drones: Un-manned aircraft capable of exploring the farm and taking photos from the air.	Very useful for general inspections, monitoring and mapping. Advanced models can even perform some remote sensing functions.
Remote sensing: Interpreting satellite images to make farming decisions. Satellite images provide valuable information on biomass production, soil and air mass temperature, soil moisture, plant stress levels, fire warnings etc.	Enable the farmer to make well informed decisions based on information that otherwise would have been too difficult or expensive to obtain. Provides complete information of the entire farm. Some information is provided daily or instantly.
Integrated weed and pest management incl. biological control agents: Pests and weeds are major threats to farmers and food security. Chemical control has been effective for some pests and diseases but it is expensive and causes harm to human health and the environment. Consumers and governments locally and to export markets place increasing pressure on farmers to adopt integrated management practices to reduce reliance on only chemical control. Especially important is biological control where the natural enemy of the weed or pest are released locally to control population levels. It is not only applicable to crop farmers but to all extensive and semi-intensive animal farmers as well (pasture or veldt management).	Usually much more effective and sustainable than chemical control on its own.

10.6 Demand and Needs Analysis

Demand is growing for all major timber products including industrial roundwood, sawnwood, wood-based panels and paper & paperboard as seen in the growth of both production and trade between nations. The long term investment nature of timber, and the supply-side control potential, offers a degree of protection from short term market price fluctuations and economic shocks. The positive implications for the South African forestry industry is that almost all timber produced will find a market, at a decent price, either locally or on the international market.

10.7 Socio-Economic (Job Creation)

Forestry is a very prominent sector in South Africa and employs an estimated 165 900 workers and supports the livelihoods of 652 000 people in rural communities. The downstream activities for the formal forestry sector is also a major employer:

- The pulp and paper industry creates 13 200 direct employment opportunities and 11 000 indirect employment opportunities.
- The sawmilling, timber board and mining timber collectively employs 28 200 workers

(South Africa Yearbook, 2013/14)

10.8 Contribution to Food Security

Forestry production does not contribute to food security directly, however if households have an interest in an income generating forestry business this will assist in household income levels, thereby improving food security. There are also forest related agricultural activities which can assist with food security such as apiculture, compost, charcoal manufacture, herb cultivation and forest based tourism. These activities can assist households with generating income to alleviate food insecurity

10.9 Regulatory Requirements

Regulations regarding forestry are listed in the Table below.

TABLE 10.3: FORESTRY REGULATIONS

Regulation	Description
National Forests Act (Act No 84 of 1998)	Outlines the procedure for licenses for the establishment and manage of plantations; use of land, structures or building for agricultural, domestic, residential, industrial, or commercial purposes; use of roads in state forests; and the grazing or herding of animals. Outlines the legislation for the protection of trees and forests.
National Water Act, 1998 (Act No.36 of 1998)	This act encompasses laws relating to water resources and the use thereof.
Conservation of Agricultural Resources Act No. 43 OF 1983	Control over utilization of natural agricultural resources Promote conservation of soil Promote conservation of water sources Promote conservation of vegetation Combating of weeds and invader plants
Plant Breeders Rights Act	Plant breeder's rights are granted for certain kinds of plants. Establish rights to be complied with to grant the rights. For the protection of rights and exercise thereof.

Regulation	Description
Plant Improvement Act	To provide for the registration of premises from which the sale of certain plants or the cleansing, packing and sale of certain propagating material may be undertaken. To prescribe the conditions for such plants, or propagation material to be sold. To provide recognition for such plants. To provide for a system of certification with the objective of maintaining quality. Control of imports and exports
Occupational Health and Safety Act, 1993 (Act No.85 of 1993)	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)	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.

10.10 Substitute Products

Forestry products serve as building, construction, warmth, shelter, furniture, and tools. Substitution for these various outputs are sourced to varying degrees from other products. For example, construction scaffolding can be replaced with metal, as a source of fuel by electricity, and as a building material with clay or cement bricks, furniture with plastic and tools with metal.

10.11 SWOT Analysis

The following table summarises the strengths, weaknesses, opportunities and threats for the forestry and agroforestry industry within the district:

TABLE 10.4: SWOT ANALYSIS FOR FORESTRY AND AGROFORESTRY

Strengths	Weaknesses
• Medium and large-scale operations are suitable to the district • The forestry market is well established with major processors located near existing forestry production zones • Timber production is labour intensive in small-scale operating environments • Proximity to major market • Availability of natural resources	• Shortage of skilled workers (processing) • There is a water tariff/water licences for new forestry plantation • There are long lead times in production • There are high capital costs associated with felling trees • Large suppliers with vertical integration with value-adding facilities existing within the district

• Mpumalanga has the largest forestry plantations in South Africa	
Opportunities	**Threats**
• Biomass from by-product • Production of food in woodlands and plantations • Cultivating medicinal plants • Honey production • Fodder and local livestock enterprises • Extensive opportunities for wood chipping and charcoal manufacturing • Establishment of micro-mills • Processing operations that cater for the semi-processed timber market • Technological advancement	• Environmental conditions, drought • Fire Risk • There entrenched market participants within the district • There are difficulties in obtaining the necessary infrastructure or applying the correct beneficiation to the areas with the best potential • Crime and vandalism, as well as unsupervised fires

11 Agri-Park Development Concept

In the Agri-Park Concept Development Section, the concept of how the Agri-Park will be organised and function is developed. The information gathered and analysed in earlier sections of the Business Plan will be applied in the concept development. Each of the commodities that were selected for production in the initial phase of the Agri-Parks programme have a specific concept developed, which addresses specific activities that take place in the production of each commodity. Ultimately, an overall concept is developed, as well, which refers to the organisation and functioning of the Agri-Park in general.

11.1 Introduction

The Agri-park development concept will discuss a number a development factors for each of the components which forms part of the Agri-park model, namely:

1. Emerging and small holder farmers (SHF)
2. Farmer Production Support Unit (FPSU)
3. Agri-hub (AH)
4. Rural Urban Market Centre (RUMC)

The Agri-Parks concept developed below also considers 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

11.2 Proposed Development Concept – Vegetables

The development concept for vegetables will focus on the primary production of vegetables in the district. The produce will then be transported to the FPSU for further processing, collection and distribution to the hub. Some of the produce will be sold as fresh produce which will not need further processing, these products can go directly to the market, Mpumalanga IFPM or RUMC. Further processing can take place at the FPSU and/or the AH. Packaging and storage of products will take place at the AH, this includes cold storage.

TABLE 11.1: PROPOSED DEVELOPMENT CONCEPT - VEGETABLES

Production Flow	Smallholder farmers (SHF)	FPSU	AH	RUMC
Key Role & Function	The core role of the smallhoder farmers would be the primary production of vegetables	Input supplies (such as seed, fertlizer, pesticides, herbicides, e.t.c.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs.	Some training, logistics, Agro-Processing, storage/warehousing facilities, packaging facilities; logistics.	Market intelligence, assist farmers, and processors in managing a nexus of contracts and large warehousing.
Location	All smallholder farmers involved in vegetable production in the Ehlanzeni District.	All FPSUs should support vegetable farmers. It is proposed that there should be at least 17 FPSUs in the District: • Bushbuckridge LM (x7) • Mbombela LM (x1) • Nkomazi LM(x4) • Umjindi (x1) • Thaba Chweu LM (x4)	As proposed by the province, the Agri-Hub is to be located in Bushbuckridge LM (Mkhuhlu)	The proposed location of the RUMC is in Mbombela, which is also the capital of the Province and the location for the Mpumalanga International Fresh Produce Market. This will be the only RUMC in the Province, in order to avoid duplication of resources.
Human Resources	The core HR personnel that the SHF would require from the FPSU are:	The FPSU will provide the following HR/HR facilities;	The AH will provide the following HR;	The RUMC will provide the following HR;

Production Flow	Smallholder farmers (SHF)	FPSU	AH	RUMC
	• Extension officers • Agronomist • Reseachers • Seasonal staffs (harvest labour) • Some permanent staff to manage day to day farm operations.	• Agricultural extension officier (2) / support office; • Machine operators (2) / Local mechanisation centre and workshops; • Agronomist (for soil testing e.t.c.) (2) • Researchers (2) • Voluntary/Established commercial farmers to mentor the small scale farmers (*as many* as possible).	• Administrative manager (2) • Quality control personnel (2) • Staffs to manage the Agro-Processing facilities • Research and Demonstration personnel • Training personnel (1)	• IT expert/personnel (1) • Administrative manager (1) • Training personnel • Marketing agents (to Facilate market linkages, facilitate contracts with wholesalers and major retail outlets and also to garther informatio on prices at fresh produce market that would be communicated to the AH and FPSU).
Training	Small holder farmers would require training on: best farm practices, use of tools and equipments, training on how to interpret market information and ICT. The extension officiers that are conversant with vegetable production are well posiitioned to render this type of training. Also, training can be provided by the well-established commercial potato farmers through a	One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the SHF.	Some training would also be required at the hub e.g. • Training of processing staffs on how to handle and operate various processing equipment. • Training on best practices, based on changing demand and supply.	Training of training personnels on how to disseminate information to the SHF, AH and the FPSU.

