LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
AGRICULTURE AND RURAL DEVELOPMENT

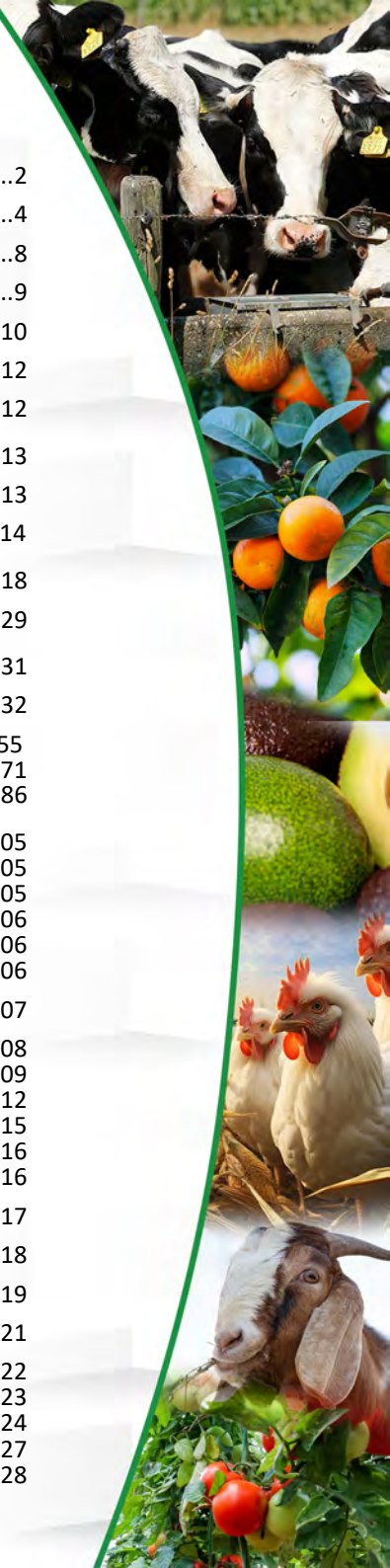


RAAVC PLAN



The heartland of southern Africa - development is about people!

Contents



Acronyms

4IR –	Fourth Industrial Revolution
AHU–	Agri-Hub Unit
CASP –	Comprehensive Agricultural Support Programme
CGA –	Citrus Growers'association
CPA –	Communal Property Association
DALRRD –	Department Of Agriculture, Land Reform And Rural Development
DBSA –	Development Bank Of Southern Africa
DFI –	Development Finance Institute
DWS –	Department Of Water And Sanitation
FAO –	Food And Agriculture Organization
FPSU –	Farmer Production Support Unit
GAP –	General Agricultural Practice
GDP –	Gross Domestic Product
GRASP –	Gravelotte, Seloane & Priska (Cluster Project)
ICT–	Information and Communication Technology
IPAP –	Industrial Policy Action Plan
IDC –	Industrial Development Corporation
LDARD –	Limpopo Department Of Agriculture And Rural Development
LDP –	Limpopo Development Plan
LEDA –	Limpopo Economic Development Agency
LEGDP –	Limpopo Economic Growth Development Plan
LIMP –	Limpopo Industrial Master Plan
LP–	Limpopo Province
LRAD –	Land Redistribution for Agricultural Development
LTGA –	Limpopo Tomatoes Growers Association

NDP –	National Development Plan
NFPM –	National Fresh Produce Market
PLAS –	Proactive Land Acquisition Strategy
RAAVC –	Revitalization of Agriculture And Agro-Processing Value Chain
RUMC –	Rural Urban Market Centres
SAPPO –	South African Pork Producers' Association
SLAG –	Settlement and Land Acquisition Grant
SOE –	State Owned Enterprises
WAR –	Water Allocation Reform
WCA –	Water Catchment Area
WMA –	Water Management Area

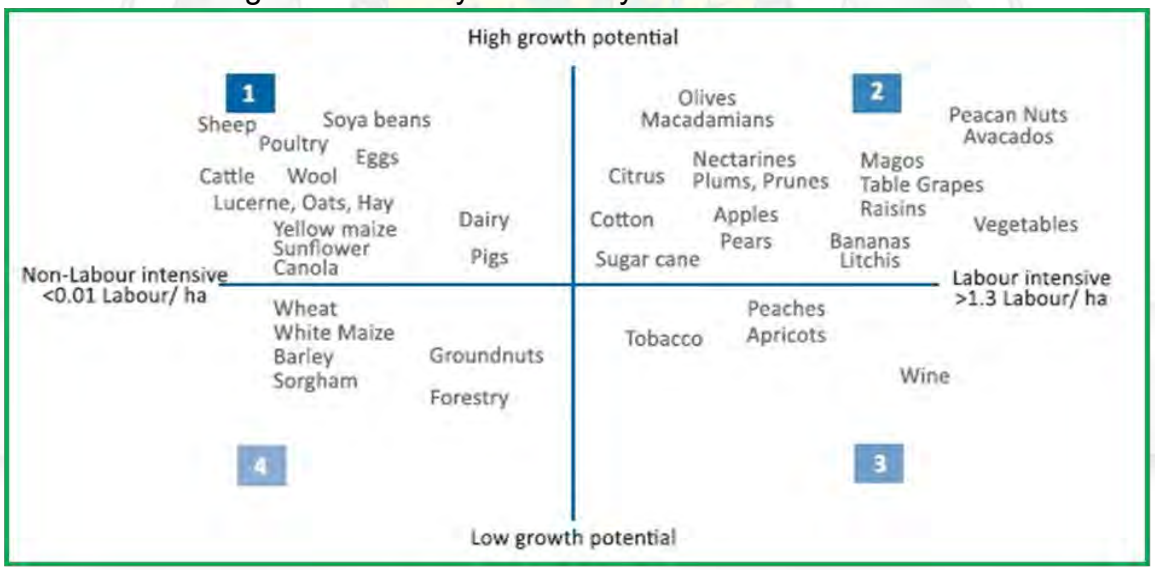
1. Executive Summary

The significance of the agricultural sector as one of the economic sectors has demonstrated potential for growth and ability to provide labour intensive growth as has been widely expressed and documented. The agricultural sector has the potential to contribute to the realization of inclusive and labour-intensive economic growth as espoused by the National Development Plan (NDP). The NDP postulates certain agricultural commodities and their subsectors as growth stimulants for the sector, and with higher labour absorption rate, where expansion in production and further value addition could be sustainable in the long term. Expansion and sustainability are not only driven by high levels of production, they must also be supported by high market demand, especially to boost foreign exchange income earnings. Limpopo Province (LP) has a strong dominance of such identified commodities.

Agricultural sector has potential to play pivotal role to build and accelerate a sustainable, equitable and inclusive economic growth through forward and backward linkages within the value chain. Unfortunately, primary agriculture alone is no longer able to provide a reliable livelihood for the growing populations of our province. Multiplier effect and inter-sectoral linkages of the sector have potential to boost employment creation through agro industrialization in the province.

The figure below illustrates priority sub sectors identified in the NDP.

Figure1: NDP key commodity and subsector focus



Source: NDP (2012)

Limpopo agriculture has demonstrated its comparative advantages in several of the above stated sub-sectors, which include fruit, vegetables, nuts, and industrial crops such as cotton and oilseeds.

However, agricultural industrial clusters of these commodities are still dominated by primary production. Despite leading in some of these commodities, current levels of primary agricultural output are insufficient to provide inputs into a large scale and thriving food processing industry. It has become evident therefore that the revitalization of primary production and expansion thereof must be prioritised to increase the supply of Limpopo strategic commodities along the value chain, thereby contributing to job creation, food security and foreign exchange income earnings.

The potential of the agricultural sector was further amplified by its growth resilience in 2020 in terms of good performance across sub-sectors, from impressive performance of horticulture, led by citrus, the recovery in the livestock industry due to good grain harvest.

The Limpopo RAAVC plan was developed in response to a need for the maximization of primary agricultural production which should also support agro-processing expansion and contribute to the provincial industrialization plan as espoused by the Limpopo Development Plan (LDP) 2020/25. The LDP notes several opportunities identified in the agricultural sector, which include inter alia:

Much potential for beneficiation/manufacturing and development of value chains with the advent of the fourth industrial revolution (4IR), the agricultural sector stands a better chance to significantly benefit from the adoption of the 4IR. The impact is for both on primary agriculture and agro-processing, with technologies such as smart information and communication technology (ICT)-based agriculture, and robots already emerging in agriculture in developed countries.

Limpopo Provincial Government adopted the Provincial Agro-processing Strategy in 2012. The purpose was to enhance agro-processing capabilities of the province in order to address economic development challenges. The strategy was to create sustainable job opportunities in the medium to long term as espoused in by IPAP2 and Limpopo Economic Growth Development Plan. However, implementation capacity within government, compounded by lack of integration between government plans and that of the private sector.

In 2015, Government adopted the 9-point plan to stimulate economic growth and employment creation and agriculture and agro-processing was identified as one of economic pillars in Limpopo province that can contribute to the provincial industrialization plan. On average, the province contributes about 7% of national employment in food and beverages, its largest manufacturing.

In the same year (2015), the State President, Mr JG Zuma pronounced in the State of Nation Adress the establishment of Agri-parks, as one of the programmes of the Government‘s 9-point plan to grow the economy and create jobs. The President further pronounced on Agri-parks funding of R2 billion allocated to

the former Department of Rural Development and Land Reform (DRDLR). The implementation of the Agri-parks programme has been located at DRDLR with Provincial Departments of Agriculture been charged with the coordination of plans from District Municipality for funding, based on the identified sites in each District Municipality. Each site to be allocated R45 million.

The Agri-parks concept focuses on the establishment of three basic components, namely, (1) a Farmer Production Support Unit (FPSU), which is a rural outreach unit connected with the Agri-hub. The FPSU is supposed to do primary collection, storage, processing for local market, extension services and mechanization; (2) an Agri-hub Unit (AHU), which deals with equipment hire, processing, packaging, logistics and training; (3) Rural Urban Market Centre Unit (RUMC) which serves as a link between rural, urban, and international markets.

Upon the start of implementation of the Agri-parks programmes, there was an immediate realization and acknowledgement that more work needed to be done first on the strengthening of primary agriculture production. This had been confirmed by an analysis made at the level of both former DRDLR and DAFF.

In Limpopo, this had corroboratedthe outcome of the processing summit which LDARD convened in September 2015. The summit consensus was that although Limpopo Province is leading, nationally, with production of some of agricultural commodities, such as fruit (citrus, avocado, mango and litchi), vegetables (tomatoes), current levels of primary agricultural output in these commodity industries is insufficient to provide inputs into a large scale and thriving food processing sector. Therefore, a need to expand primary agriculture production was widely acknowledged.

For most of identified Agri-parks sites, infrastructure and equipment for primary production and post-harvest, handling, along with production inputs, technology development and skills development and market linkages became very critical to build a base for viable upstream activities. Therefore, focus for resources had to somewhat shift and re-directed at the establishment of FPSUs.

The first FPSU was constructed in Vleischboom, Makhuduthamaga Local Municipality while the second FPSU is still under construction in Masalal, Ba-Phalaborwa Local Municipality. The plans for 2021/22 include planning and construction of additional two FPSUs, Mapela FPSU in Mogalakwena and Tshiombo FPSU in Thulamela Local Municipality. While planning and construction of designated FPSUs is still underway, the focus would be to increase primary production, provision of mechanization and extension and advisory services. Progress to date is as follows;

(1) Vleischboom FPSU is situated in Nebo, about 20km southwest of Jane Furse. The FPSU will provide services to smallholder farmers, i.e., 926 grain farmers and 100 vegetable farmers, covering7 335 hectares. The construction of the infrastructure has been completed in 2020/21 financial year.

The provision of services has been delayed by Eskom electricity connection at the site, which process took longer than anticipated. The matter has being attended and it is envisaged that the connection would be done in the 1st quarter of 2021/22 financial year. This FPSU will provide the following services: Nebo Service Centre will be relocated to Vleischboom FPSU; Mechanization and implements to provide mechanization services to farmers; production inputs and production infrastructure (seed, fertilizers, chemicals, fuel, livestock & poultry feeds, medication etc.

(2) Masalal FPSU is situated near Selwane on land under Majeje Tribal Authority. The FPSU is opposite recently refurbished Masalal Citrus Packhouse. This FPSU is currently at 70% completion and expected to be completed by the end of June 2021. The FPSU will provide services to approximately 58 farmers with 1618 ha of farmland. These farmers produce mostly vegetables.

The initial commodity support is focusing on the production of green beans, butternut, tomatoes and green peppers linked mainly to the fresh produce market. The Masalal FPSU will provide the following services; production inputs; tractors and implements; production infrastructure support and extension advisory services.

Flowing from Limpopo 2016 Economic Summit resolutions, the revitalization of horticulture, white and red meat industries through value chain approach was adopted as one of the key catalytic stimuli. The following commodities were selected because of the comparative advantages Limpopo province has in production: Fruits cluster (citrus, avocados, mango), vegetables cluster (potatoes and tomatoes), Meat cluster (red meat, poultry and aquaculture).

The projects identified for implementation include NwanediAgri-hub; upgrading of mango processing infrastructure (TshakhumaAtchar); refurbishment of tomato processing evaporator for Norjax, Potato belt development in Capricorn; GRASP development hub and Masalal packhouse refurbishment; aquaculture development initiatives including a development of fish dams and fish processing facility at Tompi Seleka College as well as operationalization of the Lebowakgomo abattoir.

Although significant progress has been achieved, wherein most of the projects have been completed and are operational, such as Nwanedi vegetable Agri-hub, GRASP hub, potato belt development. TshakhumaAtchar, progress has been slow on some, namely operationalization of Lebowakgomo abattoir, Norjax tomato processing and fish processing facility at Tompi Seleka college.

The RAAVC plan identifies processing opportunities for each key commodity industry in Limpopo as part of market driven expansion of the sector which should contribute o the reduction on reliance of imported food stuff. Covid-19 pandemic has given more impetus to intensify measures and interventions for economic recovery and reconstruction.

The RAAVC plan articulates development plans and catalytic projects through which contribution would be made towards socio-economic recovery interventions. The ultimate goal is an increased agricultural production that should contribute to improved food security and rural livelihoods, job creation, foreign exchange earnings through increased exports as well as overall contribution to the provincial economic recovery.

2. Sector overview

As noted by StatsSA, that, the Limpopo province‘s agricultural sector‘s gross domestic product in 2018 was a total of R8,936 million, which translated into a 2.8% contribution to the provincial economy. The Limpopo provincial contribution to the national agriculture sector stood at 8.4%, which was a steady increase from an average of 7.4% between 2014 and 2018. The sector‘s contribution reached a 10 year high in 2018, with an annual contribution of 8.43% to the national agricultural sector.

Limpopo lagged behind KZN and WC, that respectively contributed 24.8% and 22% to the national agricultural sectors‘ GDP in 2018.

The agricultural sector was declared an essential service, and opened throughout lockdown, it grew by more than 13% last year. Bumper crops, good rain, strong export demand and the weak rand all bolstered the sector. Income from agricultural exports increased by 3% last year to a three-year record of $10.2billion. however, some industries within agriculture did experience contraction last year.

The citrus industry also recorded a fantastic year with better prices and strong volumes as demand spiked in the major export destinations. The year 2021 was expected to be another good year for the sector. The latest harvest estimates of the country's biggest staple food, maize, point to a potential crop of 16million tons. Horticulture and livestock conditions are conducive to further stellar growth in agriculture (Agbiz, 2021)

Already indicated, Limpopo province is known to be the agricultural production hub for the highest value agricultural commodities. The province has a diverse agro-ecological regions, characterized by significant variation in natural endowments such as soil, rainfall, and access to water. The productive potential and commercial value agricultural land, thus varies considerably between these regions.

Considerable investments opportunities exist in the areas of processing and packaging of fruits and vegetables as well as opportunities for the export of beef, pork, chicken eggs, fruit, and vegetables. There is also potential for additional production of sunflower, sorghum, soya beans, maize, and cotton under dryland conditions.

3. Rationale for RAAVC Plan

Agriculture as key strategic economic sector, South Africa's current economic landscape is reportedly unsustainable, characterized by stagnant economic growth, rising unemployment and sustained inequality. It is being argued that the current situation requires government interventions in the form of growth reforms that promote economic transformation, support labour intensive growth, and create a globally competitive economy.

The importance of the sector was emphasized by the President of the Republic of South Africa, Cyril Ramaphosa in his first state of Nation Address of the 6th administration. The sector is no longer just about food security and rural livelihoods to address social policy question, but a major contributor to economic growth.

Government intends to expand agriculture and agro-processing sector by supporting key value chains and products, developing new markets and reducing reliance on imports. It is envisaged that the Limpopo RAAVC shall contribute towards an inclusive rural economy outlined in the NDP. Some of the key areas of interventions proposed by NDP are:

- Creation of jobs through commercial agriculture by growing commodities with high growth potential and export oriented.
- Providing support to smallholder producers to ensure production efficiency.
- Developing under-utilized land – communal areas and land reform projects for production
- Growing sustainable rural enterprises and industries – increasing investment in agro-processing, trade development and access to markets.

The RAAVC plan is a culmination of a process which involved an extensive consultation with industry and sector partners, wherein participation ranged from farmers, commodity organizations, development finance institutes, sector development, municipalities, financiers, organized agriculture to research institutes. One of the critical elements of the RAAVC plan is that it provides a framework for partnership collaboration between government, private sector, and civil society. The envisaged collaboration aims to enable an integrated and inclusive agriculture sector growth in Limpopo through maximization of primary agriculture and expansion of agro processing.

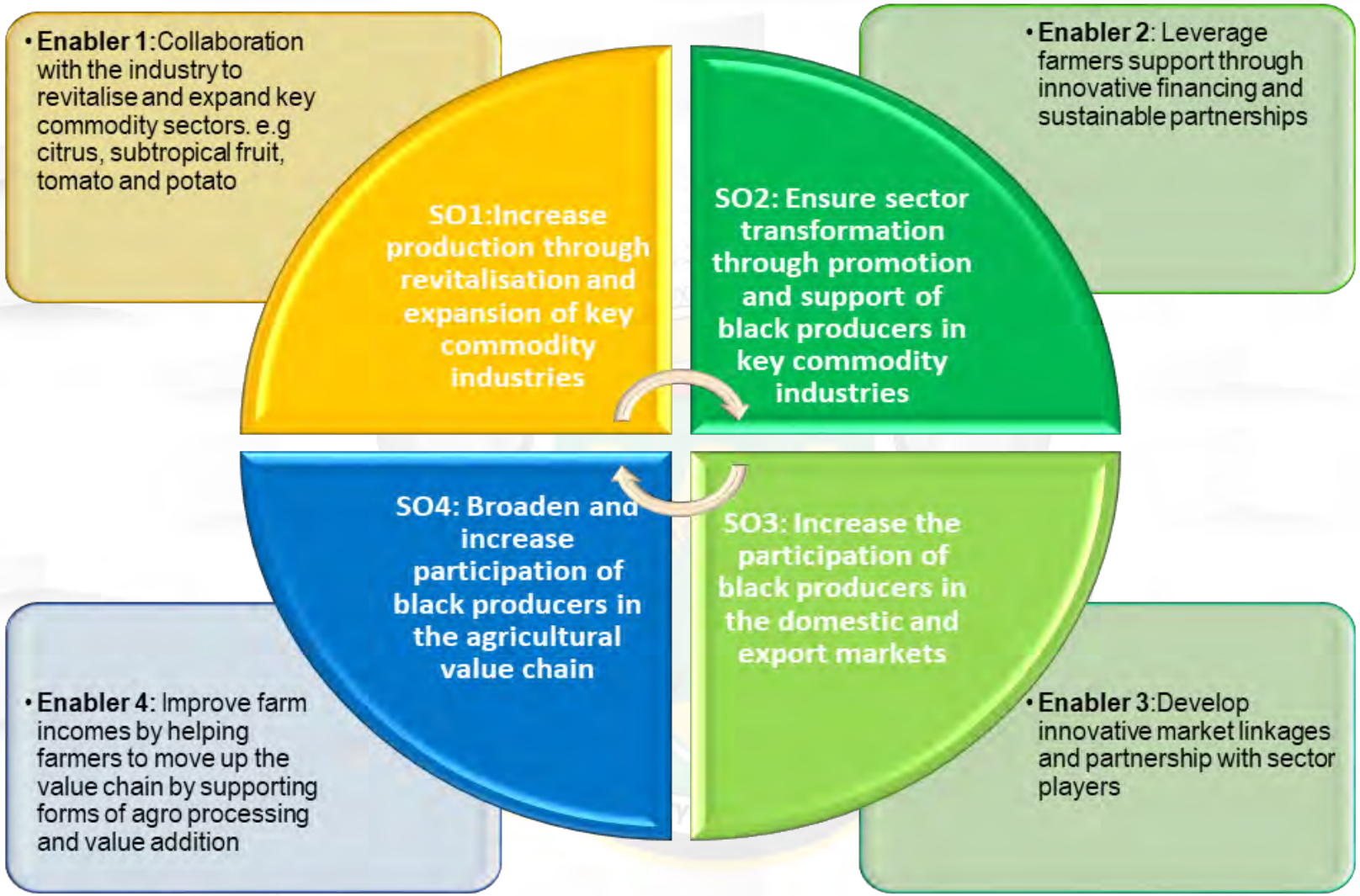
The RAAVC plan also aims to enable smallholder farmers and communities to participate meaningfully in the integrated industry value chain development. The plan articulates commodity specific plans with catalytic projects through which the sector will contribute towards the Provincial Socio-economic Recovery interventions. Various blended funding models would be exported, whereby government funding is used to leverage private sector funding for development, especially for RAAVC catalytic projects.

4. RAAVC objectives

The Limpopo RAAVC plan seeks to achieve the following key strategic objectives:

Strategic Objectives	Key intervention Areas
Increase production through revitalization and expansion of key commodity industries	• Revitalization of smallholder irrigation schemes • Revitalization of under-utilized land – land reform farms and land areas under traditional authorities • Expansion of high value agricultural commodities • Green fields developments
Ensure sector transformation through promotion and support of black producers in key commodity industries (including women, youth, and people with disability)	• Increased participation of black producers in the production of high value agricultural commodities • Commercialization of black producers in key commodity industry
Increase the participation of black producers in the domestic and export market	• Linking black producers with markets (domestic and export) • Provision of market infrastructure support • Capacity building to increase access to formal markets, through GAP certification and skills development
Broaden and increase participation of black producers in the agricultural value chain	• Provide support for agro-processing development initiatives. • Provide infrastructure support for value-adding. • Intensify support for integrated value chain development through farmer production support units and Agri-hubs towards Agri-parks development.

A diagram below outlines the strategic objectives and set of enablers that will ensure realisation of the Limpopo RAAVC plan.

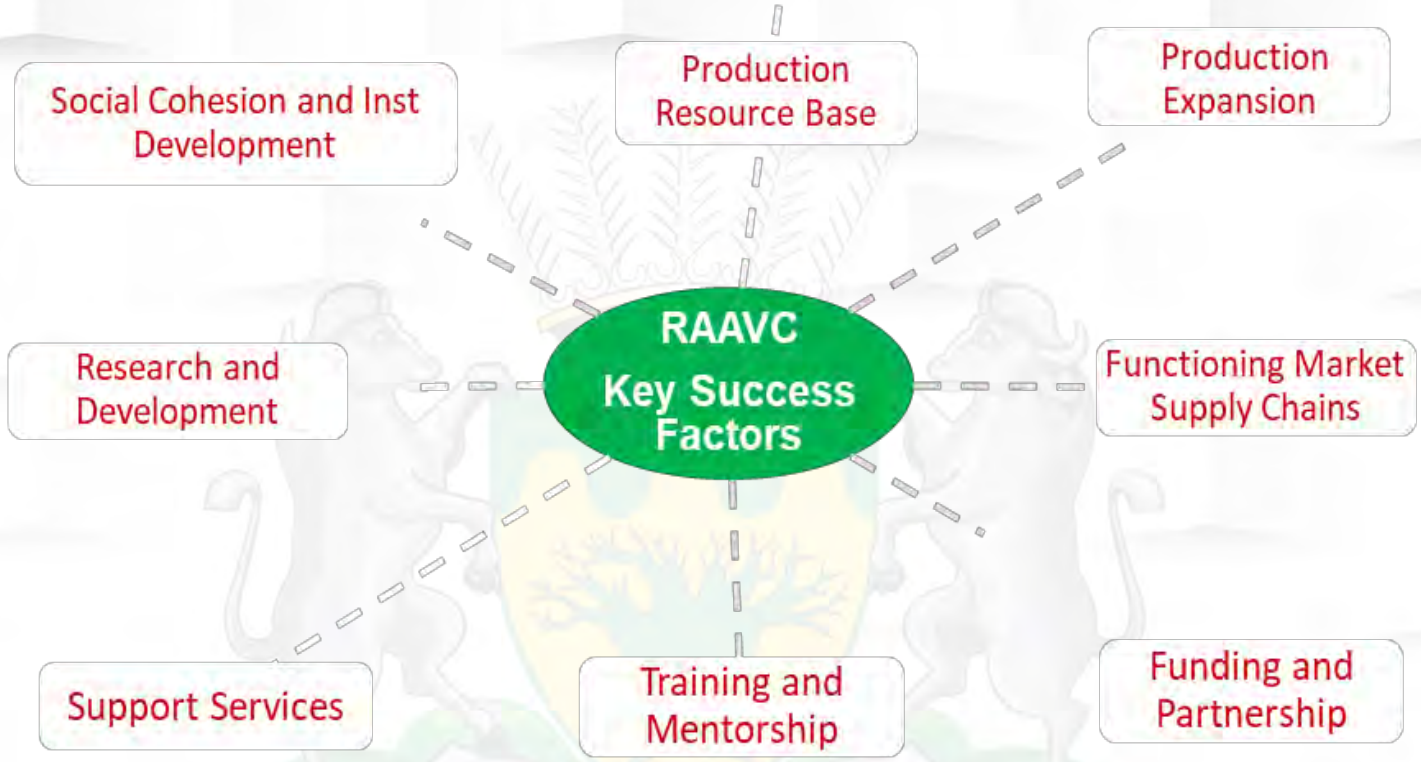


Each key strategic objective, have an enabler that will ensure its realisation. Another set of enablers will be outlined for the broader objectives.

The Limpopo RAAVC strategic objectives provide a high-level overview of what the sector would want to achieve by 2024. For the Limpopo RAAVC objectives to be realised, there are set of key success factors as enablers to realise the development plan.

5. Critical success factors for the RAAVC plan

Any development plan or project has critical success factors as elements that are necessary for an organization or project to achieve its mission. For the successful implementation of Limpopo RAAVC plan, the following critical success factors were identified, analysed and mitigation proposed.



6. Natural and production resources analysis

6.1 Agro ecological zones and agro climatic conditions

The Limpopo Province is situated in the northernmost corner of the South Africa. The climate in the Limpopo Province is quite hot since the area is bisected by the tropic of Capricorn.The northern tip of the province which covers Vhembe and some part of MopaniDistrict experiencesunny and dry weather condition throughout the year. The temperature varies from min of 8-12 ºC to maximum of 29-45 ºC.Capricorn, which is the centre, enjoys some Mean Annual Temperature: Max 21-37 ºC, Min 5-12 ºC. The area is bit hot during summer, but also enjoys cooler winter.Waterberg and Sekhukhune District has Mean Annual Temperature ranging: Max 21-37 ºC, Min 2-8 ºC with some frost during winter season.

6.2 Climate

Climate change, which may make temperatures rise and reduce the rains and change their timing, may therefore put more pressure on the country‘s scarce water resources, with implications for agriculture, employment, and food security. Not only South Africa but also the sub-region will be affected, given that more than half of the region‘s staple food like maize is produced in South Africa.There is evidence that global temperatures are rising. Some climate models suggest that this could increase the variability of climate and decrease rainfall in South Africa.

Agriculture is expected to be most affected by these changes because it is highly dependent on climate variables such as temperature and precipitation, and because of(i) the semi-arid nature of the country with increased farming on marginal lands, (ii) the frequency of droughts, and (iii) the scarcity of water, which is exacerbated by a high spatial.

Rainfall patterns has overtime changed; this has been evidence with the late planting of summer crops due to late rains. Expansion in the agricultural production should take climate change into consideration for proper mitigation plans. The province is also susceptible to droughts because of these changes.

6.3 Rainfall

The most important factor limiting agricultural production in Limpopo is the availability of water. Rainfall is distributed unevenly across the province, with warm and subtropical conditions in the lowveld. High temperatures are experienced in the far north of the province. The province average annual rainfall varies between 400mm to 600mm per annum. The country as whole has an average of 450mm per annum, well below the world‘s average of 860mm. Rainfall patterns in Limpopo five districts vary from 300mm to 1000mm. Sekhukhune and Waterberg receive high rainfall as they are partly in the Highveld.

6.4 Land Resource Base

Land is the most important resource in agricultural production. Limited availability and access of productive land can be a major constraint to increased agricultural production. Limpopo has an agricultural land area of about 11 3210 km2.

The main objective of this section is to determine the agricultural land availability and access in Limpopo Province. Various land packages and categories will be analysed, namely, privately owned land; state land; land utilized through the various land reform programmes; communal land and land belonging to Non-Governmental Organizations (NGO) and State-Owned Entities (SOE).

According to FAO, Land is the basis for agriculture and other rural land uses, encompassing soils, climate, vegetation, topography, and other natural resources. Agricultural land is typically land devoted to agriculture, the systematic and controlled use of other forms of life—particularly the rearing of livestock and production of crops—to produce food for humans. It is thus generally synonymous with both farmland or cropland, as well as pasture or rangeland.

Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Land under permanent crops is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber.

This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops. Agricultural land (% of land area) in South Africa was reported at 79.83 % in 2014, according to the World Bank collection of development indicators, compiled from officially recognized sources.

In South Africa, access to land in general, have historical inference, owing to colonial dispensation characterised by land dispossessions. One of the key elements of redress in the country democratic dispensation, has been land reform as prescribed by the constitution.

According to the report by the Advisory panel on land reform and agriculture, the past two decades of land reform in South Africa have yielded little success in establishing a new generation of commercial black farmers for several reasons, ranging from the slow pace of acquiring land, government reluctance to transfer ownership of the acquired portions of land to beneficiaries, and the poor post-transfer support system.

The panel report further state that, the extent to which the land reform programmes have met their respective targets remains contested, however, there is broad consensus that land redistribution and restitution has not progressed at the rate originally envisaged. These challenges show that, to a certain extent, the failure of land reform thus far has largely not been because of a scarcity of land, but due to inefficiencies in the process of acquisition and systemic challenges faced post-transfer as the land acquired by government has also not shown an increase in production.

The National Development Plan (NDP) has identified agriculture as primary economic activity in rural areas that can create jobs and improve rural livelihoods. The NDP align the growth and sustainability of agricultural sector with successful land reform. For that reason, government aims to grow agriculture through revitalisation of land that was given through land reform, as well as providing support to farmers settled in state land, and those in communal areas.

Limpopo Province is divided into 5 municipal districts. Share breakdown is illustrated in the table below.

Table 1: Limpopo agricultural land use distribution

DISTRICT	TOTAL AGRICULTURAL AREA (ha)	POTENTIAL FIELDS			CROPPED FIELDS	
		TOTAL	LARGE SCALE	SMALL SCALE	TOTAL	PLANTED PASTURES
Capricorn	2 146 094.47	298 183.39	100 746.99	197 436.40	56 550.16	17 409.43
Sekhukhune	1 335 352.04	205 020.01	69 644.77	135 375.24	80 249.14	55 847.18
Mopani	1 402 999.14	169 759.53	72 125.02	97 634.51	72 879.93	48 294.67
Vhembe	2 076 390.38	177 298.21	60 089.93	117 208.28	73 940.93	31 290.22
Waterberg	4 360 262.11	609 614.26	539 943.30	69 670.96	201 979.08	188 881.59
	11 321 098.14	**1 459 875.40**	**842 550.01**	**617 325.39**	**485 599.24**	**341 723.09**

The district with the largest land area is Waterberg District, which is dominated by grazing land for livestock farming and game ranching. Vhembe, Mopani, and Sekhukhune land are mostly covered by permanent crops such as fruits orchards and forestry.

The determination of land availability and access will therefore be done through analysis of the secondary land data and statistics compiled by the LDARD RAAVC work stream on land availability and access.

6.5.1 Smallholder irrigation scheme

The LDARD has recently compiled a status report with turnaround strategies for 50 priority irrigation schemes.

Apart from the above-mentioned priority schemes the RAAVC work stream on land availability has done an analysis of all Small Holder Irrigation Schemes based on the database from LDARD. They were evaluated using aerial photography on GIS to establish the status as well as the area.

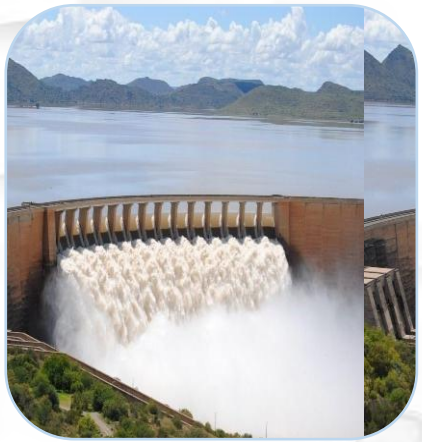
The mapping to verify existence and the measurement of the irrigation schemes was completed on all the irrigation schemes. However, from the mapping it was not possible to verify whether the schemes are operational or not. The total area of 17 859ha in the 171 schemes for irrigation development can only be considered as a possible maximum. The map below shows the spatial distribution of the irrigation schemes in the province as well as the measurement process on individual schemes.

A profiling exercise has been conducted on some of these schemes to establish the status and extent of functionality. The profiling information will provide details on potential areas available for revitalisation. To date 49 irrigation schemes have been profiled. The non-operational schemes include schemes that are not functional, vandalised and those that are being used for dry land farming.

Table 6: Summary of the profiled schemes.

District	No. of operational schemes	No. of non-operational schemes (dry land)	No. of non- operational schemes
Capricorn	10	0	2
Mopani	5	0	1
Sekhukhune	13	1	10
Vhembe	6	0	0
Waterberg	1	0	0
Total	**35**	**1**	**13**

6.5 Water resources



Irrigated agriculture accounts for about 60-62 per cent of water used in South Africa. Although there are areas where water use is highly efficient, there are significant losses in many distribution and irrigation systems, whilst substantial improvements can be achieved in others. Efficiency gains in the sector will make water available for the Reserve and for other uses. Water has a huge potential socio-economic impact in rural communities. Water is the major limiting factor to the growth of this sector and poor water quality has a negative impact on agricultural exports and associated foreign income.

Agriculture is crucially important to the basic food security of the poor, who constitute 40% of the population of 42 million, and who are overwhelmingly concentrated in rural areas and (peri-) urban townships. The agricultural water use sector also presents entrepreneurial opportunities that may be seized in the context of broader economic revitalisation strategies. Secondly, in past decades, irrigation farming has become ever more sophisticated, while the forces of globalisation have presented huge challenges to even the most capitalised and technically advanced commercial farmers in the country.

About 8.5 million people are directly or indirectly dependent on agriculture for employment and income (GCIS, 2011). The sector contributes about 3% to the GDP and 7% to formal employment. The agricultural sector is made up of commercial farmers and subsistence farmers: about 1.3 million hectares are irrigated. The New Growth Path has set a target of 300 000 households in smallholder schemes by 2020 and 145 000 jobs to be created in agro processing by 2020 (DED, 2010). Irrigated agriculture is the largest single use of water in South Africa (60%).

In the agricultural sector, water is mainly used for irrigation and livestock watering, which increases the productivity of high value agricultural commodities grown in Limpopo.