Production Flow	Smallholder farmers (SHF)	FPSU	AH	RUMC
	mentorship programme. Extension officiers through the DAFF can also organise Agri-shows, where farmers can express their concerns, and where training can be provided.		• Training on new innovations as they surface.	
Key product/activities	The core activities of the small holder farmers are: • Land preparation • vegetable farming (planting, fertlization, disease control, irrigation e.t.c.) • Harvesting • Loading onto truks	The core activities of the FPSU are: • Collection of vegetables from SHF • Transportion of vegetables to the storerooms/cold storage within the FPSU premises • Some quality control • Weighing, sampling and testing of maize • Drying, cleaning grading and sorting maize • Transportation maize destined for processing directly from the farm to the AH	The core activities of the AH are: • Receiving of maize from FPSU • Further Quality control; • Processing of vegetables: peeling, chopping, packaging, etc. • Storage of products ; • Some marketing; • Transportion of products to the RUMC.	The core activities of the RUMC are: • Collection of final products from the AH • Maketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products • Bulk storage of final products
Infrastructure/ Equipment	The smallholder farmer would require the following equipments, which can be hired from the FPSU: • Tractor • Tilliing equipment	The FPSU would require to put in place the following equipments/infrastructure: • Transport (e.g Bakkie or pick-up vehicles)	The AH would require to put in place the following equipments/infrastructur: • Administrative facilities • Rental facilities	The RUMC would require to put in place the following equipments/infrastructure: • Large warehouses/ holding facilities/ cold

Production Flow	Smallholder farmers (SHF)	FPSU	AH	RUMC
	• Bed former • Trailers and bins. • Solid set irrigation equipment • Planter/fertiliser applicator • Fertiliser equipment (spreader) • Spray equipment **Only small holder farmers with more than 2ha of land would be fully mechanised.*	• Small scale processing facilities for local market • Sorting facility • Storage facility/ cold storage • All equipments listed to be required by the small holder farmers.	• Agro-Processing facilities (peeler, slicer, etc.) • Packaging facilities • Quality control facilities • Agricultural input distribution and sales centre • Retail facility • Training centre • Student and staff housing • Logistics and transport facility	storage • Administrative facilities/ information centre
Logistics	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 officies for the group heads. This group heads would work closely with the Packhouses and the FPSU. **Harvesting** : Certain days of the week should be assigned for harvesting of	The FPSU should organise primary logistics collection centre in the form of pack houses where trucks with trailers would pick up vegetables from various farms and convey it to these storage facilities ****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.***	The same transport will be used to collect vegetables from the FPSU to the AH for processing. Indictating that the transport facilities would serve multiple purposes.	Trucks will be required for the distribution of final products to wholesales and major retail outlets.

Production Flow	Smallholder farmers (SHF)	FPSU	AH	RUMC
	vegetables during the harvest seasons. Farmers intending to harvest on certain days would notify the FPSU for necessary arragements.			
Technology/ICT	In order to boost their production efficiency, the SHF would require: • Mordern tools, • mobile devices for subscription to Apps. , to enble them receive information from the RUMC on weather forecast, disease control e.t.c.	Tracking devices on all vehicles to prevent hijack and also to monitor the movements and locations of the drivers. 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 be able to strategically supply maize/ maize products to the markets. ***It should be noted the same transport facilitities would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.***	In order to remain conversant with the current prices fetched on the global, national and local market, so as to be able to strategically supply vegetables/ vegetable products to the markets, the RUMC would also require subscription to certain Apps from the RMUC. This will enable the AH to remain informed.	The RMUC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.

Catalytic Project

A catalytic project relating to local vegetable farming is the development of a vegetable pack house for the washing, sorting, grading and packaging of local produce. Some retail activities and basic processing (chopping, peeling, etc.) can also take place at the pack house.

11.3 Proposed Development Concept – Poultry

The development concept for the production of poultry has been developed according to the Agri-Parks Model, as stated in the introduction. The process begins with the production of chickens by the farmer and is supported by the FPSU by providing services such as supplying feed, veterinary assistance, and auctions and sales. Poultry that is not is not intended for processing is sold at the FPSU to the local market, while poultry for further processing is transported to the AH. At the AH, the abattoir will be responsible for slaughtering and performing other production function through other facilities in the AH. From the AH, the white 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. Table 11.2 explores the development for poultry production.

TABLE 11.2: PROPOSED DEVELOPMENT CONCEPT – POULTRY

Production Flow	SHF & LSH	FPSU	AH	RUMC
Key Role & Function	The core role of the smallhoder and large scale farmers would be to farm with chickens for the egg and meat markets	Input supplies such as feed and medicines as well as training and extension support, mechanisation support and local logistics support	Training, logistics, abattoir and cold storage	Market intelligence, assist farmers, and processors in managing a nexus of contracts, large warehousing and cold storage facilities
Location	All chicken farmers in Ehlanzeni District,	All poultry farmers are to be supported by the FPSUs of the District, however, the main FPSU to support poultry farmers should be located in Thaba Chweu LM (Mashishing and Blyde)	As proposed, the AH will be situated in Bushbuckrigde LM (Mkhuhlu)	The proposed location of the RUMC is in Mbombela, which is also the capital of the Province and the location for the Mpumalanga International Fresh Produce Market. This will be the only RUMC in the Province, in order to avoid duplication of resources.

Production Flow	SHF & LSH	FPSU	AH	RUMC
Human Resources	The core HR personnel that the SHF would require from the FPSU are: • Extension officers • Veternarians • Reseachers • Some permanent staff to manage day to day farm operations	The FPSU will provide the following HR/HR facilities; • Agricultural extension officier (2) / support office; • Machine operators (2) / Local mechanisation centre and workshops; • Poultry specialist/veternarian • Researchers (2) • Voluntary/Established commercial farmers to mentor the small scale farmers (*as many* as possible).	The AH will provide the following HR; • Administrative manager (2) • Quality control personnel (2) • Staffs to manage the processing facilities • Research and Demonstration personnel • Training personnel (1)	The RUMC will provide the following HR; • IT expert/personnel (1) • Administrative manager (1) • Training personnel • Marketing agents(to Facilate market linkages, facilitate contracts with wholesalers and major retail outlets and also to garther informatio on prices that would be communicated to the AH and FPSU).
Training	Small holder farmers would require training on: best farm practices, disease- and pest control health regulations, animal welfare, breeding- and feed management, use of tools and equipments, training on how to interpret market information and ICT. The extension officiers that are conversant with livestock farming are well posiitioned to	One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the SHF.	Some training would also be required at the hub e.g. • 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. • Training on abattoir health regulation	Training of training personnels on how to disseminate information to the SHF, AH and the FPSU.