COMMUNAL IRRIGATION SCHEMES

LEGEND

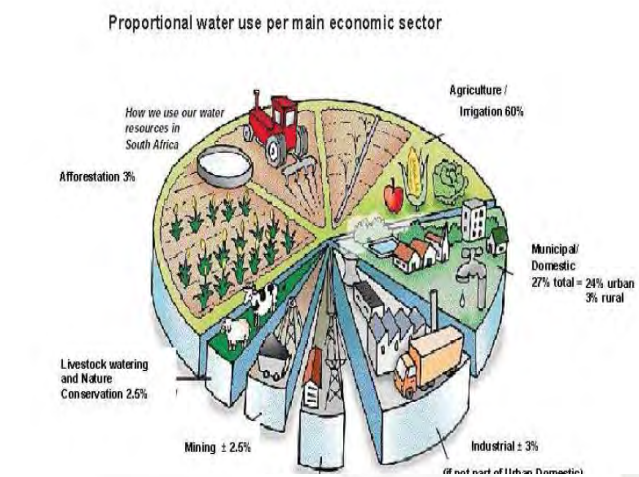
- Towns
- Irrigation Schemes
- Districts
- Local Municipality

Limpopo Department of Agriculture and Rural Development
Directorate: Spatial Information Services
67/69 Biccard Street
Polokwane
0700
Tel: 015 294 3328
Email: GISRequest@agric.limpopo.gov.za

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
Limpopo Province

0 12.5 25 50 75 100
Kilometers

Figure 2: Proportional water use per main economic sector

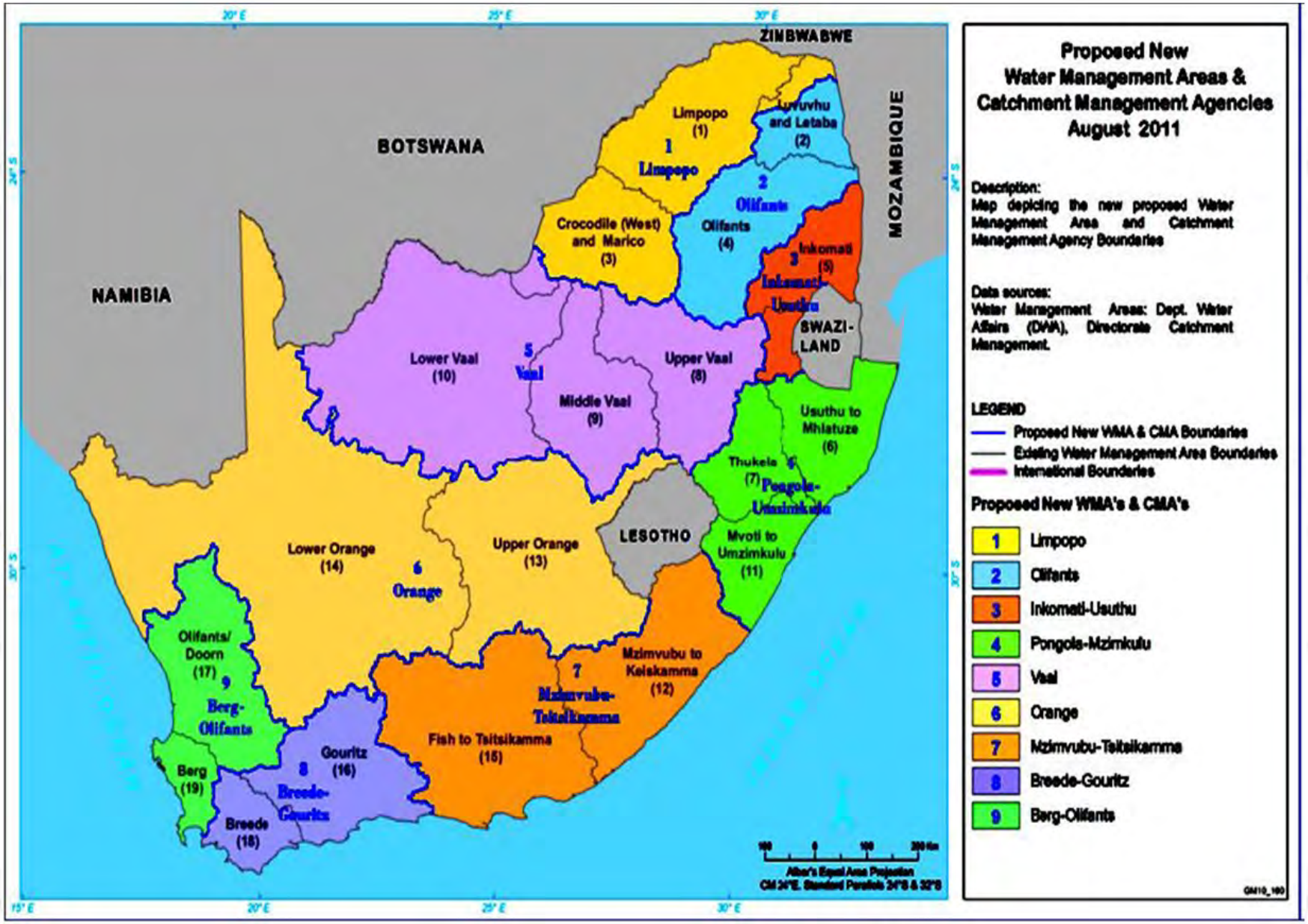


It is clear from figure 2 that agricultural sector remains the largest user of water resources in South Africa accounting more than 60%, with no exception for Limpopo Province. Competing water needs by other sectors is gradually increasing.

6.5.1 Water availability in key water management areas of Limpopo

Limpopo Province precincts over four water management areas (WMA), namely, Limpopo WMA, Luvuvhu/Letaba WMA, Olifants WMA and Crocodile Marico WMA. Within the WMA's there is Water Catchments Areas (WCA) with different water sources such as rivers and dams.

Figure 3: Water Management Areas



6.5.2 Water Management Areas

This is a large and complex Water Management Area (WMA). Much of the area has a low rainfall and there are significant inter-dependencies for water resources between catchments and with neighbouring WMAs.The Limpopo WMA is the northern most water management area in the country and represents part of the South African portion of the Limpopo Basin which is also shared by Botswana, Zimbabwe, and Mozambique. The WMA borders on Botswana and Zimbabwe, where the Limpopo River forms the entire length of the international boundary before flowing into Mozambique.

The region is semi-arid, with economic activity mainly cantered on livestock farming and irrigation, industries together with increasing mining operations. Approximately 760 rural communities are scattered throughout the water management area, with little local economic activity to support these population concentrations.The WMA consists of several catchments which are naturally independent of each other. As a result, separate and mostly independent strategies are required to manage each catchment.

The main catchments are the Matlabas, Mokolo, Lephalala, Mogalakwena, Sand, Nzhelele and Nwanedi. The water management area has big dams such as Mokolo, Doorndraai, Glen Alpine, Nzhelele, Houtrivier and others as shown on the map below.

The Limpopo River once flowed perennially but is now highly seasonal. The main stem supplies a narrow agricultural strip and some mining activity. Weirs across the upper reaches of the river are used to store some water, while further downstream water is drawn from large sand aquifers in and next to the riverbed. Both the Venetia diamond mine and the town of Musina are supplied by alluvial sand aquifers. Main stem water resources are fully developed, and any expansion or new development will have to get its water from other existing sources – typically by buying out irrigation water.

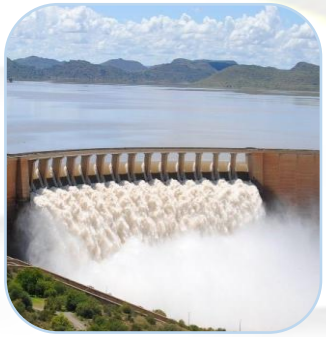


Figure 4: Sectoral water requirements

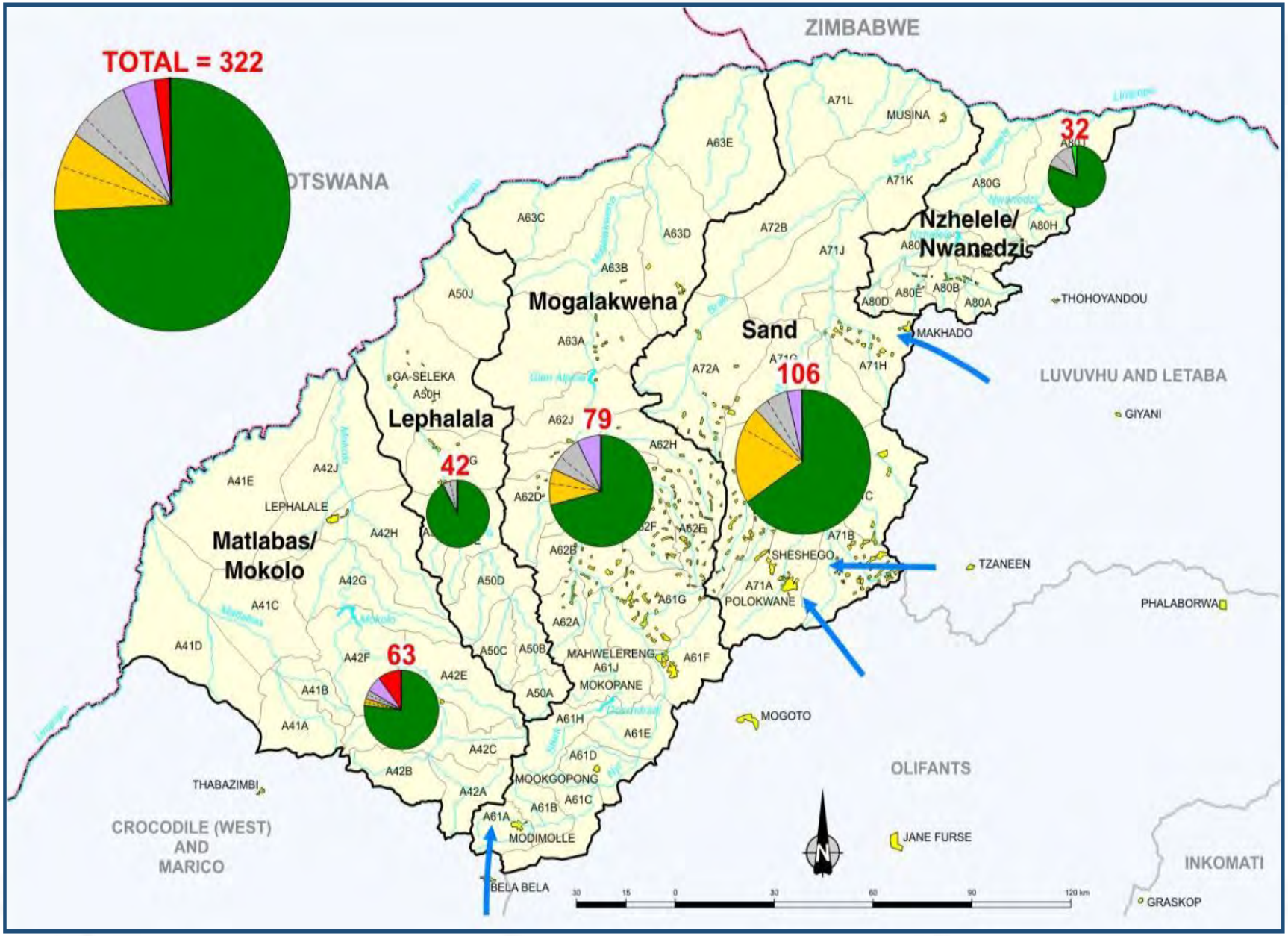
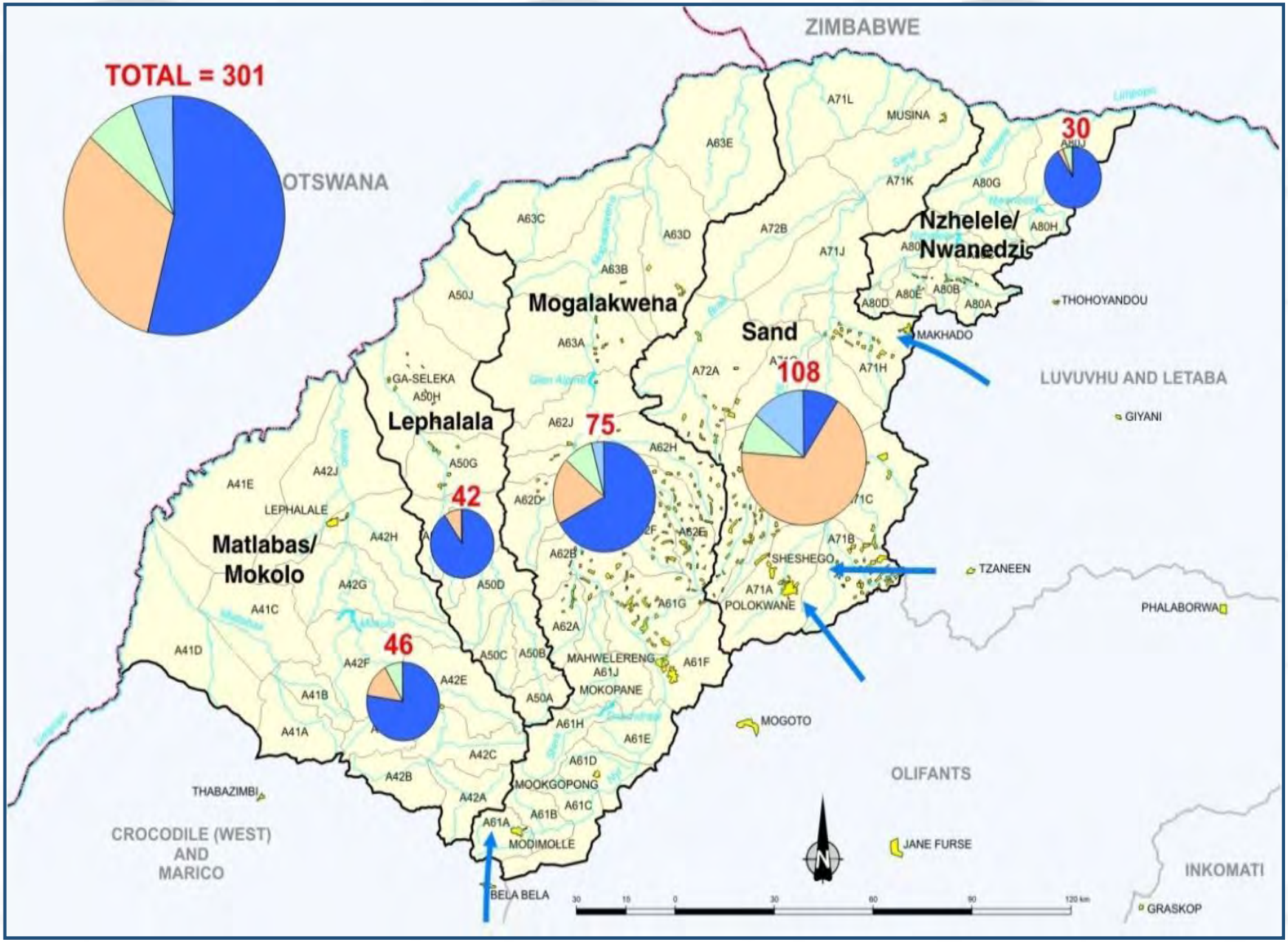


Figure 4: Limpopo water availability



According to the reconciliation and availability of water in the Limpopo Water Management Area, the total requirement is 322Mm^3/and available yield of 301Mm^3/a. This indicates that the Limpopo WMA is at a deficit of 21Mm^3/a.

Agricultural development expansion

- The main stem water resources are fully developed, and the demand already exceeds the available resource.
- Agriculture is a likely causality due urban development.
- Agriculture already has large chunk of water, with possibility of reduction to support urban development and domestic water use.
- Efficient use of water is the only option for expansion.

6.5.3 Luvuvhu / Letaba Water Management Area

The Luvuvhu/Letaba WMA is located in the north-eastern corner of South Africa, where it borders on Zimbabwe in the north and on Mozambique along the eastern side. It falls entirely within the Limpopo Province, and adjoins the Olifants and Limpopo WMAs to the south and west respectively
The main rivers in the WMA are the Luvuvhu, Shingwedzi and Letaba rivers, all flowing in an easterly direction through the Kruger National Park and into Mozambique before discharging into the Indian Ocean. The confluence (crooks‘ corner) of the Luvuvhu and Limpopo rivers forms the common point where South Africa borders on both Zimbabwe and Mozambique.

The Shingwedzi River first flows into the Rio des Elephantes (Olifants River) in Mozambique, which then joins the Limpopo River. The two main branches of the Letaba River, the Klein and Groot Letaba, have their confluence on the western boundary of the Kruger National Park. The Letaba River flows into the Olifants River just upstream of the border with Mozambique.

The water management area has big dams such as Nandoni, Middle Letaba, Albasini, Vondo, Tshakhuma, Mambedi, Damani, Dap Naude, Ebenezer, Magoebaskloof, Hans Merensky, Tzaneen, Klein Letaba, and others.The Letaba River catchment is drained by the Groot Letaba River and its major tributaries the Klein Letaba, Middle Letaba, Letsitele and Molototsi rivers Regular water shortages over several years have brought about what is commonly known as —theMiddle Letaba crisis”.Some of the Letaba River‘s water is used to supply Polokwane, with transfers from the Ebenezer and Dap Naude dams.

Tzaneen is built upon commercial agriculture, with a growing base of emerging farmers. Irrigation in the Groot Letaba is supplied primarily via the Tzaneen Dam. Water resources from the Tzaneen Dam have been over-allocated, resulting in high risk to farmers, and the ecological Reserve is not being met.The Groot Letaba River Water Development Project is aimed at resolving these shortages, including the needs of the Reserve.

Necessary additional storage opportunities include the raising of Tzaneen Dam and the construction of the Nwamitwa Dam, downstream on the Groot Letaba. Both projects are ready for implementation and waiting for national Treasury approval.

Figure 5: Luvuvhu-Letaba Sectoral Water Requirements

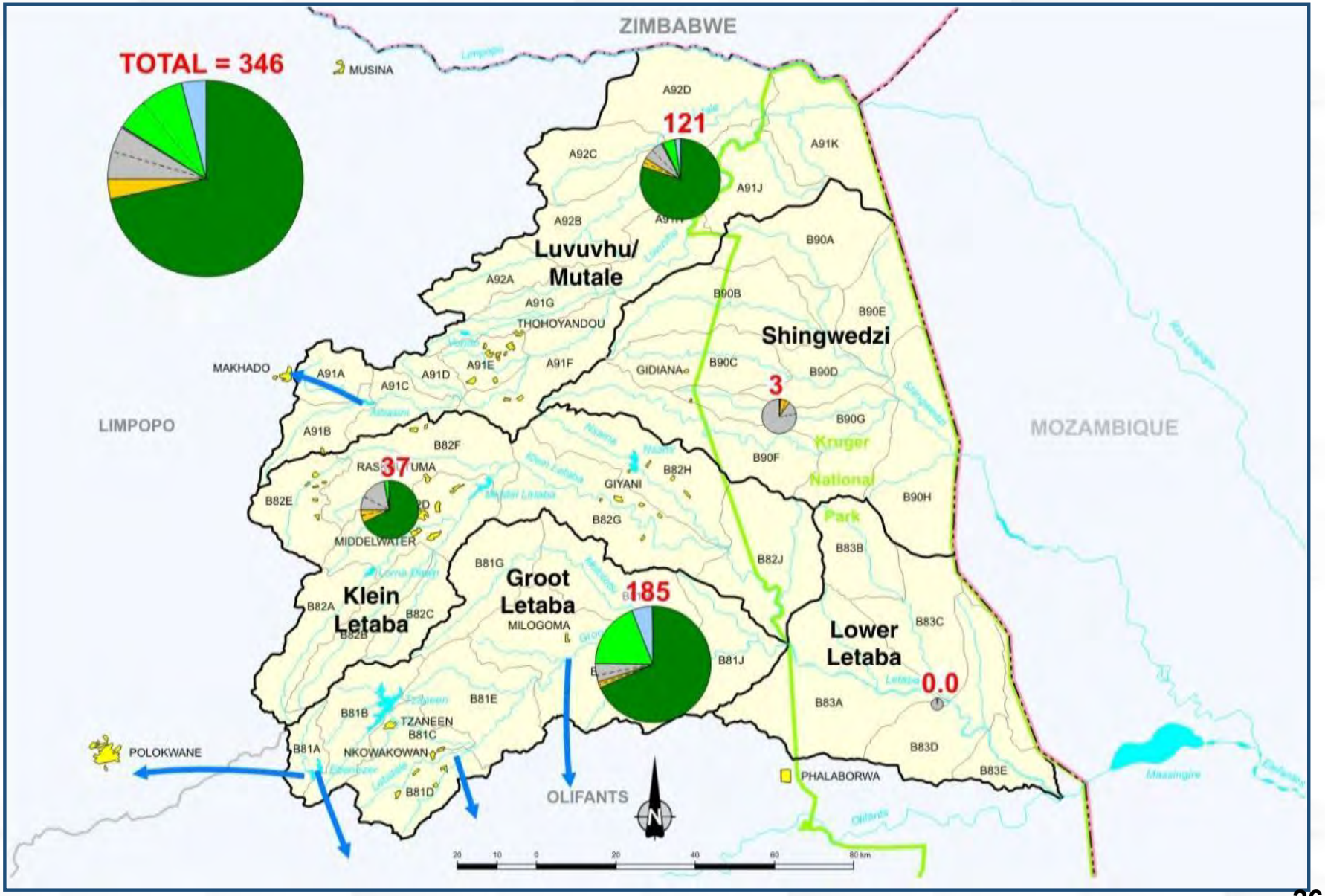
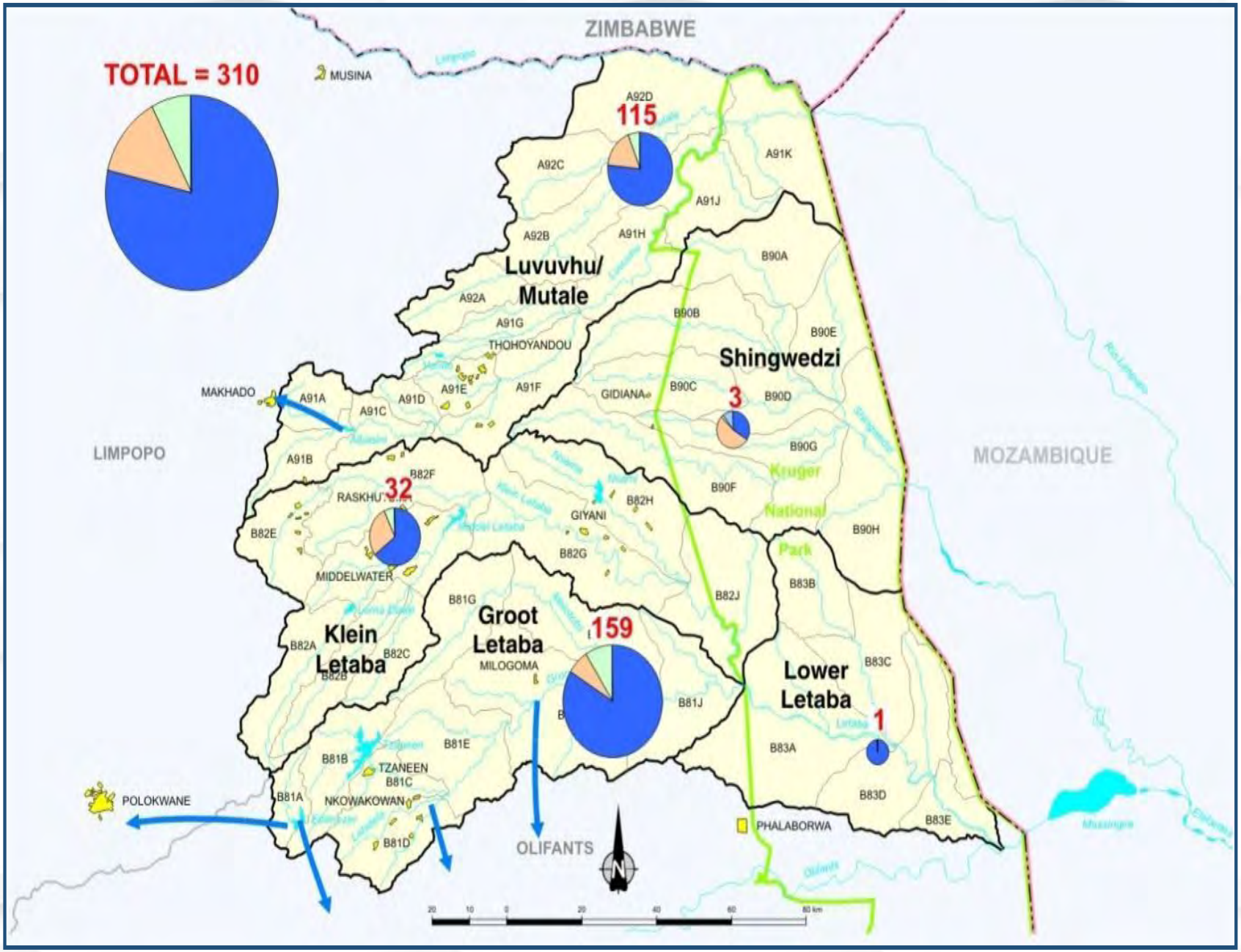
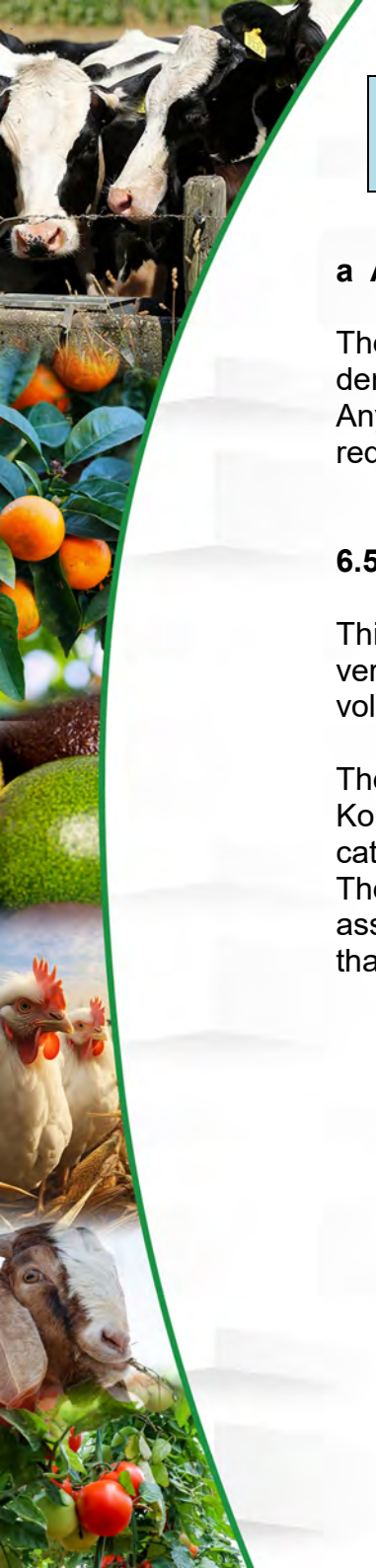


Figure 6: Levuvhu-Letaba Water Availability





According to the reconciliation and availability of water in the Limpopo Water Management Area, the total requirement is 322Mm^3/a and available yield of 301Mm^3/a. This indicates that the Limpopo WMA is at a deficit of 21Mm^3/a.

a Agricultural development expansion

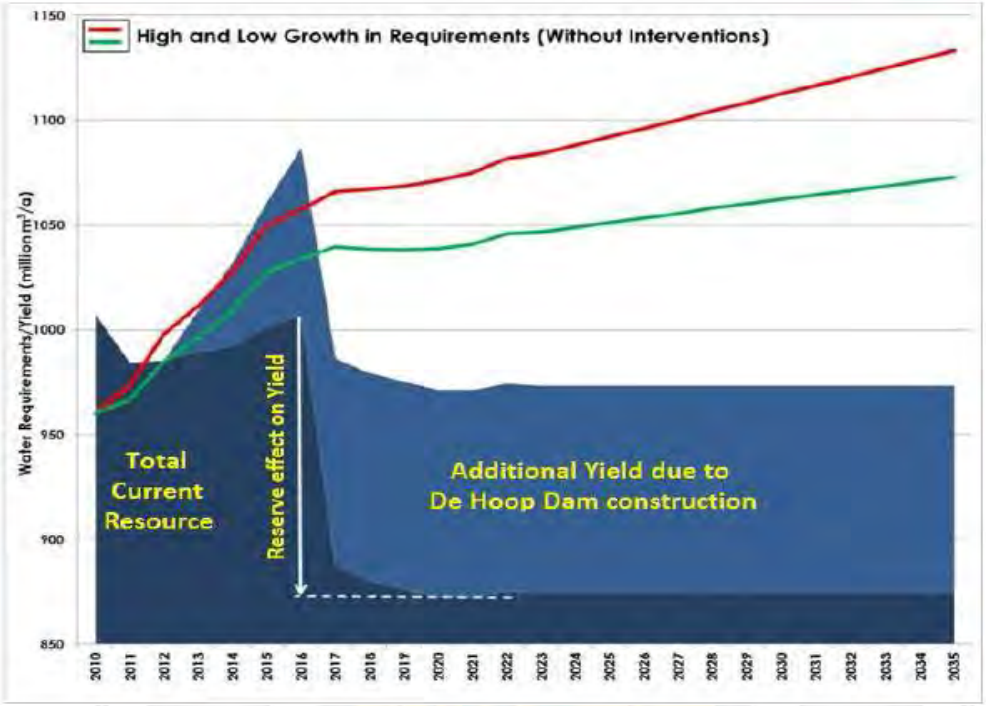
The Groot Letaba is already oversubscribed, and the current system is experiencing shortage. Growing demand by emerging farmers indicates the expansion need, but to be supported by the availability of water. Any Irrigation expansion proposal in the Giyani area will be over shadowed by the domestic water use requirements.

6.5.4 Olifants Water Management Area

This is a highly stressed WMA, fast growing in terms of population and need for improved services. There is very little opportunity for further water resource development and no realistic opportunity to import significant volumes of additional water from elsewhere.

The system yield includes transfers of water into the Olifants River Catchment from the Vaal,Usuthu and Komati River Catchments totalling 228 million m3/a for the seven ESKOM power stations within the catchment. The system yield will increase because of the commissioning of the De Hoop Dam in 2012/13. The ecological Reserve for the Olifants River Catchment has not yet been operationalized and it has been assumed that this will be implemented when De Hoop Dam reaches its full capacity. It has been established that the ecological Reserve will reduce the available yield by approximately 157 million m3/a.

Figure 7: Current system yield and the expected high and low water requirements



The graph shows that without implementing interventions that will either reduce the water requirements or increase the water supply, the system will run into water deficits just after the implementation of the ecological Reserve (2017). Irrigation expansion is under threat due to industrial development around Tubatse Municipality, with specific reference to mining. Mining industry have over time reduced agricultural water use in the catchment. Development of De Hoop Dam is to address domestic water use in Sekhukhune district and some part of Waterberg District.

6.6 Water use authorisation.

Limpopo is still facing inequalities in access to water for agricultural purposes and other productive purposes. Equitable access to water or to the benefits derived from using water, is still critical to eradicating poverty and promoting economic growth. Water entitlements for irrigation have been the biggest limitation for development and settlement of new emerging farmers. Many emerging farmers are farming in the former homelands under tribal land with limited access to water. Majority in the irrigation schemes are operating using existing lawful water use (ELU) authorisation.

6.6.1 Overview of Water Use Authorization in Limpopo Province

According to Section 22 (1) of the National Water Act, A person may only use water –
Without a license:
(i) if that water use is permissible under Schedule 1;
(ii) if that water use is permissible as a continuation of an existing lawful use; or
(iii) if that water use is permissible in terms of a general authorization issued under section 39;
(b) if the water use is authorized by a license under this Act; or
(c) if the responsible authority has dispensed with a license requirement under subsection
The table depicts water use authorization applications status at the time of the finalization of the RAAVC plan.

Decision taken	
Water use authorization issued (GA's, Schedule 1 and licenses) for Limpopo &Luvuvhu/Letaba WMA	498 (out of 678)
Declined Applications	16
Withdrawn by Applicant	94
Water use authorization issued (GA's, Schedule 1 and licenses) for Olifants WMA	47 (out of 225)
Sub Total of water use authorization finalized	**655**
Existing lawful water use	2021
Overall Total	**2676**

The delay in transferring water rights to new farmers is affecting production on smallholder farmers. To redress the inequalities, the Department of Water Affairs (DWA) is in a process of water use verification as part Water Allocation Reform (WAR) which aims to:

- Take steps to meet water needs of HDI's and the poor.
- Ensure participation by these groups in water resource management.
- Promote sustainable use of water resources; and
- Promote the beneficial and efficient use of water in the public interest.
- Any agricultural production expansion in Limpopo to produce more food needs to be preceded by water allocation to the resource poor farmers.

7. Limpopo Agricultural Commodity Production Analysis

VEGETABLE INDUSTRY

Limpopo produces variety of vegetables owing to warm climate







7.1 Horticulture products

7.1.1 Vegetables

The vegetable industry could be one of the largest contributors to job creation and the improvement of livelihoods if the potential growth in demand in South Africa and the southern African region is considered.

The vegetable industry is the largest sector within the horticultural industry, in terms of both its total value and production volumes. Unlike other crops, vegetables can be grown year-round, and with their short production cycles can be harvested more than once a year, thus indicating their importance and value to the horticulture industry.

In addition to its economic importance, the vegetable industry is known to be labour intensive, and as identified in the NDP and the Agricultural Policy Action Plan (APAP) as an important sector for job creation.

It said that the demand for vegetables has grown consistently (about 30 percent over the past decade) and as per capita income rises, this trend is expected to continue. NDP further project that, the rate of increase in demand could be much faster and the production of vegetables could expand significantly if access to rural markets is established, transparent electronic trading platforms are put in place and markets in neighbouring countries are accessible.

Vegetable production has also potential to improve livelihoods of many rural farmers, as it can be produced at subsistence, small-scale and commercial level and with the increasing of advanced technology, vegetable production has become efficient and sustainable.

Vegetable production in South Africa is generally focused on meeting the domestic vegetable demand, with certain commodities being exported. Potatoes, tomatoes, and onions are viewed as the three major vegetables sold based on the quantity sold on the major fresh produce markets. In addition to the three major vegetables discussed, pumpkins, cabbage, green mealies (including sweet corn) are key vegetables in the South African market.

It is estimated that, apart from potatoes, the demand for vegetables is 25 percent below its potential. This figure can be added to the increasing demand trend of 3 percent a year, which implies that expansion of commodities such as tomatoes, onions and carrots could reach roughly 60 percent over the next 10 years.

Limpopo Province can produce variety of vegetables crops, especially during winter season due to warm climate, when other production areas in the country experience low winter temperatures. Some of the vegetables are also cultivated throughout the year in different production regions within the province.

Vegetables are important for human nutrition, food security and poverty alleviation. They offer unique market opportunity since they are basic requirement of many households in South Africa. Vegetable production is largely driven by the expansion of the domestic market and is important for job creation and food security.

Main key strategic vegetables commodities produced in Limpopo are tomatoes, potatoes, onions, and Pepper dew etc, which some have been identified in the NDP as commodities with high growth potential. Vegetables are produced at commercial scale and also by small holder farmers in irrigation schemes across the province.

Pepper dew —piquant peppers, is another vegetable crop unique to Limpopo, and provide a niche market as processed food.

For the production expansion and agro processing plan, focus will be on the vegetable commodities identified by NDP and Pepper dew as a unique niche crop produced in Limpopo.

Geographic production distribution of vegetables is illustrated below as per production mapping report by LDARD in 2012.

This analysis will focus on the three anchor commodities produced in Limpopo, namely, tomatoes, potatoes and onions.

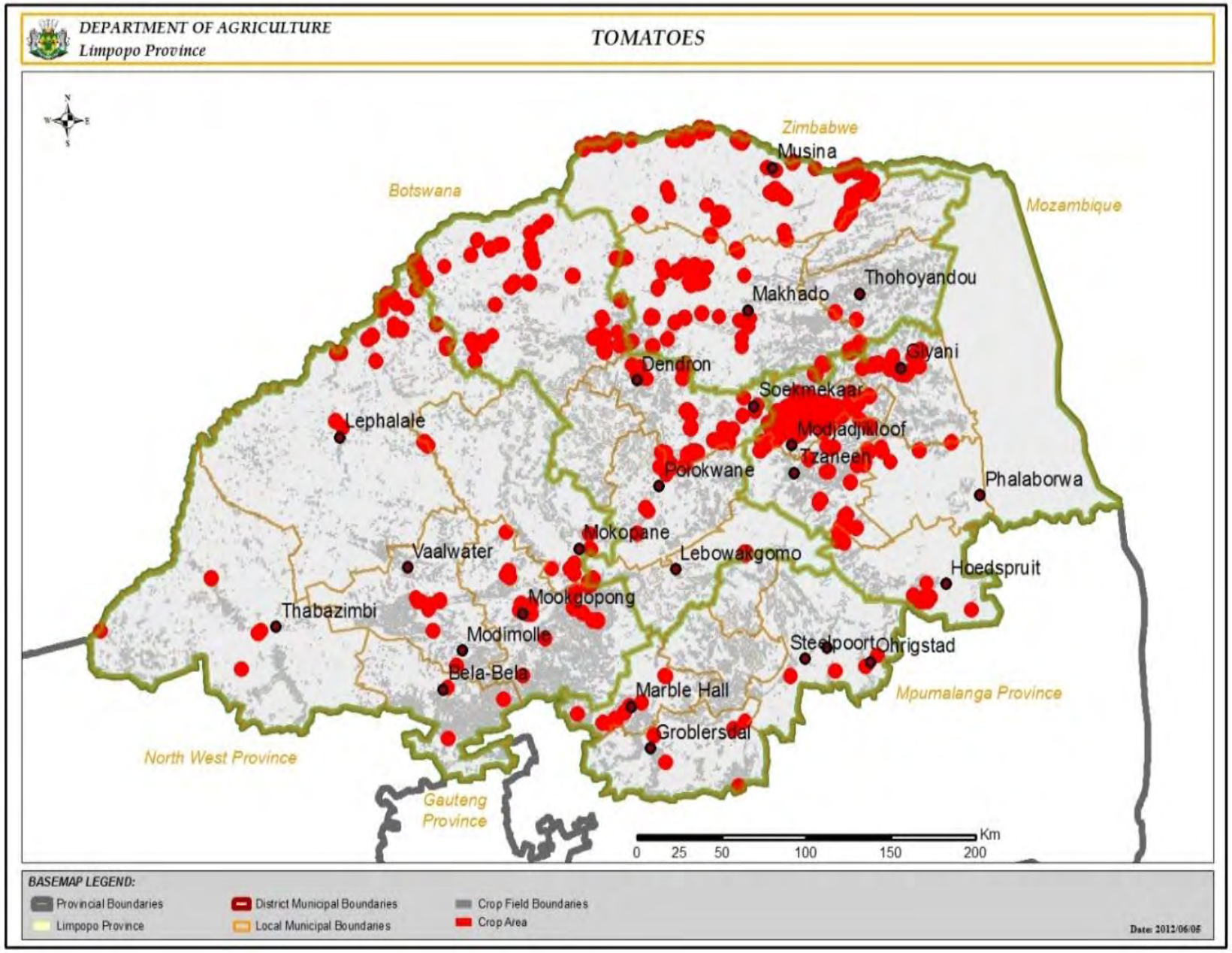
7.1.2 Tomato

Tomatoes are produced in all South African provinces. Limpopo Province is the major production area with 3 590 ha (Northern Lowveld at 2 700 ha and far Northern areas of Limpopo at 890 ha), which account for more than 75% of the total area planted of tomatoes in South Africa.

Limpopo Province can produce tomatoes all year round owing it to favourable climate conditions in various areas. Far north area of the province produces tomatoes during winter season due frost-free climate and northern lowveld produces during summer, of which temperatures are minimal than in the far north which is scotching hot.

The tomato producing belt in Limpopo is illustrated on the map below. This mapping was generated by SIQ as part of Limpopo commodity production mapping project in 2011. During the Limpopo agricultural commodity production mapping survey conducted by the SIQ in 2012, tomato planted area was recorded per municipality as captured on the map and the table below.