Production Flow	SHF & LSH	FPSU	AH	RUMC
	render this type of training. Also, training can be provided by the well-established commercial chicken farmers through a mentorship programme. Extension officiers through the DAFF can also organise Agri-shows, where farmers can express their concerns, and where training can be provided.			
Key product/ activities	The core activity is the farming of chickens for the egg and meat market.	The core activities of the FPSU are: • Assisting farmers to transport chickens to AH (abattoir) as well as fresh eggs • Assist with disease and parasite control • Assist with feed management and ensuring complience with health regulations • Assist with disease- and pest control • Other veternary services	The core activities of the AH is to: • Slaughtering chickens • Package meat • Cold storage • Grade, clean and package eggs • Some retail	The core activities of the RUMC are: • Collection of final products from the AH • Maketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products

Production Flow	SHF & LSH	FPSU	AH	RUMC
Infrastructure/ Equipment	The smallholder farmers would require the following equipment: • Broiler houses • Feeders/drinkers • Infrared and white lamps • Scales	The FPSU would require to put in place the following equipments/ infrastructure: • Transport • Scales • Egg washer	The AH would require to put in place the following equipments/infrastructure: • Administrative facilities • Rental facilities • Abattoir facilities Packaging facilities • Quality control facilities • Agricultural input distribution and sales centre • Retail facility • Training centre • Student and staff housing • Logistics and transport facility	The RUMC would require to put in place the following equipments/ infrastructure: • Large warehouses/ holding facilities • Cold storage facilities • Administrative facilities/ information centre
Logistics	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 officies for the group heads.	The FPSU should organise primary logistics collection in terms of coldstorage/hen houses where trucks (bakkie/pick up vehicles) with trailers would pick up chickens and eggs from various farms and convey it to these storage facilities.	The same transport (especially the cold storage transport) will be used to collect fresh eggs and chickens from the FPSU to the AH for processing. Indictating that the transport facilities would serve multiple purposes.	

Production Flow	SHF & LSH	FPSU	AH	RUMC
Technology/ICT	In order to boost their production efficiency, the SHF would require: • Mordern equipmemt, • mobile devices for subscription to Apps. , to enble them receive information from the RUMC on weather forecast, disease control etc.	Tracking devices on all vehicles to prevent hijack and also to monitor the movements and locations of the drivers. 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 be able to strategically supply potatoes/ potato products to the markets. ****It should be noted the same transport facilitities would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.***	In order to remain conversant with the current prices fetched on the global, national and local market, so as to be able to strategically supply beef products to the markets, the RUMC would also require subscription to certain Apps from the RMUC. This will enable the AH to remain informed.	The RMUC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.

Catalytic Project

A catalytic project relating to local poultry farming is the development of a poultry abattoir for the slaughtering of chickens. Primary processing in terms of preparing cuts (fresh/frozen) for the local retail market can also take place. The abattoir should ideally be linked to the FPSU in Mashishing in Thaba Chweu LM.

11.4 Proposed Development Concept – Agroforestry

Agroforestry will focus on agroforestry and secondary processing of the forestry sector goods. Agroforestry will deal with the use of existing forests and plantations for the production of honey, mushrooms and medicinal plants. Agroforestry will also deal with the establishment of tree nurseries for indigenous trees and plantations saplings. The goods produced like honey, etc. will be distributed from the FPSUs to the AH. The tree nurseries will deal directly with plantation owners and markets for indigenous trees. The secondary processing of forestry sector goods will deal with adding value to primary processing goods, in this district the focus will be on furniture manufacturing, coffin making and charcoal manufacturing. These secondary processing of forestry sector goods will take place at the FPSUs. The finished products will then be transported to the AH for distribution to the markets.

TABLE 11.3: PROPOSED DEVELOPMENT CONCEPT – AGROFORESTRY

Production Flow	SHF	FPSU	AH	RUMC
Key Role & Function	The core role of the farmers would be to utilise existing commercial forestry plantations for the production of products such as honey, medicinal plants, mushrooms or truffles (niche market). A second function of farmers would to farm seedling trees to be used as inputs for the commercial forestry sector.	Input supplies (such as seed, bee boxes, protective clothing, etc.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs.	Some training, storage/warehousing facilities; logistics.	Market intelligence, assist farmers, and processors in managing a nexus of contracts and large warehousing.
Location	The majority of forestry activities occur in Umjindi LM (Barberton) as well as in Thaba Chweu LM	The main FPSU should be situated in the Sabie/Graskop area in Thaba Chweu LM and the second FPSU	As proposed, the AH will be situated in Bushbuckrigde LM (Mkhuhlu)	The proposed location of the RUMC is in Mbombela, which is also the capital of the Province

Production Flow	SHF	FPSU	AH	RUMC
	(Sabie/Graskop). Some forrestry also occurs in Mbombela around White River.	should be located in Umjindi LM (Barberton)		and the location for the Mpumalanga International Fresh Produce Market. This will be the only RUMC in the Province, in order to avoid duplication of resources.
Human Resources	The core HR personnel that the SHF would require from the FPSU are: • Extension officers • Reseachers • Some permanent staff to manage day to day farm operations	The FPSU will provide the following HR/HR facilities; • Agricultural extension officier (2) / support office; • Machine operators (2) / Local mechanisation centre and workshops; • Researchers (2) • Voluntary/Established commercial forestry entities to mentor the small scale farmers (*as many* as possible).	The AH will provide the following HR; • Administrative manager (2) • Quality control personnel (2) • Staffs to manage the processing facilities • Research and Demonstration personnel • Training personnel (1)	The RUMC will provide the following HR; • IT expert/personnel (1) • Administrative manager (1) • Training personnel • Marketing agents(to Facilate market linkages, facilitate contracts with wholesalers and major retail outlets and also to garther informatio on prices that would be communicated to the AH and FPSU).
Training	Small holder farmers would require training on: best farm practices, use of tools and equipments, training on how to	One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the SHF.	Some training would also be required at the hub e.g. • Training of processing staffs on how to handle and operate various	Training of training personnels on how to disseminate information to the SHF, AH and the FPSU.

Production Flow	SHF	FPSU	AH	RUMC
	interpret market information and ICT. Training can be provided by the well-established commercial forestry experts through a mentorship programme. Extension officiers through the DAFF can also organise Agri-shows, where farmers can express their concerns, and where training can be provided.		processing equipment. • Training on best practices, based on changing demand and supply. • Training on new innovations as they surface.	

Key product/ activities	Farming of:
	• Mushrooms
	• Honey
	• Medicial plants
	• Truffles (niche market)
	• Seedlings (for commerical forestry industry)
		The core activities of the FPSU are:
		• Transport services
		• Training
		• Secondary processing:
		  ○ Furniture manufacturing
		  ○ Charcoal (from waste of primary processing)
		Primary processing will occur at existing commercial sawmills
			The core activities of the AH in terms of agroforestry is to service as a transport/logistics hub.	The core activities of the RUMC are:
				• Maketing and distribution of final products to different wholesalers and major retail outlets
				• Exporting of final products

Infrastructure/ Equipment	The smallholder farmers would require the following equipment, some of which can be rented from the FPSU: • Bee boxes • Bee keeping tools (smokers,	The FPSU would require to put in place the following equipments/ infrastructure: • Transport • Charcoal manufacturing equipment	The AH would require to put in place the following equipments/infrastructure: • Administrative facilities • Rental facilities • Quality control facilities • Agricultural input distribution and	The RUMC would require to put in place the following equipments/ infrastructure: • Large warehouses/ holding facilities • Administrative facilities/

Production Flow	SHF	FPSU	AH	RUMC
	grips, hive tools, feeders, brushes, protective clothing • Harvesting tools	• Furniture manufacturing equipment • Honey making equipment (honey extractor, filters, strainers, containers, etc)	sales centre • Retail facility • Training centre • Student and staff housing • Logistics and transport facility	information centre
Logistics	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 officies for the group heads.	The FPSU should organise primary logistics collection where trucks (bakkie/pick up vehicles) with trailers would pick up medicinal plants, bee boxes etc. from various farms and convey it to these storage facilities. Sapplings can be collected and taken directly to commercial forrersters.	The same transport will be used to collect produce from the FPSU to the AH for processing. Indictating that the transport facilities would serve multiple purposes.	
Technology/ICT	In order to boost their production efficiency, the SHF would require: • Mordern equipmemt, • mobile devices for subscription to Apps. , to enble them receive information from the RUMC on weather forecast, disease control etc.	Tracking devices on all vehicles to prevent hijack and also to monitor the movements and locations of the drivers. 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 be	In order to remain conversant with the current prices fetched on the global, national and local market, so as to be able to strategically supply beef products to the markets, the RUMC would also require subscription to certain Apps from the RMUC. This will enable the AH to remain informed.	The RMUC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.