Figure 8: Tomato production areas in Limpopo



Source: LDARD SIQ Mapping Report (2012)

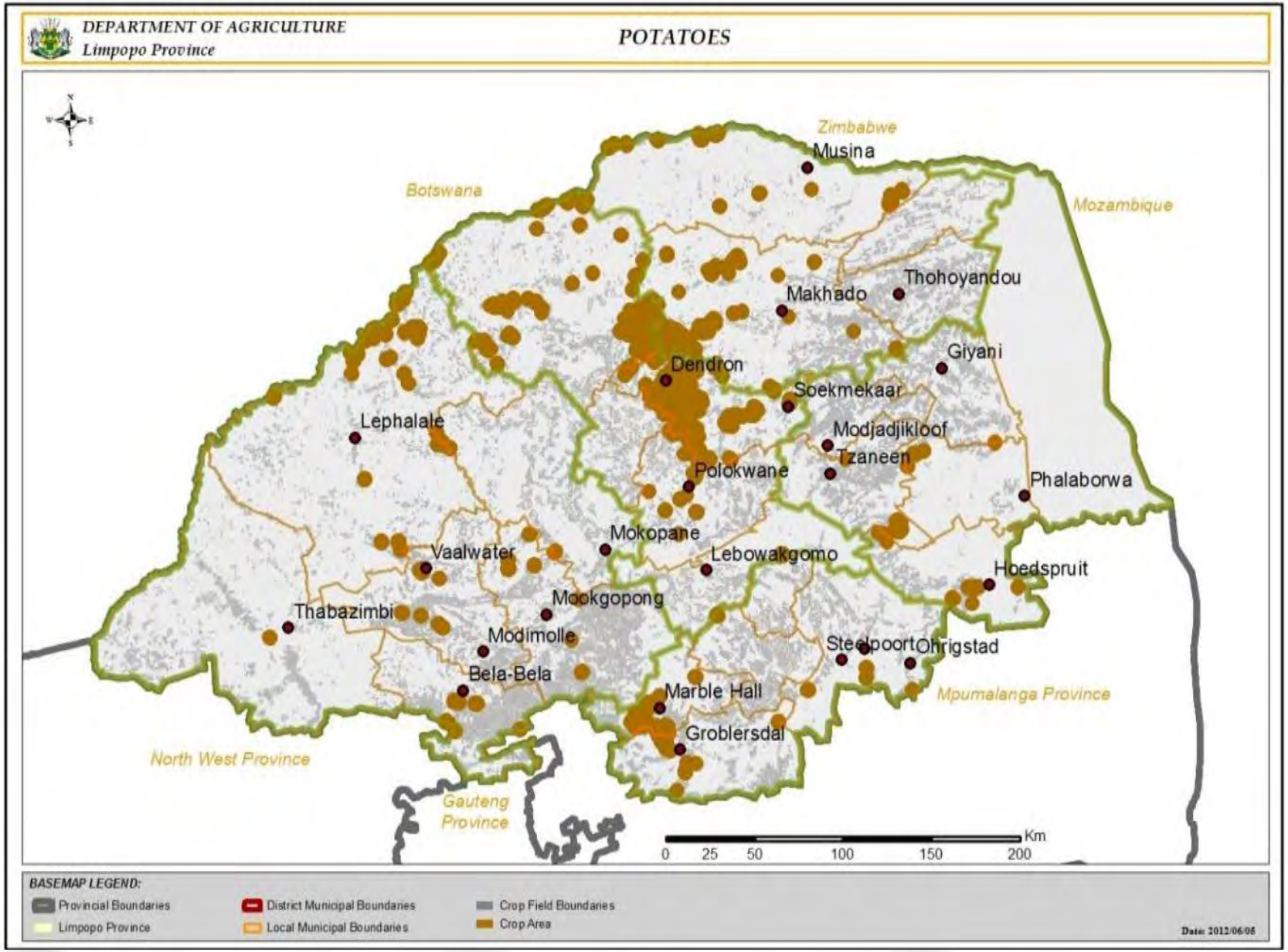
The map above shows tomato production concentration around Mopani and Vhembe District, with some pockets in Waterberg and Sekhukhune districts. Though the actual number cannot be quantified, it estimated that Limpopo province has more than 300 large commercial producers and around d 1000 smallholder tomato producers. The commercial sector contributes 95% of the total produce while the emerging sector contributes only 5%.

7.1.3 Potato

Currently the Province is the lead producer of Potato, accounting for 21% of total area under production in the country. The production regions in Limpopo are comprised of; Limpopo region (Dendron, Vivo and Soekmekaar) and Loskop Valley (Marble Hall). These production regions are known as Potato production belt of the province. Limpopo region has two production seasons (May –August and October to February), while Loskop Valley have one production season (August to November). Each production region has potato variety suitable for the area as per the research done by the potato industry. Potato market is segmented into three market chains, namely Potato Seed, Table potato (fresh market) and processing.

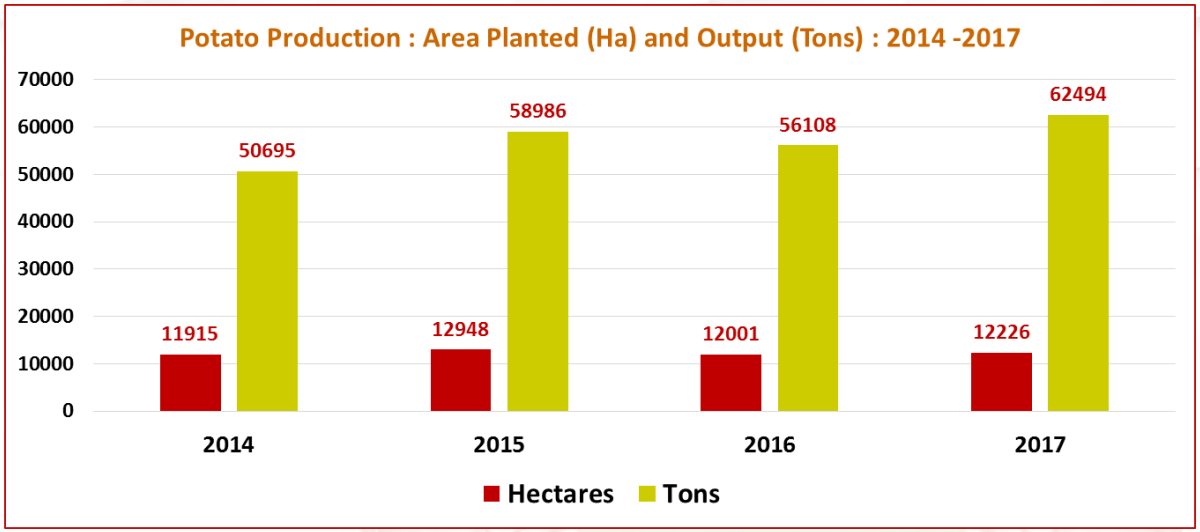
According to the Potato SA production regional information, Limpopo Province is divided into Limpopo and Loskop Valley regions which account 21% of total industry production in 2018. There are 9000 ha planted area in Limpopo region and 1292ha planted in Loskop area. According to SIQ mapping survey (2012) about 14 197 ha where planted with potato in Limpopo, of which some farmers are not registered with Potato SA. Annual production is about 300 000 tons from 7000 hectares with the area planted increasing in recent years.

Figure 9: Potato Production Areas in Limpopo



Source: LDARD SIQ Mapping Report (2012)

Figure 10: Potato production –Area planted and Output (tons) 2014-2017



Source: Potatoes'SA

The figure above illustrates the potato production are planted in Limpopo and the output from 2014-2017.

7.1.4 Onions

Onions are broadly categorized into short days, intermediate-day and long day types. In Limpopo Province, only short day and intermediate day onions are produced. Onions are planted under irrigation between March & April in Limpopo Province.

Onions are produced in almost all the Provinces of the RSA, mainly in the Western Cape (Ceres), the Northern Cape, the Northwest Province, and the Limpopo Province. Production has on average been increasing since 2010, with steady growth recorded from 619 000 tons in 2013 to 704 000 tons in 2017 (DAFF 2018).

Onion Producing Areas in Limpopo

The table below illustrates the main onion producing areas in the Limpopo Province. Onion production in these areas was assessed based on number of hectares under cultivation and not yield. The production data was surveyed by LDARD on their agricultural production mapping survey conducted in 2011/12.

Number of Hectares Planted with Onions in the Main Producing Areas of Limpopo Province (2012)

Local Municipality	Hectares Planted
1. Molemole	987
2. Lephalale	811
3. Blouberg	588
4. Bela Bela	558
5. Makhado	230
Total hectares for onion in Limpopo	**4, 020**
Total 2002	1 ,807
Total 2007	2 ,163
Change 2007 – 2012	85.87%

Source: LDARD,2012

Most of the Onions produced in Limpopo are produced in areas such as Makhado, (Vhembe district), Molemole, Blouberg, Polokwane (Capricorn district) and Bela-Bela, Lephalale (Waterberg District) Marble Hall (Sekhukhune District).

7.1.5 Growth Trend and Market Analysis

Vegetable industries have recorded growth in the past 5 years, owing to the growing demand and nutritional needs at household level.

Table 12: Vegetable market output

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
	1000t						
Potatoes	2165	2205	2202	2194	2344	2309	2290
Tomatoes	523	545	527	538	547	563	610
Onions	563	625	596	619	675	687	704
Green mealies	340	347	361	362	373	378	380
Pumpkin	237	244	247	245	256	254	256
Cabbage	153	141	136	146	146	139	152
Carrots	152	178	183	184	202	214	218

Data source: DAFF (2018)

Figure 11: Onion Production areas in Limpopo (Source: 2012)

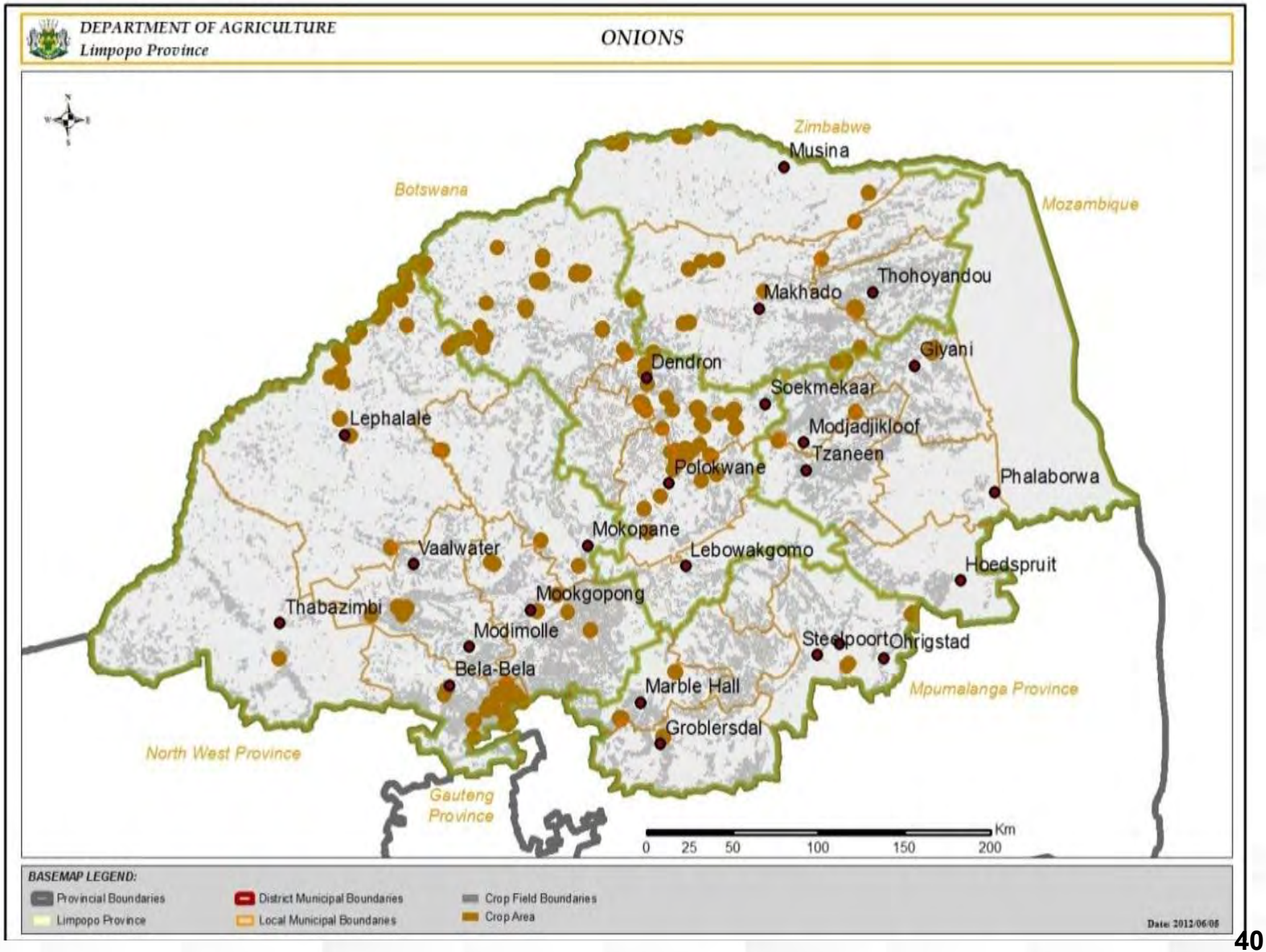
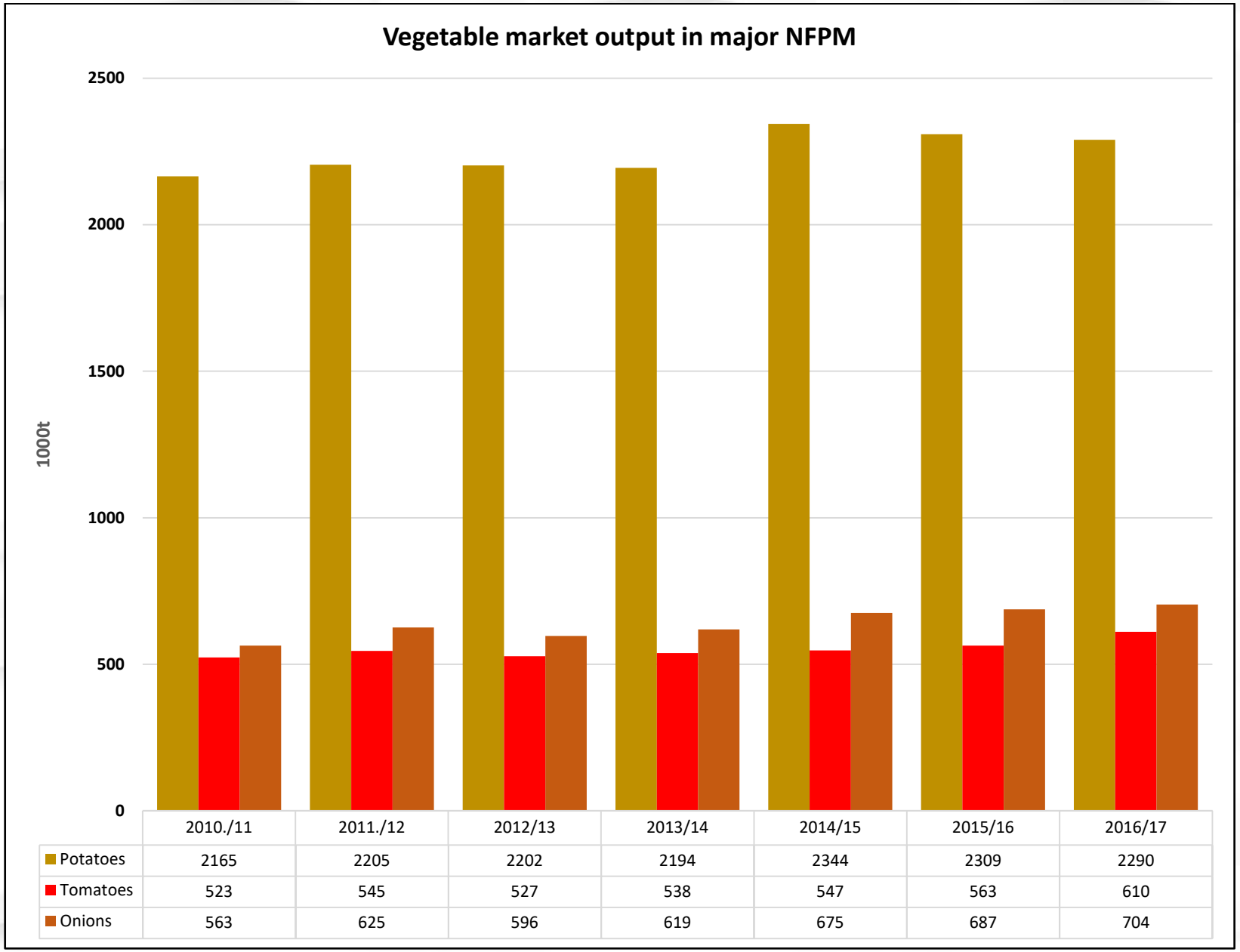
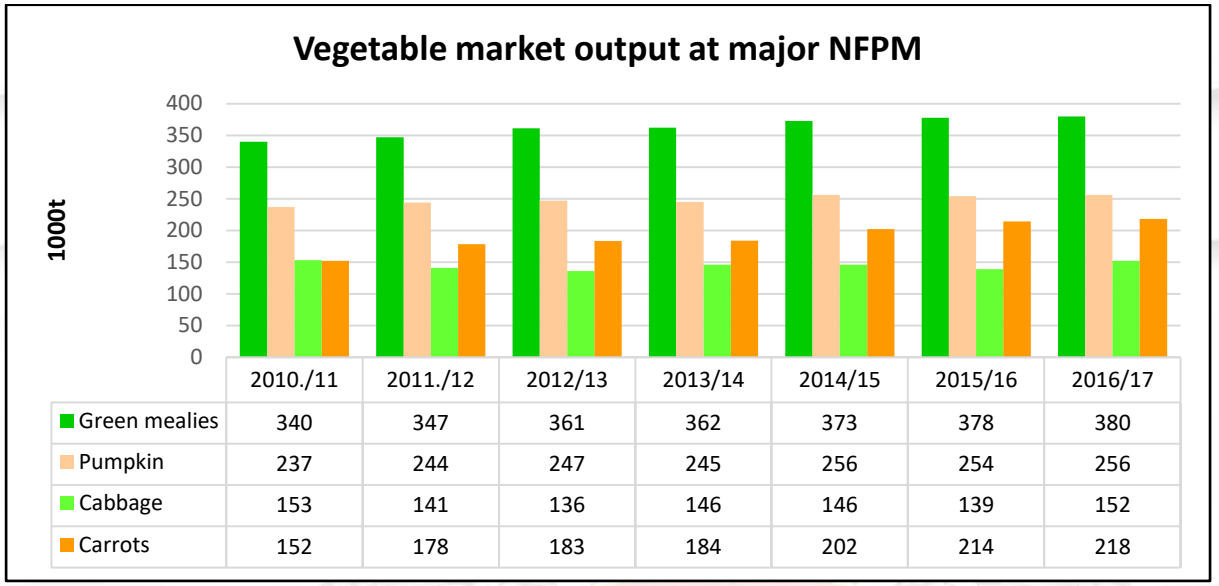


Figure 12: Vegetable sold at major National Fresh Production Markets



	2010./11	2011./12	2012/13	2013/14	2014/15	2015/16	2016/17
Potatoes	2165	2205	2202	2194	2344	2309	2290
Tomatoes	523	545	527	538	547	563	610
Onions	563	625	596	619	675	687	704



	2010./11	2011./12	2012/13	2013/14	2014/15	2015/16	2016/17
Green mealies	340	347	361	362	373	378	380
Pumpkin	237	244	247	245	256	254	256
Cabbage	153	141	136	146	146	139	152
Carrots	152	178	183	184	202	214	218

7.1.6 Market Access and Channels

National Fresh Produce Markets (NFPMs) remain an important channel for the sale of vegetables in South Africa. As a result, the NFPMs prices are the benchmark used in all national vegetables sales. The NFPMs are regarded as the preferred marketing channel for vegetables.