Production Flow	SHF	FPSU	AH	RUMC
		able to strategically supply potatoes/ potato products to the markets. ***It should be noted the same transport facilitities would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.***		

Catalytic Project

A catalytic project relating to local agroforestry is the development of a furniture incubator linked to the FPSU in Barberton (Umjindi LM). The furniture incubator will also provide skills development and assistance to local furniture manufacturers

11.5 Combined Proposed Development Concept for Ehlanzeni District

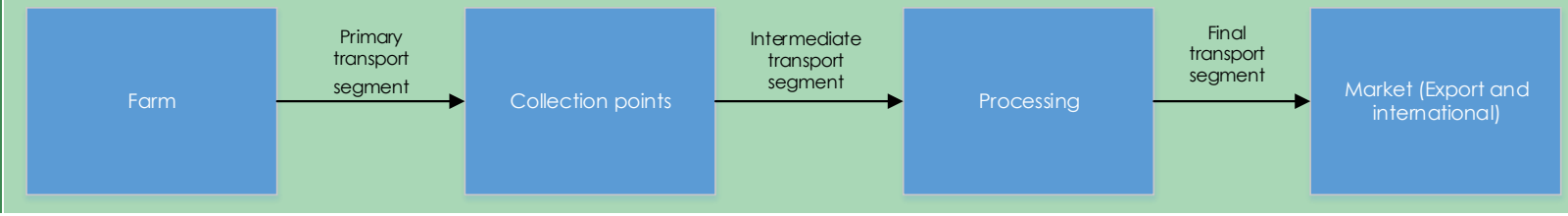
The development concept for vegetables will focus on the primary production of vegetables in the district. The produce will then be transported to the FPSU for further processing, collection and distribution to the hub. Some of the produce will be sold as fresh produce which will not need further processing, these products can go directly to the market, Mpumalanga IFPM or RUMC. Further processing can take place at the FPSU and/or the AH. Packaging and storage of products will take place at the AH, this includes cold storage.

TABLE 11.4: COMBINED PROPOSED DEVELOPMENT CONCEPT

Production Flow	SHF	FPSU	AH	RUMC
Key Role & Function	The key function of farmers is the production of chickens and vegetables be delivered to the FPSU.	The FPSU should provide support to farmers, not only with input supplies and equipment, but also with training and farming support as well as serving as an central location for collection of produce.	The AG should provide training, logistics, Agro-Processing, storage/warehousing facilities and packaging facilities	Market intelligence, assist farmers, and processors in managing a nexus of contracts and large warehousing.
Location	All farmers in the District involved in poultry farming, vegetable production as well as forestry. Vegetable production takes place mostly in Bushbuckridge LM, Mbombela LM and Nkomazi LM. Poultry farminig takes place mostly in Thaba Chweu LM while forestry is isolated in Thaba Chweu LM in the Sabie/Graskop areas, in Umjindi LM and around White River in Umindi LM.	Ideally, the Distict should have 17 FPSUs in order to support small scale and emerging farmers: • Bushbuckridge LM – Acornhoek, Casteel, Thulamahashe, Kildare, Bushbuckridge, Marite A and Hluvukani • Mbombela LM – Kabokweni • Nkomazi – Schoemansdal, Mandadeni, Komatipoort and Malelane • Thaba Chweu – Graskop, Sabie, Mashishing and Blyde • Umjindi – Barberton Therefore, at least 17 FPSUs will be distributed through-out the district. • All farmers will be supported by the FPSUs. • Farmers are encouraged to use FPSU's closest to the farm locations.	The Agri-Hub is situated in Bushbuckridge LM (Mkhuhlu)	The proposed location of the RUMC is in Mbombela, which is also the capital of the Province and the location for the Mpumalanga International Fresh Produce Market. This will be the only RUMC in the Province, in order to avoid duplication of resources.

Production Flow	SHF	FPSU	AH	RUMC
		• FPSU's will not be exclusive to one commodity but where possible services and infrastructure may be shared. • FPSUs will be centrally located where there is a concentration of farms.		
Human Resources	The core HR personnel that the farmers would require from the FPSU are: • Extension officers • Agronomist • Reseachers • Veternarian • Seasonal staffs (harvest labour) • Some permanent staff to manage day to day farm operations.	The FPSU will provide the following HR/HR facilities; • Agricultural extension officier (2) / support office; • Machine operators (2) / Local mechanisation centre and workshops; • Agronomist (for soil testing e.t.c.) (2) • Veternarian/ livestock specialist • Researchers (2) • Voluntary/Established commercial farmers to mentor the small scale farmers (*as many* as possible).	The AH will provide the following HR; • Administrative manager (2) • Quality control personnel (2) • Staffs to manage the Agro-Processing facilities • Research and Demonstration personnel • Training personnel (1) • Staff for the abbatoir	The RUMC will provide the following HR; • IT expert/personnel (1) • Administrative manager (1) • Training personnel • Marketing agents (to Facilate market linkages, facilitate contracts with wholesalers and major retail outlets and also to garther informatio on prices at fresh produce market that would be communicated to the AH and FPSU).
Training	Small holder farmers would require training on: animal welfare, best farm practices, use of tools and equipments, training on how to interpret market information and ICT.	One of the key function of the FPSU would be to provide training and extension support on various farm practices, to the SHF.	Some training would also be required at the hub e.g. • Training of processing staffs on how to handle and operate various processing equipment. • Training on best practices, based on changing demand and supply.	Training of training personnels on how to disseminate information to the SHF, AH and the FPSU.

Production Flow	SHF	FPSU	AH	RUMC
			• Training on new innovations as they surface. • Training and animal welfare and food safety	
Key product/ activities	The farmers should perform all necessary farming activities in order to deliver good quality maize, carrots, potatoes and cabages to the FPSU which will be suitable for processing and retail. Livestock farmers should be able to manage herds to deliver disease free and healthy cattle which ware suitable for the meat market.	The core activities of the FPSU are: • Collection of produce from farmers • Quality control • Weighing, sampling, testing, sorting and cleaning of maize and vegetables • Assisting with disease and pest control • Transporting produce and cattle to the AH	The core activities of the AH are: • Receiving of produce from FPSU • Quality control; • Processing of vegetables and maize • Slaughtering cattle and packaging meat • Storage of products ; • Some marketing; • Transportion of products to the RUMC.	The core activities of the RUMC are: • Collection of final products from the AH • Maketing and distribution of final products to different wholesalers and major retail outlets • Exporting of final products • Bulk storage of final products
Infrastructure/ Equipment	Equipment required by farmers which can be hired by the FPSU include: • Tractors • Transport equipment • Handling equipment • Tilling equipment • Planters and seeders • Fertiliser/lime spreader • Mist sprayer	Equipment at the FPSU includes all the equipment needed by the farmers, as well as: • Sorters • Packhouse feeding line • Washer • Crates The infrastructre at the FPSU includes: • Cold storage • Mechanisation centre and workshop • Retail facility	Infrastructure required at the AH includes: • Offices • Training facility • Warehouse and processing facilities • Cold storage • Agricultural input distribution and sales centre	The RUMC would require to put in place the following equipments/infrastructure: • Large warehouses/ holding facilities/ cold storage • Administrative facilities/ information centre

Production Flow	SHF	FPSU	AH	RUMC
	• Chicken crates • Broiler houses • Silos/feed storage • Chain saws • Logger	• Auction facility • Training facility • Office		
Logistics	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. **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: 			

Production Flow	SHF	FPSU	AH	RUMC
	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.			
Technology/ICT	In order to boost their production efficiency, the SHF would require: • Mordern tools, • mobile devices for subscription to Apps. , to enble them receive information from the RUMC on weather forecast, disease control e.t.c.	Tracking devices on all vehicles to prevent hijack and also to monitor the movements and locations of the drivers. 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 be able to strategically supply maize/ maize products to the markets. ****It should be noted the same transport facilitities would be used to service all the basic units of the Agri-Park, therefore, all the Transportation facilities would have these tracking devices.***	In order to remain conversant with the current prices fetched on the global, national and local market, so as to be able to strategically supply vegetables/ vegetable products to the markets, the RUMC would also require subscription to certain Apps from the RMUC. This will enable the AH to remain informed.	The RMUC will provide Information Data base that all the various basic units of the Agri-Park can subscribe to.
Possible Economic Benefit	Not only will the Agri-Parks project contribute to overall economic growth and formal employment in different sectors, but it will also contribute to local skills development, temporary employment during the construction phases and local exports. In Ehlanzeni DM, nearly 16,000 hectares are targeted through the Agri-Parks programme of which 6,500 hectares are commercial farms. The programme will provide assistance to 2,700 small holder farmers. Should the Agri-Park programme be successfully and sustainable implemented with all targets reached, between 5,000 and 8,000 employment opportunities can be created on targeted small holder farms[1]. Along with the increase of employment on local farms, the components of Agri-Park, namely the FPSUs and the Agri-Hub will also create significant employment opportunities depending on the success of the implementation of the Agri-Parks Model			

[1] *Based on estimates from Mpumalanga DARDLEA, 2015/2016*

11.6 Farmer Production Support Units

As indicated in the agri-park development concept, there will be a number of Farmer Production Support Units (FPSU) in the District. Table 11.5 illustrates the location, main commodities in the area as well as the priority of the FPSU. Due to the number of FPSUs in the District they need to be prioritised and implemented over 10 years to accommodate budget and resource restrictions.