All key vegetables, use almost similar market channels, namely local market through fresh produce markets, exports, processing, direct marketing, and informal markets. This section will highlight market sales trends and market share of different market segments,

a) Vegetable Market sales at major national fresh produce markets

Figures below illustrate key vegetable market performance in the past 7 years at major national fresh produce in South Africa.

Figure 13: Tomato Market Sales at Major NFPM

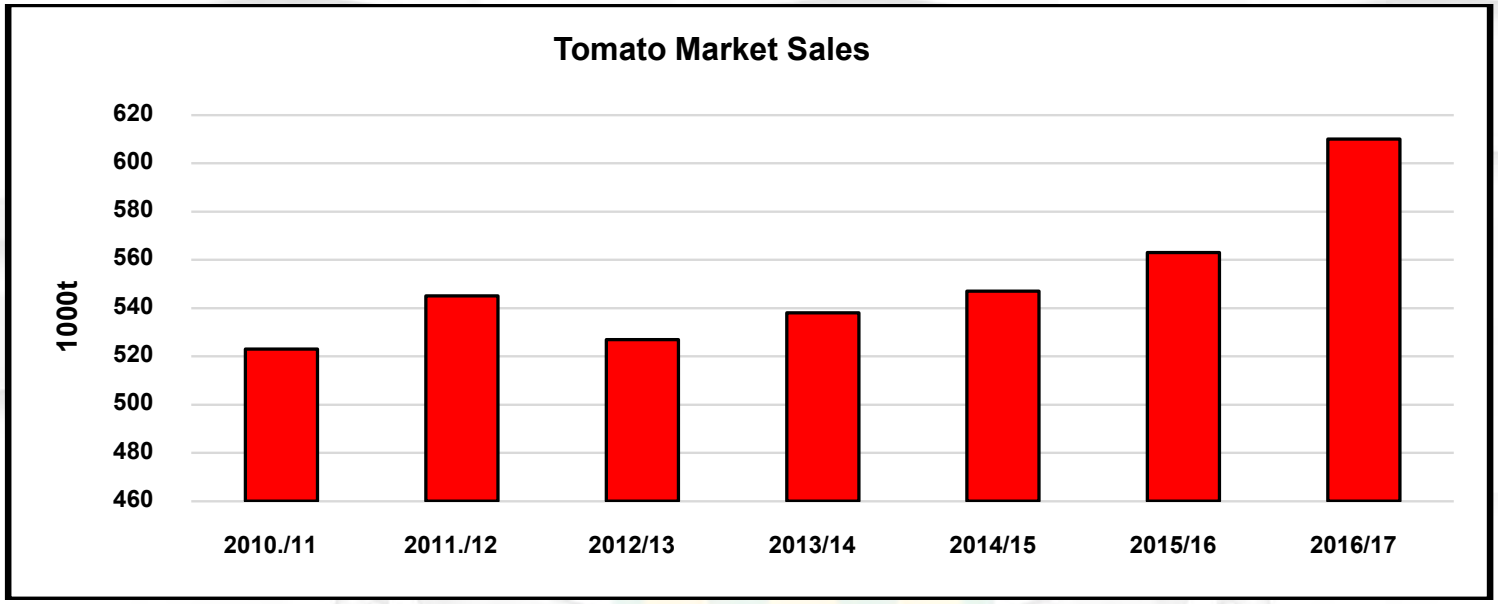


Figure 14: Potato Market Sales at Major NFPM

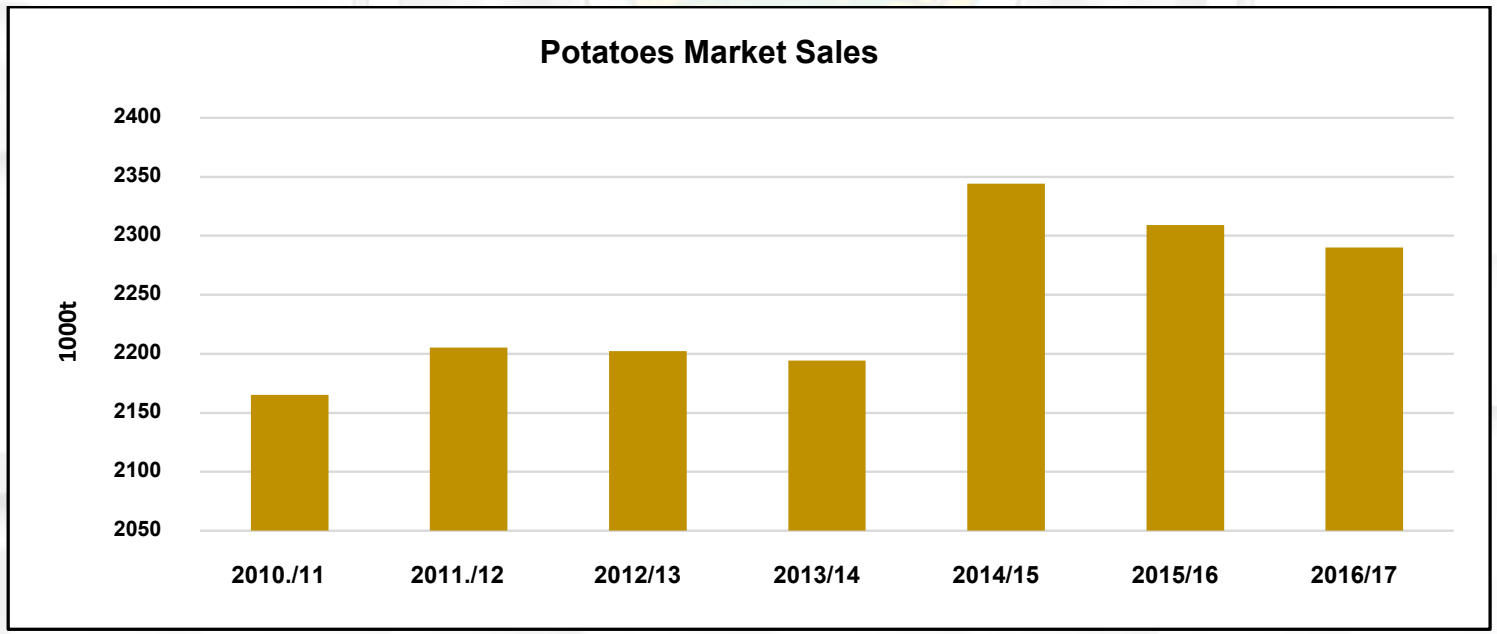
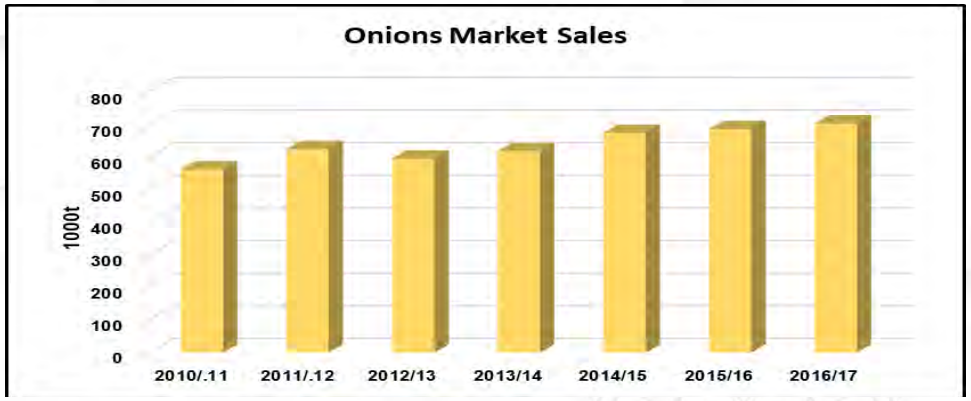


Figure 15: Onion Market Sales at Major NFPM



Source: DAFF and own analysis

The Johannesburg Fresh Market is the biggest market for tomato, followed by Tshwane, Cape Town, and Durban markets. In 2017, Johannesburg market share has slightly increased to 50%, Tshwane market share has at 17%, Cape Town market share was still at 11% and Durban market share has dropped to 6% of tomato market shares sold at major fresh produce markets.From 2010 till 2014, potato market sales have been increasing, till the drought that hit the country in 2015/16 that resulted in a reduced output. 2014/15 market season has seen record sales of 2 344 million tons sold at national fresh produce markets.

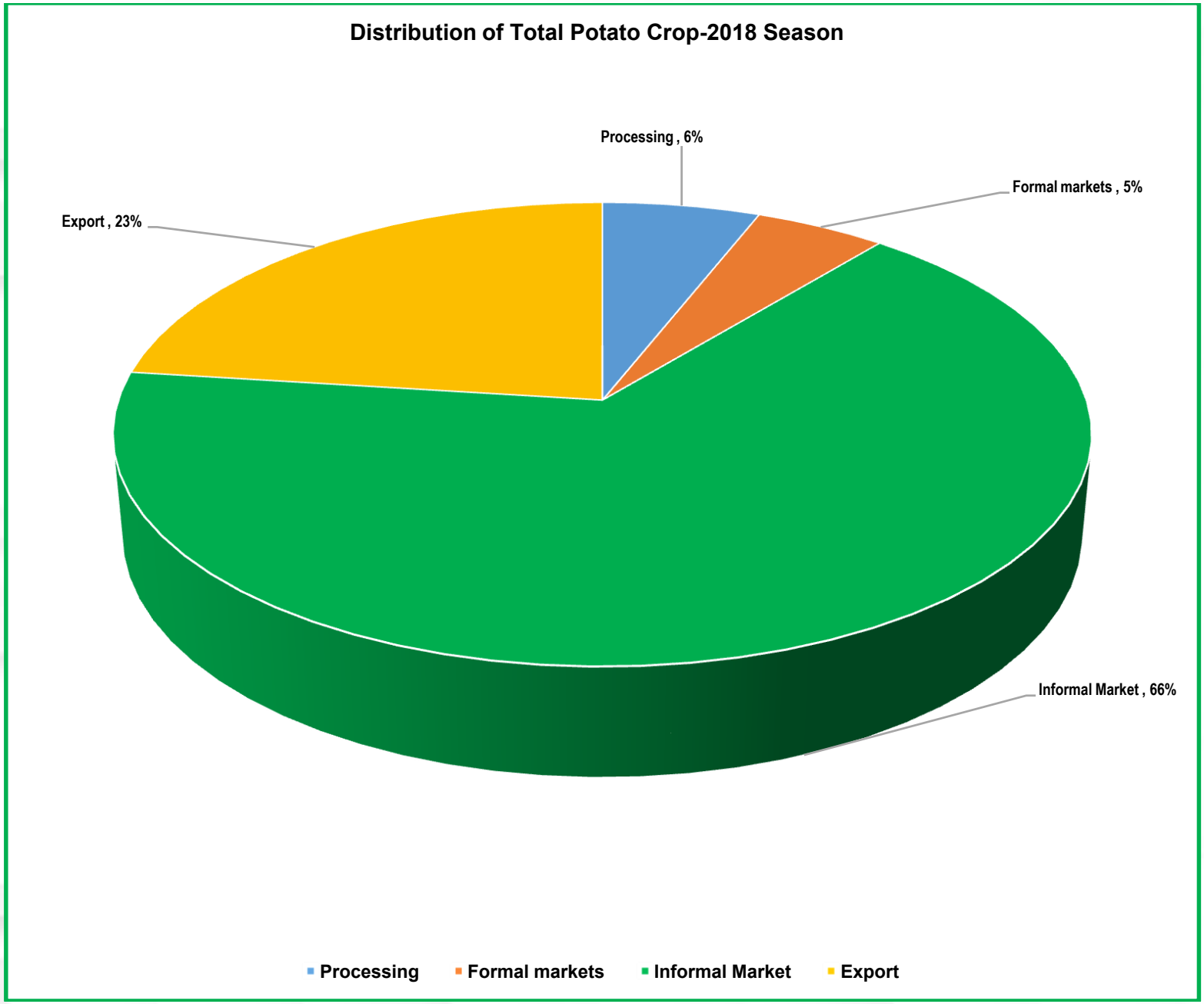
Limpopo province is one of the major producers of potatoes for both the domestic and export markets and contributes 41.4% to the value of total vegetable production. Almost 46% of the produce is sold to the 16 fresh produce markets (about 96 million of 10kg pockets). The bulk of the product is sold to the Johannesburg, Pretoria, and springs fresh produce markets respectively.

In South Africa potatoes are sold through different marketing channels such as national fresh produce market, informal trade (street hawkers), directly to retailers and processors for manufacturing of dry, frozen, and fresh chips. Lastly potatoes are also exported to other countries through export agents and marketing companies.

Potatoes are sold through different marketing channels such as:

- National fresh produce market (38%)
- Informal trade (28%)
- Directly to retailers (20%)
- Processors for manufacturing of dry, frozen, and fresh chips (6%).
- Exports (23%)

The figure below shows Potato market segmentation and distribution.
Figure 16: Potato market distribution -2018 crop year



Most of the potato crop is distributed through National Fresh Produce Markets to informal markets which is mainly township hawker market. The onion industry operates in the deregulated environment where the prices are determined by the forces of demand and supply and there are no restrictions in the marketing on onions.

The industry uses fresh produce markets, informal market, processors and direct selling to wholesalers and retailers as marketing channels. Onions are also exported to other countries through export agents and marketing companies. South Africa also imports onions from other countries. (DAFF, 2018)

There are two distinctive types of dry onions sold in the South African markets, these are fresh onion and the storage onion:

- The fresh or winter onions are available in late May or early June and can be purchased until end-November. These onions have a higher water and sugar and lower pyruvate content. They can be recognised by their lighter colour, mild flavour, and thinner skin.

- The storage or dry onion: it is available in the market in November just as the fresh onions are coming to an end. This type of onion has a darker skin that is much thicker than that of a fresh onion. Storage onions are firm, compact onions and are much less susceptible to bruising and shipping damage. This onion remains available through the summer months until May. Nature has endowed this onion with an excellent flavour and texture.

National Fresh Produce Markets remain an important channel for the sale of onions in South Africa. In 2017, 56% of onions were distributed through fresh produce markets and the remaining 44% represent direct sales to wholesalers, retailers, exports, processors, and informal traders. The sales volume sold through national fresh produce market have increased by 3.9%, when compared to 2016. During the same year, the onion export has slightly gone up by 1.9% compared to the previous year, while the processed onion has notably increased by 11.2%. The increment in growth in sales at the fresh produce market can be attributed to 4% increment in production output.

As indicated above, the NFPMs are the largest and preferred marketing and sales channel of onions in South Africa and as a result, the NFPM prices are used as the benchmark for all national onion sales. The Table below reflects the onion share by major fresh produce markets. Given the dominance of the NFPMs in distributing onions within the local market, the table below outlines the volumes traded and value of such trade for each NFPM.

7.1.7 Empowerment issues and Transformation in the industry

As already indicated, vegetable industry could be one of the largest contributors to job creation and the improvement of livelihoods if the potential growth in demand in South Africa and the southern African region is considered.

Vegetable production present an opportunity to empower many black emerging farmers in Limpopo, through production of variety of vegetable crops, such as cabbages, butter nut, tomato, Pepperdew, carrots, spinach and beetroot especially in the irrigation schemes throughout the province. Out of the vegetables crops produced in Limpopo, potato and onion area said to be capital intensive which is a barrier of entry to the industry. Though the province produces diverse vegetable commodities, focus of this section will be on three key strategic commodities, namely, tomato, potato and onion.

It is on record that, Limpopo produces estimated 75% of tomato crop in South Africa. Though the actual number cannot be quantified, it estimated that Limpopo province has more than 300 large commercial tomato producers and around 1000 smallholder tomato producers. The commercial sector contributes 95% of the total produce while the emerging sector contributes only 5%.

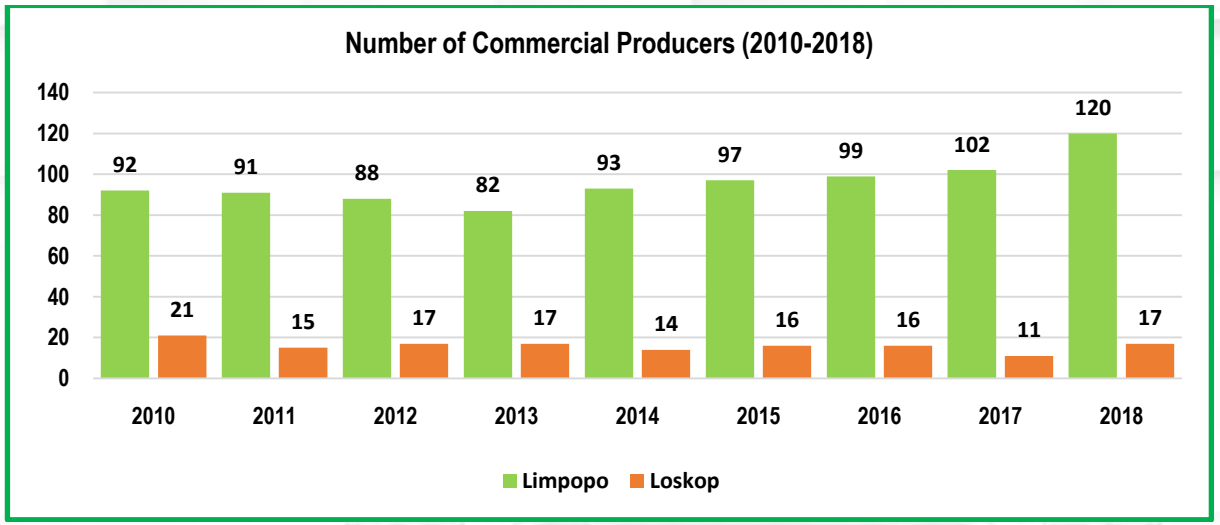
ZZ2 farming group remain the largest commercial tomato producer in Southern Africa. Some notable black commercial producers are found in Vhembe and Mopani Districts, namely Shatala farm commonly known as Nesane farm, Steve Mohale farm, and Makepisi –previously owned as Montina boerdery.

The tomato industry has established Tomato Producer Organisation (TPO) that serves commodity associations mainly for fresh tomato commercial producers. Emerging black producers in Limpopo has formed their own Limpopo Tomato Growers Association to serve the needs of small-scale emerging black farmers in the province. LTGA have representatives throughout the province major tomato production areas.

Potato industry is a high value and high-risk enterprises that require commercial approach and entrepreneurial skills. It is also known that most emerging black farmers are not yet commercial driven in their farming operations and those who are already commercial still require some support to ensure their sustainability.

The figure 16 below shows that, over the years we have witnessed reduction in the number of commercial potato producers in Limpopo. Number of farmers is going down; hence the production area is increasing, implying that existing farmers have large units. Of estimated 137 producers in Limpopo, black producers are less than ten.