TABLE 11.5: FARMER PRODUCTION SUPPORT UNITS (PRIORITISATION)

Municipality	Location of FPSU	Main Commodities	Priority
Bushbuckridge LM	Acornhoek	• Vegetables • Poultry	Phase 1
	Casteel		Phase 3
	Thulamahashe		Phase 2
	Kildare		Phase 5
	Bushbuckridge		Phase 4
	Marite-A		Phase 5
	Hluvukani		Phase 3
Nkomazi LM	Schoemansdal	• Vegetables • Poultry • Sugarcane • Fruit	Phase 2
	Mandadeni		Phase 1
	Komatipoort		Phase 5
	Malalane		Phase 3
Thaba Chweu LM	Mashishing	• Vegetables • Poultry	Phase 2
	Ohrigstad		Phase 3
	Sabie	• Vegetables • Agroforestry	Phase 1
	Graskop	• Vegetables • Agroforestry	Phase 3
Mbombela LM	Kabokweni	• Vegetabels • Poultry • Fruit	Phase 2
Umjindi LM	Barberton	• Vegetables • Agroforestry	Phase 3

It is estimates that phase 1 of implementation should focus on FPSU with the highest priority with regards to locations of existing emerging and small scale farmers. Phase 1 should be implemented within the first three financial years while phase 2 needs to be implemented next 4 financial years. Phase 3 and 5 needs to be implemented over the next 10 years as the budget allows.

11.7 High-level Costing (CAPEX)

The Tables below indicates the capital needed for the Farmer Production Support Units, the Agri-Hub as well as for the Rural Urban Market Centre. Annexure A contains more detail regarding the specific capital requirements for each unit of the Agri-Park Model.

TABLE 11.6: CAPEX BREAKDOWN

Unit	Category	Amount (R)	Total (R)
FPSU (Average for each FPSU)	Consolidation/Collection Point	1 844 940.00	**18 684 754**
	Buildings	2 711 340.00	
	Infrastructure	4 222 450.00	
	Equipment – Vegetables	6 665 399.00	
	Equipment – Poultry	2 954 849.00	
	Equipment – Agroforestry	285 776.00	
Agri-Hub	Buildings	23 536 800.00	**78 209 550.00**
	Infrastructure	17 672 750.00	
	Transport Vehicles	5 000 000.00	
	Equipment – Vegetables	5 000 000.00	
	Equipment – Poultry	12 000 000.00	
	Equipment – Agroforestry	15 000 000.00	

The average capital requirement for one FPSU is R18.7 (Table 11.6). Not every FPSU will have the same capital requirement due to different equipment needs which is largely dependent on the local agricultural needs

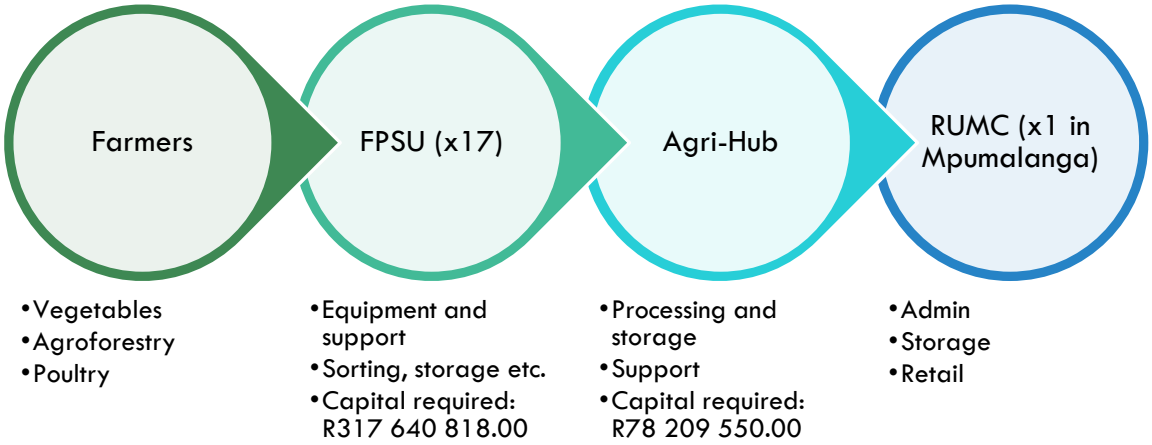
TABLE 11.7: CAPEX – TOTAL

Unit	Quantity	Amount (R)
FPSU	17	317 640 818.00
Agri-Hub	1	78 209 550.00
Total		**395 850 368.00**

11.8 Conclusion

The Diagram below provides a brief summary of the proposed development concept for the Agri-Park in Ehlanzeni as well as the capital requirements for each component of the model. In order to have a successful Agri-Park in Ehlanzeni District it is important that all participating farmers receive the necessary training, support and equipment to enable them to provide good quality and sufficient amounts of produce to sustain all processing activities.

DIAGRAM 11.1: PROPOSED DEVELOPMENT CONCEPT SUMMARY

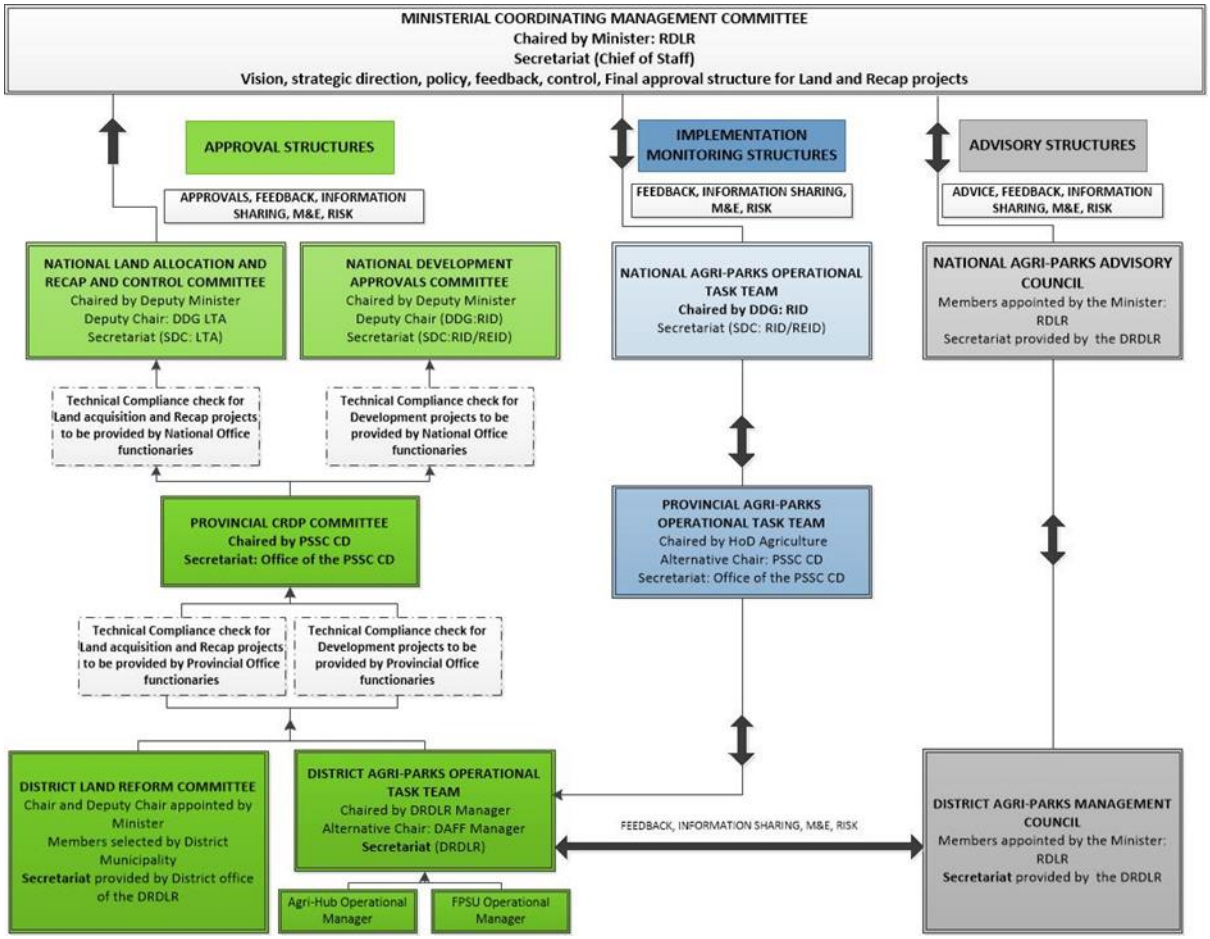


12 Organisational Structure

12.1 Introduction

The organizational structure for the Agri-Park in Ehlanzeni DM can be summarised in the Diagram below.

DIAGRAM 12.1: AGRI-PARK ORGANISATIONAL STRUCTURE



The organizational structure for the Agri-Park can be subdivided into three broad categories:

1. Advisory Structures
2. Approval Structures
3. Implementation and Monitoring Structures

Each of the abovementioned structures will be discusses in detail in this section.

12.2 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 parties.

12.2.1 The 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 Ehlanzeni DM.

12.2.2 The DAMC

The District Agri-Parks Management Council, also referred to as the "voice" of the stakeholders/interested parties in Agri-Parks. The DAMC, like the NAAC consist of representatives from various organisations. The DAMC's 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.

12.3 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.

12.3.1 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.

The Agri-Hub Operational Manager

The main function of the Agri-Hub Operational Manager is to oversee the implementation of the Agri-Hub. Such person is to be appointed at the district level and should report directly to the district operational task team.

The FPSU Operational Manager

The main function of the FPSU Operational Manager is to oversee the implementation of the FPSU. Such person is to be appointed at the district level and should report directly to the district operational task team.

12.3.2 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.

12.3.3 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.

12.3.4 The 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.

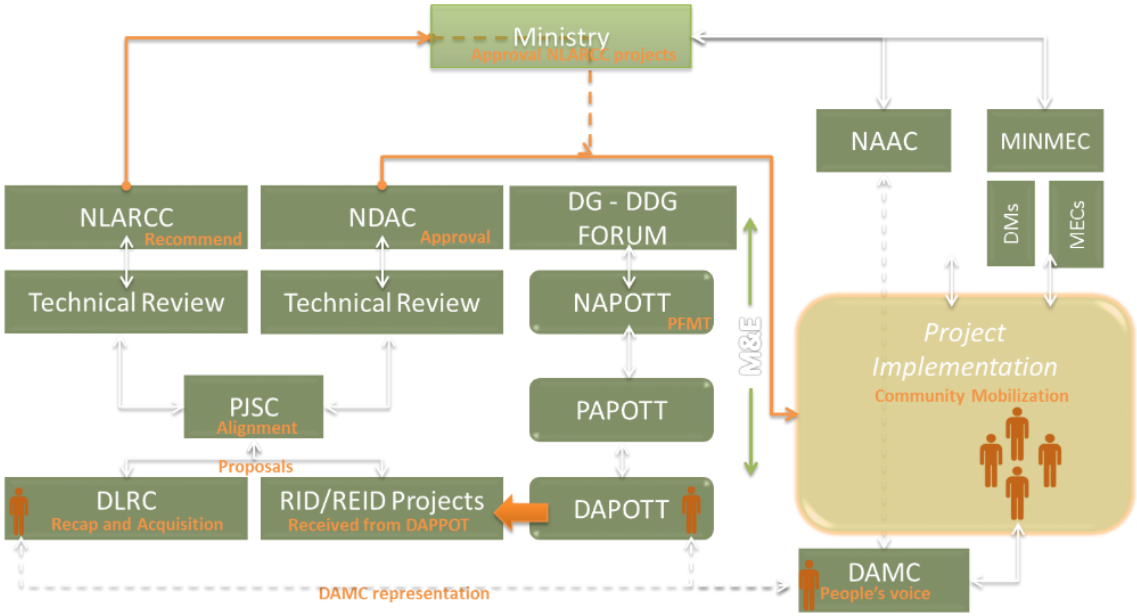
12.3.5 The NDAC

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.

12.4 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.

DIAGRAM 12.2: ORGANISATIONAL STRUCTURE – IMPLEMENTATION AND MONITORING



12.4.1 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.

12.4.2 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.

13 Implementation Guidelines

13.1 Introduction

The following **implementation guidelines** provide an overview of what should be achieved in order to successfully implement the Agri-Parks programme within the Ehlanzeni District. 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 the Agri-Park in the form of a roll-out plan.

This final Section lays out the implementation guidelines and planning required to implement the Agri-Parks programme within the Ehlanzeni District, starting with the implementation process.

13.2 Implementation Process

The Table below provides an overview of the whole implementation process of the Agri-Park Model within South Africa.

TABLE 13.1: IMPLEMENTATION PROCESS

Step		Description
1.	**Agri-Park Model**	The Department of Rural Development and Land (DRDLR) reform developed the Agri-Park model in the first step.
2.	**Selection of the 44 District Municipalities**	The DRDL proceeded to select the 44 Districts across South Africa in which the model will be implemented over the next 10 years.
3.	**Agri-Hub location selection**	The locations of each Hub was selected based on a set of criteria. The location for the Ehlanzeni District Agri-Hub will be in Mkhuhlu in Bushbuckridge Local Municipality.
4	**Master Agri-Park Business Plan**	A master Agri-Park business plan was developed for each of the 44 Districts.
5.	**Governance**	Strategies bodes and plans will be formed including the definition of ownership and management structures.
6.	**Funding model**	A financial gearing plan will be developed for each Agri-Park.

Step		Description
7.	**Technical planning**	The technical aspects of the Agri-Park will entail planning, mainly, the physical construction of the Agri-Park along with related infrastructure and technologies.
8.	**Detailed business plans**	The different units of the Agri-Park (FPSU, AH and the RUMC) as well as the farmers will have specific detailed business plans developed.
9.	**Financial close**	Funding will be sourced from various financial institutions, depending on the funding model.
10.	**Construction**	The construction of the Agri-Park's units and other related infrastructure will start.
11.	**Farmer production**	FPSUs will be sup-up and run in order to make assistance available for farmers to start production through the Agri-Park
12.	**Training programmes roll-out**	Training programmes will commence through the FPSUs.
13.	**Agro-processing**	Once primary production has taken place, and products are ready, agro-processing activities will commence through the Agri-Park's AH.
14.	**Market**	Completed products will be distributed and sold to relevant markets through assistance of the RUMC.

In order to avoid duplication of existing government programmes, it is necessary that the identified steps in the Table above are aligned to current programmes and projects, which is discussed in the following sub-section.

13.3 Alignment with Government Programmes

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. **Error! Reference source not found.**sumamrises various rogrammes/projects/campaigns that are currently under progress, their description and how Agri-Parks can potentially align.

TABLE 13.2: GOVERNMENT PROGRAMMES, PROJECTS AND CAMPAIGNS

Programme/Project/ Campaign	Description	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	✓ 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.