Figure 17: Number of Potato Commercial producers in Limpopo



Source: Potatoes SA

Potatoes SA has well-coordinated transformation that aims to ensure the development of new Black commercial potato farmers. Farmers are supported for a period of four years, where PSA will supply them with seed potatoes on a sliding scale basis (Y1=100%, Y2=75%, Y3=50%, Y4=25%). The initial engagement with the farmers was that PSA will provide seed for between 3 and 5 ha, training where necessary, technical support and also expose the farmer to the industry through the New Farmer Induction initiative.

Though the program is aimed at integrating new black commercial producer in the industry, the program focusses on identifying producers who are already farmers (with other commodities) and introduce potatoes to them. Thereafter a pre-feasibility study is conducted as part of a selection process. A business plan is then compiled, partners such as financiers, input suppliers and off takers are identified, and the farmer is linked with other partners in the potato industry.

With majority of black emerging farmers farming with vegetables in Limpopo, especially at irrigation schemes and land reform farms, there is huge potential to introduce black farmers into potato industry. Some initiatives are already in place to develop more potato black commercial producers within Limpopo production region known as Capricorn potato belt.

Onion is one of high value vegetable commodity that is produced commercially in Limpopo. Currently it cannot be quantified how black emerging farmers involved in production on onion, if they exist, they may be producing it small scale and quantity.

Due its delicacy related to exposure of diseases, it requires good technical skills and industry knowledge.

The availability of the market, present an opportunity for potential production expansion, thereby integrating new emerging black producers in the industry. Capacity can be built over time through partnerships and mentorship with established producers.

7.1.8 Employment in the Vegetable Industry

Vegetable industry is labour intensive at both primary production and secondary level. Management and maintenance of vegetable production can create much needed jobs in rural areas. More jobs are also created during harvest period, whereby temporal labourers are employed activities such as picking of tomatoes, potato, and onions. Value addition is one area that can enhance the sustainability of vegetable farming in rural areas. Jobs at the pack house facilities are direct downstream opportunities that can be increased with increased expansion of production and development of value-add infrastructure.

7.1.9 Agro-Processing Opportunities

Today preservation of food is increasingly important for food security and nutrition of households.

Most food items that form part of our daily dietary requirements are processed food stuff. Most of vegetables processing mainly happens in provinces like Gauteng and imported as packaged finish goods at very high price to local consumers. To explore vegetable processing opportunities, this document will reflect on the tomato and potato processing opportunities. There are few vegetable processing factories in the province. Tomato and Pepper dew are some of commodities that are locally processed within the production hubs.

a) Tomato

Processing of tomatoes consists of canning, freezing, dehydration and juice production. Tomatoes are processed into tomato and onion can mix, into pasta mixtures, tomato puree and pasta concentrates. Most of the tomato processing in the province takes place in the form of tomato paste, powder, and very little canning or sauce production. Table below indicates the tomato processing activities in the province and capacity of the existing processors.

Table 3: Current Tomato Processing Activities in Limpopo

Current Tomato processors in Limpopo				
Name	**Products**	**Location**	**Size/capacity**	**Current Status Market**
APOL* **	Tomato paste, tomato puree, Tomato powder, canned tomato, and onion mix	Politsi	3000 tons /annum Upgraded to 750tons per day	Not operating
Tiger Brand	Tomato paste, tomato puree, Tomato powder, tomato sauce	Musina	85 000 tons / annum	Operational
Miami Canners	Tomato paste, tomato puree, Tomato powder, canned tomato, and onion mix	Polokwane	15 000 tons / annum	Operational
Giant Foods	Tomato paste, tomato puree, Tomato powder, canned tomato, and onion mix	Makhado	1 000 tons / annum	Operational
Darots-Aljoy	Tomato paste, tomato puree, Tomato powder, canned tomato, and onion mix	Modjadjiskloof	700 tons	Operational

Current capacity of tomato processing industry is not optimally utilised due low supply of raw processing tomato HTX. To integrate blacks into tomato value chain, government in Limpopo have spearheaded some agro-processing initiatives in the province. In 2008 Limpopo Department of Agriculture and Rural Development took a decision to ensure participation of black farmers in the secondary value chain of key commodities with competitive advantage in Limpopo.

Tomato was one of the industries that government identified and supported local black tomato producers to acquire equity stake in tomato processing factory known as Norjax canning based in Tzaneen. Due to competition with cheap imports, the local industry has been struggling. For Norjax canning it was worse, they were producing low quality tomato paste compared to 38 brix import paste.

This led to Norjax Canning to close down, trying to seek investment in the new technology that will improve the capacity and quality. LDARD has supported Norjax to upgrade and revitalise their factory with installation of the latest processing technology that can produce world class quality of tomato paste in the province. The acquired evaporator will increase processing capacity Norjax Canning to 750tons per day producing 38 brix tomato paste.

The increased capacity will require huge intake and throughput of raw tomato, which will require increased production expansion of processing tomato HTX. This present opportunity to have more emerging farmers to produce processing tomato in irrigation schemes across the province.

b) **Potato**

Potatoes are processed into frozen fries, dry crisp, fresh chips and mixed with other vegetables. The produce is also used in canning and for microwave convenience food.

Most of the potato processing happens outside Limpopo, mainly Gauteng. There are several processing companies in the potato industry, that process potato into different finished products. Some of the main players together with the products they manufacture are listed below:

Table 4: List of Main Players in the Potato Processing Industry.

Processed Potato Products	Crips	Frozen Fries	Fresh Fries	Canned Potatoes	Mixed Vegetables
List of Main Role Players	• Dowmont Foods • Frimax • Kavalier Foods • L&C Messaris • Willards • Poco Foods • Simba Quix	• Lamberts Bay Canning co. • McCains • Mine Corp	• Dimpho Fresh Food • Errol Veg • Mannic Chips • Rooipoort • Fresh Products • Super Chip	• Langeberg Koop • Giant Foods	• Dimpho Fresh Food • Golden Harvest • McCains

Currently many potato farmers in the Limpopo Province have contracts with McCain, Simba, and Willard‘s, where farmers plant potatoes and harvesters inspect produce during various stages. Once the potatoes are approved, they are harvested and delivered to these companies for further processing. McCain and Tiger Brands are large consumers of potatoes grown in the Limpopo Province.

There is a new proposed potato processing initiatives spearheaded by one of the commercial potato producers and private investors in Limpopo region. The project is known as Tala foods and is a public private partnership where local black growers will also acquire a stake.

As for general processing of variety of vegetables produced in Limpopo, there is potential for processing of mixed frozen vegetables for hospitality industry and government institutions such schools, hospitals, and prisons.

7.1.10 Employment in the Vegetable Industry

Vegetable industry is labour intensive at both primary production and secondary level. Management and maintenance of vegetable production can create much needed jobs in rural areas. More jobs are also created during harvest period, whereby temporal labourers are employed activities such as picking of tomatoes, potato, and onions.

Value addition is one area that can enhance the sustainability of vegetable farming in rural areas. Jobs at the pack house facilities are direct downstream opportunities that can be increased with increased expansion of production and development of value-add infrastructure.

7.1.11 Industry Growth Constraints and Opportunities

a) Constraints

Besides Limpopo being a leading producer of key vegetables such as tomato and potatoes, there are sector and value chain constraints that have an impact on the industry sustainability, growth, and its competitiveness.

In general, the vegetable industries are under pressure from rising inputs cost and transaction costs of doing business at both primary and secondary level. Some of the key. Following are the main constraints that will affect the industry growth, especially the transformation of the industry.

- Potato production equipment is specialized and expensive.
- Potatoes have very high input cost which is a barrier for new entrants and growth.
- Suitable areas are limited owing to the requirement of a frost-free area.
- Difficulty in maintaining the quality of produce for exports for destination.
- High expenses in refrigerated transport over long distance
- Lack local processing facility in the province now. Most processors are based in Gauteng Province.
- The potato industry in the province requires financial support to establish processing firm in the province, particularly the Dendron area where production is taking place.

Processing

- **Raw Material Supply**: Current processing capacity is not optimally utilized or explored due low supply of raw materials from producers.
- **Imports Competition**: Local processors are facing fierce challenge of cheap imports from countries such as China. China can produce tomato powder and paste at cheaper rates and sell it for much less to South African market.
- **Access to Funding**: Funding for both primary production and processing industry development seems to be the main hurdle for industry growth and sustainability.
- **Technology**: To compete with imports, local tomato industry requires to adopt latest technology that can produce 36 -38 brix tomato puree.

b) Industry Growth Opportunities

Agro-ecological climate of Limpopo Province continues to give the province competitive advantage to produce variety of vegetable crops throughout the year. Increasing demand for agriculture produce due to population growth will also increase the demand for vegetables such potato and tomato in South Africa.

Tomato industry growth opportunity exist for Limpopo farmers, owing to the growing demand at national fresh produce markets and retail markets.

The industry has the opportunity to expand area under production by integrating more resource poor farmers in rural areas. The Limpopo expansion will be driven by agro-processing industry development, considering the revitalisation and upgrade of Norjax Canning factory in Tzaneen. The capacity of the factory has been increased with installation of the world class processing technology.

For sustainability of the processing plant, estimated 2500ha need to be developed over the next 5 years.

Potato is high end commodity, with high growth potential in terms of income generation and job creation. As the industry is currently dominated by established commercial farmers with little participation of black farmers.

Potato farmers have the opportunity to increase value of potatoes through semi processing which includes washing, packaging, peeling, and cutting. The increasing market for convenience food can be exploited by potato farmers and create local brands with small-scale processing activities supplying to local market.Potato SA transformation program presents an opportunity for collaboration with government to develop and increase the participation of black producers in the industry. In partnership with government the programme can provide the following:

- Enterprise development support (business plan)
- Market access
- Subsidised inputs such as potato seeds
- Government can leverage support through CASP for production infrastructure development such as irrigation, specialised mechanisation.

Empowerment opportunity exist for current black commercial producers‘ thorough equity investment in the processing industry development.

Integration of potato producers into farmer support production unit and Agri-Hub‘s activities of the proposed Agri-parks, can go a long way in integrating black producers into the value chain activities.

FRUIT INDUSTRY

Limpopo agricultural competitiveness is anchored by Citrus and Subtropical fruits

7.2 Fruits

Fruit industry is a crucial component of the South African economy and plays an important role in the development of the agricultural sector. It is estimated that 50% of total cultivated hectares of fruits is in the Western Cape, dominated by table grapes, apples, pome, and stone fruit. Hence Limpopo Province dominate in the production of citrus and subtropical fruits, with the rest spread out between Eastern Cape, Mpumalanga and KwaZulu Natal.

Fruits are traded internationally and locally with significant effects on both markets. Furthermore, fresh fruit and processed fruit products are traded, with processing increasing in significance as the range of fruit being produced continues to expand.

Having stated the above, the fruit industry overview entails a brief assessment of the fruit market along with the related challenges and risks, the value chain, and agro-processing opportunities.

Factors such as physical properties of land, climate, rainfall, temperature, and cultural practices determine the cultivation and use of fruit. South Africa‘s variety in climatic conditions enables the production of a range of fruit, including: citrus, deciduous and subtropical fruit. These groups, and some common fruit types found in each group are listed in Table 5-1 below.

Table 5: Fruit Categories

Fruit type	Fruit
Citrus	*Oranges, grapefruit, soft citrus, navels, and lemons*
Subtropical	*Avocado, banana, mangoes, litchis, papayas, guavas, granadillas and pineapples*
Nuts	*Macadamia nuts*
Deciduous	*Table grapes, peaches*
Others	*Watermelons*

This report will put more attention on fruits produced in Limpopo, with reference to citrus, avocado, macadamia nuts, litchis, and mangoes.Vhembe and Mopani Districts are subtropical fruits production hubs in the province. Citrus footprint is across all districts, with Mopani and Vhembe having highest concentration of production. In addition to sub-tropical fruit, the Vhembe and Mopani districts are known for Macadamia nut production. More illustrations on geographical distribution of production will be made with production mapping.

7.2.1 Production of Fruits

7.2.1.1 Citrus

South Africa is the 13th citrus producer in the world and the 2nd largest fresh citrus produce exporter in the World. Of the total SA citrus production Limpopo Province is the largest producer in terms area planted (34 763ha), which constitute 42%of area under production.There is 83 490 hectares of citrus Orchards in South Africa, Limpopo production area -34 763ha which is 42% of total SA production.

Table 6: Citrus production statistics

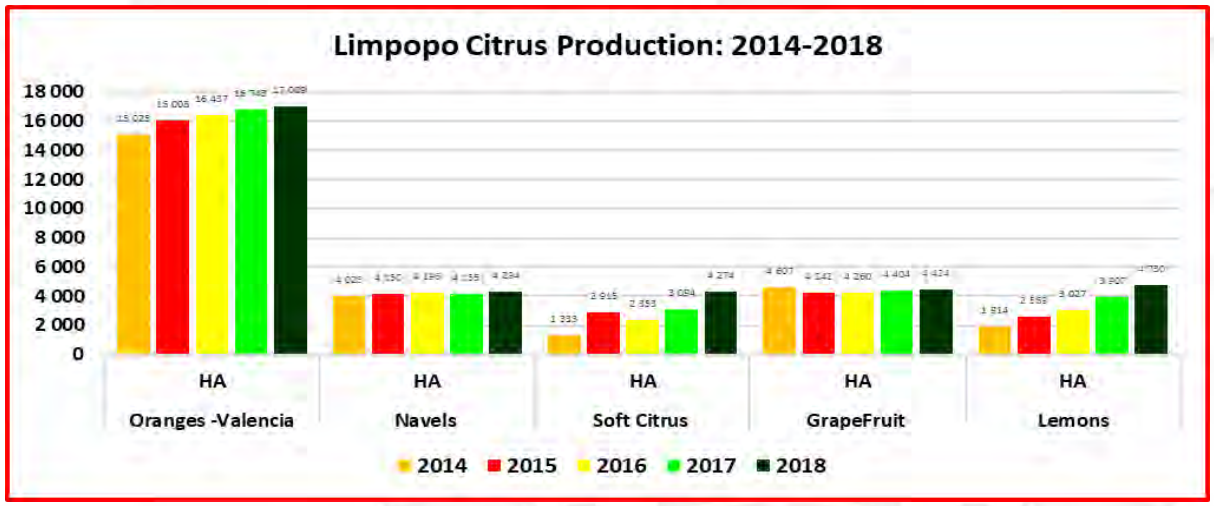
	South Africa (Area in Ha)	Limpopo Province (Area in Ha)
Area planted in 2010	**58 101**	**18 146**
Area planted in 2018	83 490	34 743
Total area (ha) increase :2010-2018)	25 389	16 743
% Increase (Change 2010 -2018)	44%	52%

Source: Citrus Grower Association and own analysis

Tremendous growth has been recorded in the citrus industry in South Africa in terms area under production and production output. The industry has grown from 58 101 hectares under production in 2010 to 83 490 hectares in 2018, which is 44% increase.

Of 25 389 ha planted since 2010, Limpopo province had contributed 16 743ha which is 65% proportional share. This contribution and trend confirm Limpopo as a production hub for citrus and future industry growth put Limpopo core driver.

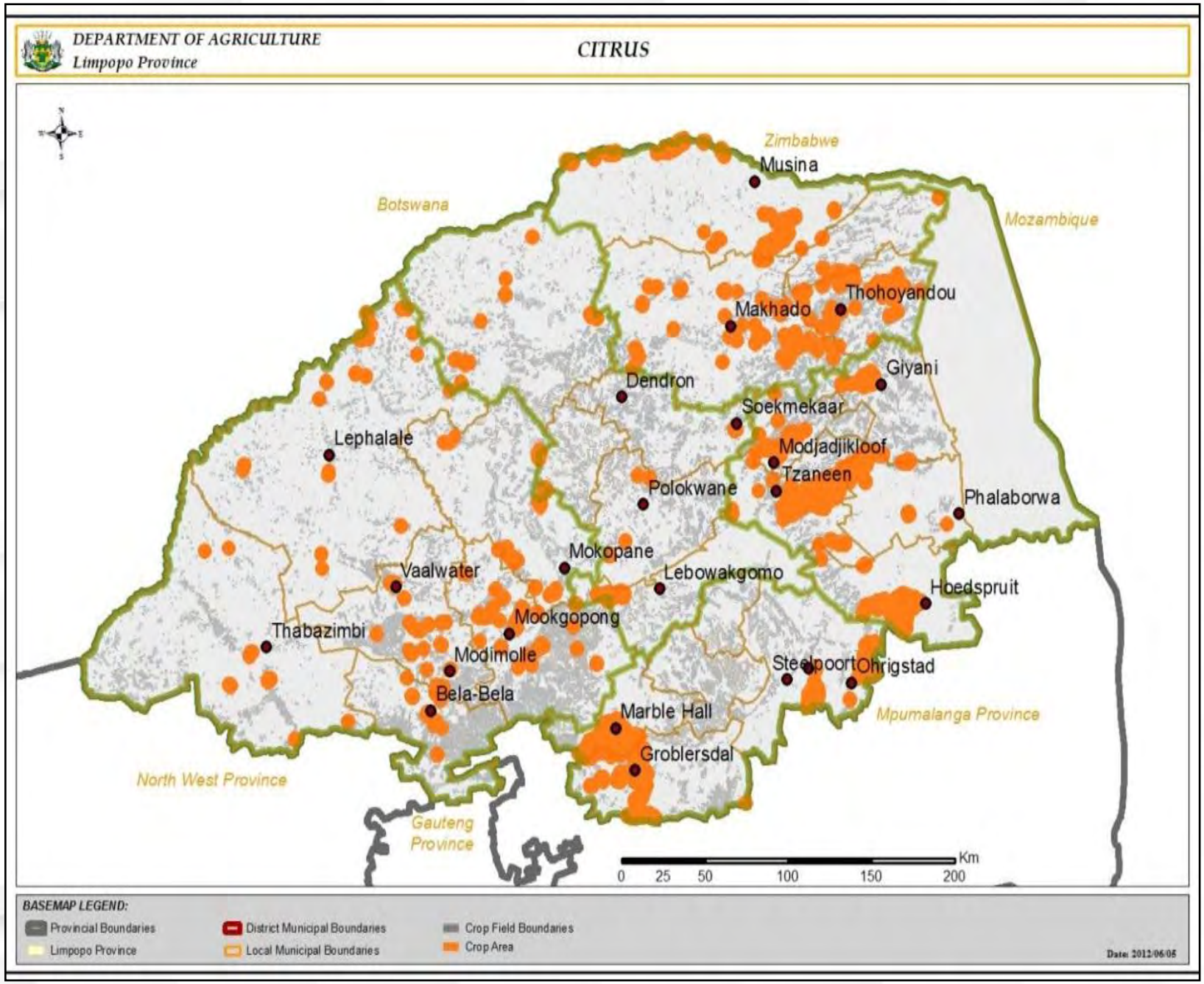
Figure 1: Citrus commodity production in Limpopo



Source: CGA and own analysis

Figure 19 below illustrates the production areas in the province with hectares planted for citrus production. As illustrated in figure 19, the Limpopo citrus production footprint spread in 4 districts, namely Vhembe, Mopani, Capricorn, and Sekhukhune.