Programme/Project/ Campaign	Description	Alignment
	sustainable development with expansion of the existing businesses, rehabilitation of agricultural business that are performing poorly and expanded entry for new businesses in the sector. AgriBEE also encourages partnerships between established agricultural enterprises and emerging farmers and entrepreneurs.	✓ Integration of the value chain will create partnerships and linkages that will be mutually beneficial for all stakeholder involved and enhance the competitiveness of the Agri-Park. ✓ Stakeholder engagement is required to encourage partnerships that are beneficial from farmers to markets.
Comprehensive Agricultural Support Programme (CASP)	The programme provides agricultural support to land and agrarian reform projects, which contributes towards food security, job creation and poverty alleviation. 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: • Agricultural finance lending • Co-operatives establishment • Access to markets • Value chain development • Improvement policies • Production guidelines • Agro-logistics planning • Early warning climate systems	✓ 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 (IFSNP)	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	✓ 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.

Programme/Project/ Campaign	Description	Alignment
	result 10% of the total CASP budget will also be aligned to projects that contribute directly towards food security (DAFF, 2016).	
Research and Development (R&D)	The programme encourages research and development within the realm of agriculture and involves all stakeholders within the national agricultural research system.	✓ 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)	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. The programme builds on lessons that have been learnt from previous land reform projects, reviews, the Land Summit and implementation reforms.	✓ The Agri-Park forms part of the market for farmers and will therefore encourage production. ✓ Models are to be developed to distribute state own land and ensure land tenure is in place for producers. ✓ Access to the market through the Agri-Park will further encourage land that was previously not in production to produce.
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,	✓ Access to the market through the Agri-Park will further encourage land that was previously not in production to produce. ✓ The Agri-Park is to encourage the sustainable use of land and resources.

Programme/Project/ Campaign	Description	Alignment
	livestock grazing and harvesting of natural resources in order to limit land degradation.	
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.	✓ The Agri-Park will manage and encourage smallholder production, a primary objective of the Agri-park. ✓ Logistics and management plans are key to the success of integration of smallholder farmers.
Rural Development Programmes		
Comprehensive Rural Development Programme (CRDP)	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. The overarching objective of the CRDP is social cohesion and integrated development through participatory approaches and partnerships with all sectors of society.	✓ 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, integration and participation from all stakeholders.
National Rural Youth Service Corps programme (Narysec)	Narysec is a youth skills development and employment programme that also forms part of the CRDP. 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.	✓ The Agri-Parks programme will encourage youth to participate in agriculture by creating viable and attractive agricultural enterprises.
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.	✓ 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.

Programme/Project/ Campaign	Description	Alignment
GDARD Agri-Hubs Development	The GDARD seeks to develop Agri-Hubs that will result in the growth of the local agricultural sector through integrated agricultural value chains.	✓ Similarities in the programmes are complementary and will align accordingly.

13.4 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 following list of recommendations has been developed and should be considered for the development of the Agri-Park in the Ehlanzeni District.

TABLE 13.3: RECOMMENDATIONS

Concept	Recommendations
Infrastructure	✓ Where necessary, roads should be upgraded or developed, especially in rural areas, in order to provide ease of access to transport vehicles who have to distribute inputs and produce between the various components of the Agri-Park model (farmers, FPSU, AH and RUMC). ✓ Ehlanzeni District already has appropriate existing infrastructure, although these are in need of repair. Existing infrastructure should be revitalised so that they can be used in support of the Agri-Park.
Natural Resources	✓ Water is a scarce resource and necessary for agriculture. Water management systems should be put in place so that water can be sustainably used within the Agri-Park. Distribution and water allocation plans should be developed and irrigation schemes implemented in the major production areas, while maximising the use of existing infrastructures. ✓ Rain harvesting by means of Jojo tanks can assist smallholder farms with water available, especially in dryer areas ✓ It is critical for long term agricultural development that all natural resources, including soil, be managed sustainably. Farmers should be assisted with crop- and livestock management in order to minimise effects such as overgrazing or erosion
Agri-Parks commodities	✓ The Agri-Park should implement Best Practices in production in order to produce quality products that that meet international standards. This means that all produce should be handled hygienically and safely (in order to keep to Health and Safety regulations) and that all packaging and labelling comply with internal standards. These are all factors that will contribute to enhancing the products' suitability for the export market.

Concept	Recommendations
	✓ As part of the long term expansion plans for the Agri-Park, processing facilities should be developed beyond that of the three identified commodities in order to promote value chain development of other crops and livestock within the District. In order to diversify production and spread risk, the Agri-Park should not be limited to only the production of vegetables, poultry and agroforestry products.
Technology	✓ In order for farmers to make proper use for technological tools available such as mobile apps, it is necessary to ensure that telecommunication services be upgraded, such as the erection of cell towers, especially in rural areas ✓ It is also recommended that any ICT to be introduced to farmers will be user friendly and easy to use by farmers, as some do not have high levels of education
Training	✓ Create partnerships with existing research institutions, as well as the University of Mpumalanga, especially at an FPSU and Agri-Hub level, who will be able to facilitate training programmes. Such partnership will assist in developing the necessary human capital. ✓ Create partnerships with local commercial farmers who can act as mentors to small and emerging farmers in order to assist with production and other skills development ✓ Practical manuals and information packages should be developed for the smallholder 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. ✓ Training should be geared to agribusiness development ✓ Food safety training, occupational health training, animal welfare training etc. is also essential in developing human capital as well as the functioning of the Agri-Park.
Agri-Park Units	✓ The RUMC should be should be strategically located to be close to the Kruger Mpumalanga International Airport as well as the Mpumalanga International Fresh Produce Market in order to take advantage of potential export opportunities. There should be further investigation in order to identify the ideal site for the RUMC ✓ The various FPSUs should be located in productive farm areas that have a potential for primary production. FPSUs should be developed in accordance to the Ehlanzeni Rural Development Strategy. ✓ In order to streamline logistics between the different units, it will be beneficial to develop an inventory map that indicates the locations of all the farmers earmarked for production within the Agri-Park. The production areas should all be grouped into zones and FPSUs be located within these zones.

Concept	Recommendations
	✓ Each entity within the Agri-Park (FPSU, AH and RUMC as well as the farmers) should have a separate business plan detailing operations, roles and responsibilities of each respective entity within the Agri-Park.
Logistics	✓ In order to promote ease of access to markets, a comprehensive logistics plan needs to be developed which investigates the various methods of moving produce from the farm to the final market. ✓ Smallholder farmers with small production capacities should be encouraged to work in joint ventures in order to participate in supplying the Agri-Park. ✓ The District Agri-Parks Councils 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.
Policies	✓ In order to facilitate a fully integrated Agri-Parks programme, policies should be set in place to promote partnerships between the different Districts as well as cross-border relationships. These policies will be necessary if Districts needs to share infrastructure or resources. ✓ 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 ✓ Monitoring and evaluation is essential; it is thus necessary to develop a strategic plan that can be used to monitor the development of the Agri-Park
Funding/investment	✓ Creating incentives and funding mechanisms will assist to encourage local investment and attract foreign investment. Attracting investment is essential for the development and implementation of the Agri-Park.
Integrated development	✓ Tourism contributes significantly to the local economy of Ehlanzeni. Agri-tourism opportunities should thus be developed; this can be done through farm activities and tours or tours through processing facilities.
Market	✓ District should form partnership with some of the existing main players in the various industries to enable them penetrate local and international market. The management of the Agri-Park, or RUMC must be responsible for linking the farmers to the market. The RUMC must play a role as the representative body for all farmers participating in the Agri-Parks programme and assist the farmer in access to the market. ✓ Partnerships should be established with commercial and semi-commercial farmers. Commercial and semi-commercial farmers often have a track record and understand the requirements of the market. As such, smallholder and emerging farmer would be able to piggy back on the more established farmers in order to gain the required skills needed to access the market.

Concept	Recommendations
Incentive programme	✓ Develop incentive programmes that will attract the youth and woman into a career in agri-business and farming, for example, by means of scholarships. ✓ Participating farmers should be provided incentives in order to encourage them to create sustainable farms that will be able to deliver good quality produce. It is essential for the success of the agro-processing facilities that there is a steady income of good quality produce.

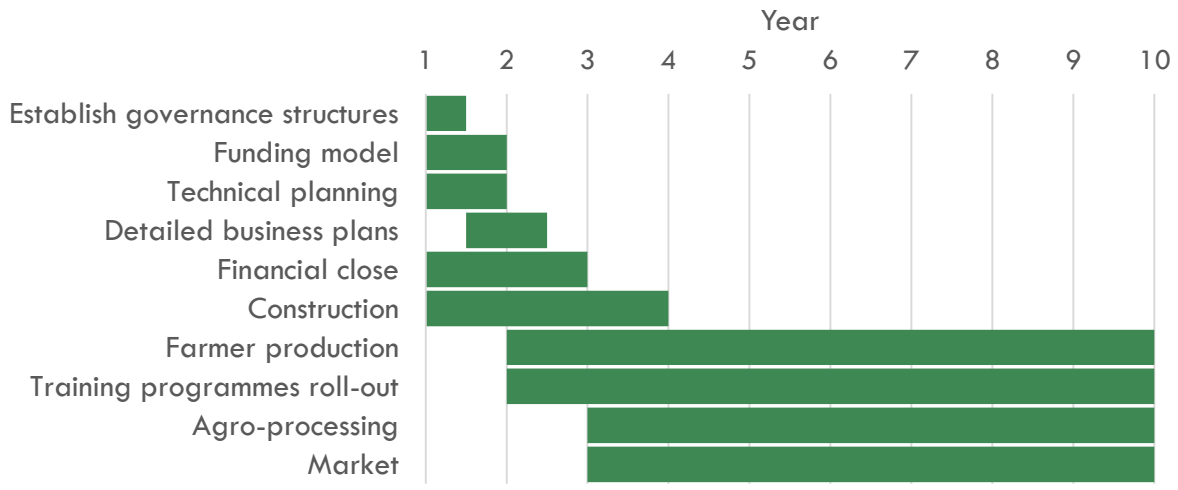
13.5 Roll-out Plan

Implementation is a crucial element in any strategy and needs to be adhered to realistic timeframes and role-players. This subsection focusses on the implementation actions for the elements as discussed within this document. The implementation plan is structured in a way that it follows a phased approach in order to prioritise the necessary actions that will help in facilitating an enabling environment for the establishment of the Agri-businesses within the Agri-Park.

The best approach for the Agri-Park formulation is in a phased manner, this implies that there are short, medium and long term actions that need to be implemented in order to bring the Agri-Park from identification to implementation. These actions or goals are structured in accordance with the theoretical foundations to the formation stages of a park. These stages are illustrated in the below and show the actions to be taken over the project duration. The main implementation actions associated with each term will be discussed with their details thereafter.

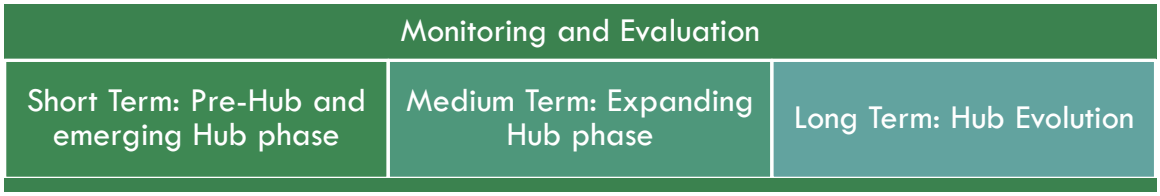
The roll out plan is illustrated below – indicates a step-by-step plan that should be followed.

FIGURE 13.1: ROLL OUT PLAN



The implementation of the Agri-Park should be done through a phased approach as seen in the Diagram below.

DIAGRAM 13.1: AGRI-PARKS PHASE IMPLEMENTATION APPROACH



The Table below indicates some the activities that should be done in each phase of development.

TABLE 13.4: DEVELOPMENT ACTIVITIES

Short Term	Medium Term	Long Term
Pre-Hub Formation: ✓ Creation of AH forum ✓ Approval and adoption of Agri-Parks Master Plan ✓ Develop necessary policy an strategic frameworks for the implementation and development of the Agri-Park ✓ Identify participating farmers ✓ Develop site layout, detailed architectural- and engineering plans for infrastructure requirements ✓ Stakeholder engagement **Emerging Hub Phase:** ✓ Start companies and trusts for the relevant agri-businesses ✓ Appoint necessary service providers ✓ Identify training needs and appoint service providers to provide training ✓ Provide farmers with required infrastructure ✓ Identify and establish contracts with farmers who will act as	**Operation Phase of Hub:** ✓ Identify spin off opportunities in the local communities ✓ Expand role of FPSUs in order to widen the scope and influence of agro-processing facilities ✓ Provide additional training in business management to entrepreneurs and SMMEs ✓ Expand and solidify markets ✓ Expand emerging farmers' capacity to produce ✓ Upgrading and expansion of infrastructure and facilities	**Agri-Hub Evolution:** ✓ Expand strategic approaches and address potential challenges across value chain ✓ Further solidify markets/market assessments to facilitate expansion of new markets ✓ Diversifying products ✓ Identify forward and backward linkages ✓ Decrease the involvement and duties of the DRDLR within the Hub ✓ Expand agro-businesses and suppliers list ✓ Identify and promote agglomeration opportunities locally and with other Hubs nationally

Short Term	Medium Term	Long Term
suppliers (commercial and emerging) ✓ Identify private investment opportunities ✓ Identify markets and develop marketing strategies		

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Annexure A: Detailed Cost Breakdown

This Annexure provides more detail to the CAPEX as described in Section 11.6

TABLE 1: CAPEX – FPSU

Category	Amount (R)
Consolidation/Collection Point	**1 844 940.00**
Cold Storage	*733 850.00*
Warehouse + Office	*391 360.00*
Fencing	*529 500.00*
Parking	*24 480.00*
Electricity connection	*37 750.00*
Bulk water connection	*65 000.00*
Buildings	**2 711 340.00**
Agriculture extension and support office	*155 820.00*
Mechanization centre and workshop	*175 000.00*
Warehouse facility	*489 200.00*
Cold storage	*1 174 160.00*
Retail	*271 800.00*
Auction facility	*87 500.00*
Agri-tourism facility	*122 300.00*
Training facility	*235 560.00*
Infrastructure	**4 222 450.00**
Bulk water connection	*65 000.00*
Electricity connection	*37 750.00*
Road	*3 500 000.00*
Fencing + installation	*592 500.00*
Parking	*27 200.00*
Equipment –Vegetables*	**6 665 399.00**
Farm vehicles	*1 312 301.00*
Transport vehicles	*3 205 400.00*
Implements	*1 612 253.00*
Processing equipment	*535 445.00*
Equipment – Poultry*	**2 954 850.00**
Transport vehicles	*2 739 024.00*
Implements	*80 000.00*
Processing equipment	*14 326.00*
Broiler Houses	*41 500.00*
Silos – Feed Storage	*80 000.00*

Category	Amount (R)
Equipment – Agroforestry*	**285 776.00**
Farm vehicles	*145 811.00*
Transport vehicles	*132 906.00*
Processing equipment	*7 089.00*
Total	**18 684 754.00**

*Average

TABLE 3: CAPEX – AGRI-HUB

Category	Amount (R)
Buildings	**23 536 800.00**
Offices, ablutions, etc.	*3 684 000.00*
Training facility	*3 926 000.00*
Warehouse + processing facility	*7 338 000.00*
Retail	*2 718 000.00*
Cold storage	*5 870 800.00*
Infrastructure	**17 672 750.00**
Water bulk connection	*65 000.00*
Electricity connection	*188 750.00*
Road	*7 000 000.00*
Fencing + installation	*9 875 000.00*
Parking	*544 000.00*
Transport Vehicles	**5 000 000.00**
Equipment – Poultry	**12 000 000.00**
Equipment – Vegetables	**5 000 000.00**
Equipment – Agroforestry	**15 000 000.00**
Total	**78 209 550.00**

TABLE 4: CAPEX – RUMC

Category	Amount (R)
Buildings	**4 584 210.00**
Offices, ablutions, etc.	*779 100.00*
Warehouse	*733 800.00*
Retail	*869 760.00*
Cold storage	*2 201 550.00*
Infrastructure	**4 785 100.00**
Water bulk connection	*65 000.00*
Electricity connection	*151 000.00*
Road	*3 500 000.00*
Fencing + installation	*987 500.00*
Parking	*81 600.00*

Category	Amount (R)
Equipment	**5 080 000.00**
Information technology	*200 000.00*
Internet connectivity	*190 000.00*
Software solutions	*890 000.00*
Furniture and fittings	*3 800 000.00*
Total	**14 449 310.00**