Figure 20: Citrus production areas in Limpopo



The two leading regions for Valencia production are Limpopo and Mpumalanga (although Valencia oranges are also grown in Eastern Cape and Western Cape on a smaller scale). Approximately 49 % of Valencia‘s are grown in Limpopo, which is characterized by warm to hot climatic conditions needed for Valencia production. The main cultivars for Valencia‘s are Delta and Midnight, and the harvest season extends from July to September.
The citrus industry in the province is divided into three broad sub-sectors namely commercial farms, emerging farms, and subsistence farms.

- Commercial farms operate as business and are run by owners, employed or professional managers. The farms vary in size although the majority tends to range from medium to large. Many are mechanized and are dependent heavily on significant volumes of inputs. These farms also have well developed infrastructure and marketing outlets.
- Emerging farms are in transition between subsistence and commercial farms. They range between (10-50ha). Consumption of inputs are moderate and employment levels are also low.
- Subsistence farms are small in size and characterized by fragmented plots. Such lands are utilized for domestic consumption, surplus if any is sold in the local market. These farms lack adequate production and market infrastructure. No inputs are used, and labour is generally household members.

7.2.1.2 Subtropical fruits

Limpopo is a production hub of subtropical fruits in South Africa, with production footprint in the tropic warm climate district of Mopani and Vhembe.
As outlined in table 5, main subtropical fruits produced in Limpopo are avocados, mangoes, bananas, litchis, and guavas. Over the year‘s banana and mango commodity production has been in the decline due market competition with other key commodities such as citrus and avocados.

Table 7, below outline the key subtropical statistics, that shows the strength of each commodity.

	Avocado	Litchi	Macadamia	Mango	Total
RSA Area under production (ha)	15 500	1 730	20 000	7 000	**44 230**
Production in Limpopo	**9400**	**300**	**6000**	**4600**	**20300**
% production area	**61%**	**19%**	**30%**	**66%**	
Annual production (tons)	115 000	5000	40 000	75 000	**235 000**
Employment	5 100	2 400	8 000	3 000	**18 500**
Commercial growers	340	100	500	120	**1060**
Emerging growers	60	30	110	70	**270**

This document will focus avocados and macadamia nuts as key high value subtropical fruit and nuts commodities.

a) Avocado

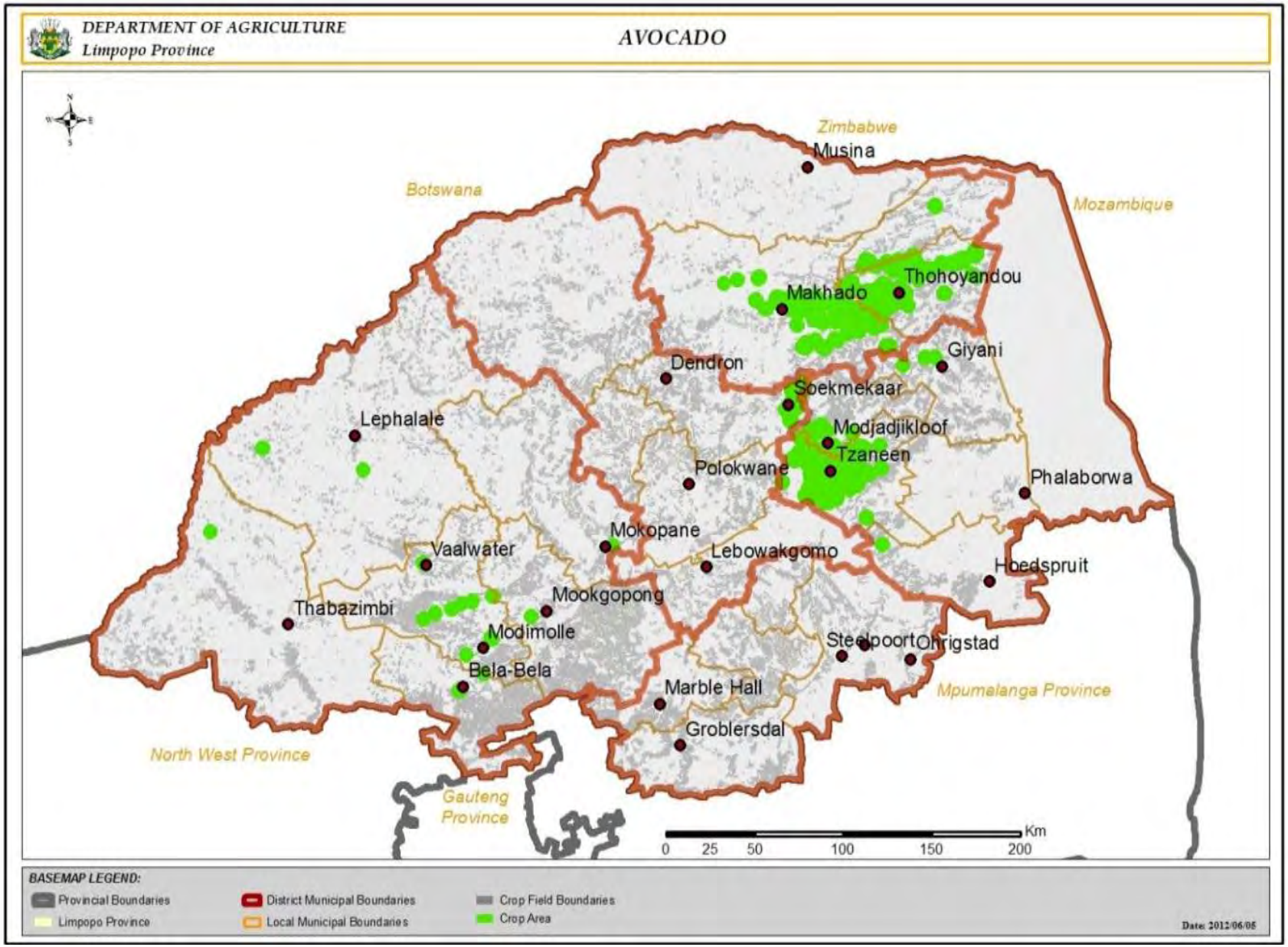
Avocado production in South Africa is an export-oriented commodity aimed primarily at the European market. The production is concentrated mainly in the warm subtropical areas of the Limpopo and Mpumalanga provinces in the North-East of the country and to a lesser extent the Kwazulu-Natal province where the conditions are cooler due to the more southerly latitude. Due to climatic variability between the growing regions, most of the major cultivars are available over an extended period. The different regions give the industry the ability to produce avocados from the end of February to the beginning of November, with the bulk of the crop from the end of February until the beginning of September.

Limpopo Province represents 61 percent of national avocado plantings. Most of the avocado plantings are found in the Letaba area under Mopani District. The other main production area is Soutpansberg under Makhado municipality in Vhembe District. Total avocado plantings in Limpopo Province increased at an average annual rate of 1.7 % for the past 6 years and no growth was realized for the last three years. A growth of 3.6 percent per annum was realized for other provinces (mainly Mpumalanga) for the past six years.

Currently, an estimated 40% of the total South African crop is produced in the Letaba farming district, of Limpopo Province. Between 60% and 65% of the avocado crop is destined for the export market.

The Avocado producing belt in Limpopo is illustrated on the figure 21 below.

Figure: 21 Avocado production areas in Limpopo



Source: Limpopo Agricultural Production Mapping Report, 2012

b) Macadamia

South Africa is the third largest macadamia producer in the world and contributes 11 percent to global production. Australia is first with 47 percent and Hawaii second with 20 percent. Macadamia production in South Africa amount to 3 062-ton kernels in 2005. Approximately 96 percent of South African production is currently being exported. Macadamias are one of a few agricultural commodities where global demand exceeds global supply. This will however not continue indefinitely, as supply will increase in future.

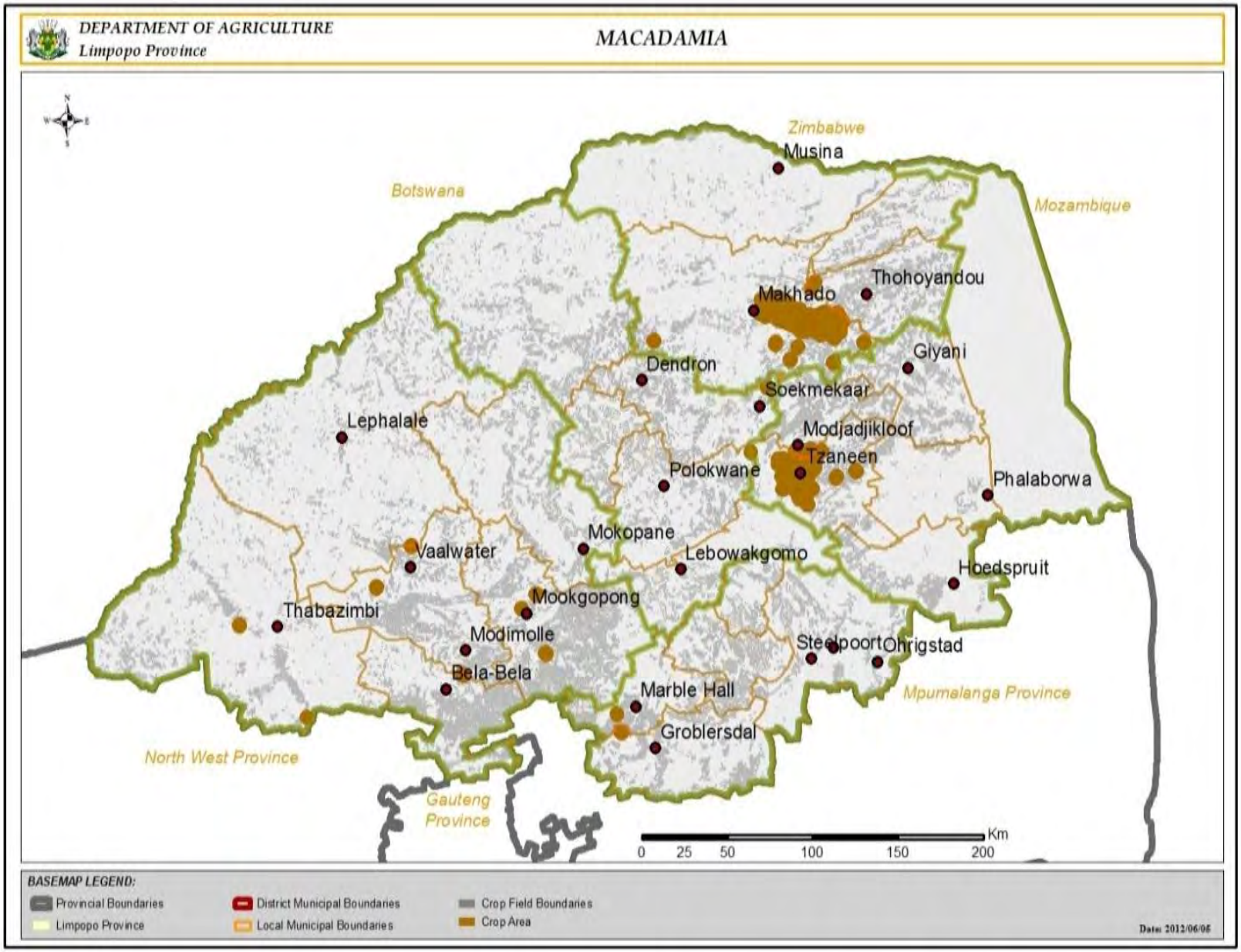
The main production regions are Makhado/Levubu and Tzaneen with approximately 66 percent of the total area in Makhado/Levubu area and the rest in Tzaneen.South Africa‘s 2006 macadamia nut production is expected to increase to reach 19,500 tons wet-in-shells (WIS) because of expanded area harvested and enough rainfall in production regions. South Africa‘s macadamia production is projected to reach about 44,000 tons (WIS) in 2010, and expected to further double by 2016, when all new plantings have reached full production. South Africa‘s processing industry is still having enormous untapped potential (USDA Foreign Agricultural Service, 2006).

Table 8: Top Three Macadamia Nut Production Areas

Province	Hectares cultivated for Macadamia	Tree Planted	Production Areas	Production Percentage
Mpumalanga	8, 820	2, 025, 794	Barberton, Nelspruit, Hazy view	51%
Limpopo	**5, 105**	**1, 550, 000**	**Tzaneen and Levubu**	**30%**
KwaZulu Natal	2, 859	694, 675	North and South coast	16%

The map below shows the areas in Limpopo that produces macadamia nut.

Figure 22: Macadamia Nuts production areas in Limpopo



Macadamia nuts are mainly grown in Limpopo (Tzaneen and Levubu), Mpumalanga (Barberton, Nelspruit and Hazyview), and on the north and south coast of KwaZulu- Natal. In the neighbouring countries Macadamias are produced in Swaziland, Malawi, and Zimbabwe. There are close to 1000 farmers growing macadamia nuts that are supplied to 12 cracking factories.

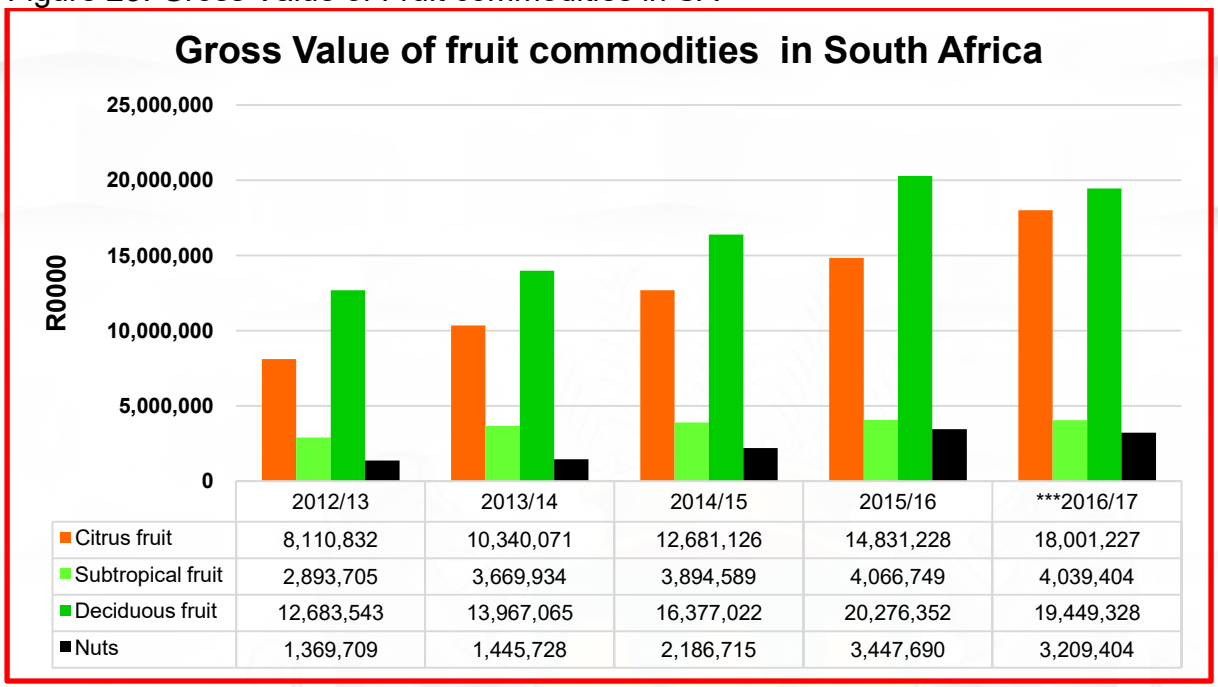
7.2.2 Growth trends and Market Analysis

Over the past decade we have seen tremendous growth of number of hectares under production for citrus industry, which is estimated at 30% growth, with Limpopo growing in the same rate from 2014. In the subtropical fruit industry, avocados industry has recorded some slow growth, with banana and mango industries production area declining due to the industries competitiveness and markets challenges.

According to BFAP, given the current market conditions, challenges regarding access to new markets and import tariff structures enforced by many countries importing fruit from South Africa, the expectation is that future expansion will slow down in terms of number of hectares, hence production output growth rate will increase in the short term as non-bearing hectares starts to contribute to production, after which it will stabilise in line with longer term average hectares‘ growth.

South African fruit industry is export oriented and is one of the biggest foreign income earners. Some recent data shows that South African Fresh Fruit Export Value (R) = R48.3 billion (2018), growth of 19.3% from 2017 (R40.5 billion).

Figure 23: Gross Value of Fruit commodities in SA



	2012/13	2013/14	2014/15	2015/16	***2016/17
Citrus fruit	8,110,832	10,340,071	12,681,126	14,831,228	18,001,227
Subtropical fruit	2,893,705	3,669,934	3,894,589	4,066,749	4,039,404
Deciduous fruit	12,683,543	13,967,065	16,377,022	20,276,352	19,449,328
Nuts	1,369,709	1,445,728	2,186,715	3,447,690	3,209,404

Source: DAFF and own analysis

Figure 23 above shows a significant growth of the citrus and deciduous fruits since 2013. Subtropical fruits are at low, level, might be attributed to decline in production of banana and mango. Avocado and macadamia are high value crops that still have potential to grow is production expansion is explored.

7.2.3 Market Structure

South African fruits industry is export oriented especially, citrus, subtropical fruits, nuts, and deciduous fruits. South Africa is 2nd largest exporter of citrus following Spain. Citrus market distribution is segmented as follows: 76% exported, 6% domestic market and 18% processed.

Locally, citrus produce is sold though different marketing channels such as National Fresh Produce Markets (NFPMs), informal markets (street hawkers and bakkie traders), and directly to processors for juice making and dried fruit production. The fruits are also sold directly to wholesalers and retailers through direct supply contracts. Macadamia industry is mainly for processed products that, 70% is destined for exports markets.Demand of South African fruits internationally present an opportunity for foreign income earning for the province and also participation of black growers.

7.2.4 Transformation and empowerment in the industry

a) Citrus

Citrus industry is one industry that have taken transformation of the industry in terms both ownership of both production and production, and integration of previously disadvantaged individuals management of citrus industry enterprises. Citrus grower association has since transformed previously known as Citrus Development Chamber into Citrus Grower Development Company, that specifically look at the issues development farmers and their participation into the mainstream value chain.
According to the CGA Grower Development Company both proportion share land ownership and export cartons in the hands of PDIs is nearing 10%.The recent emerging sector situational report commissioned by CGA; Limpopo Province have most citrus development farmers in the country. Majority of citrus development farmers found in Vhembe, Mopani, and Waterberg. Many of the farms were former ARDC projects and farms delivered through land reform program of government.

From the situational report, many of development farmer‘s enterprises, which are manly black farmers experience various challenges ranging from, access to markets, production capital, infrastructure development and beneficiary conflicts.

b) Subtropical fruits

Subtropical industry also has a transformation program aimed at empowerment of black growers in the industry. The industry has dedicated transformation summit that serves as a platform to learn best practices and networking of sector stakeholders. Subtropical industry is one of the industries that was heavily affected by land reform, with major land restitution projects within major production areas in Limpopo and Mpumalanga.Land restitution properties are mainly found in the heart of the production hubs, with special reference to Tzaneen, Letaba,Hoedspruit and Levubu.

By default, the sustainability of the industry is dependent on successful land reform settlements and partnerships. Many established commercial farmers are to partner with beneficiary communities to expand production of macadamia and avocadoes.

7.2.5 Agro-processing opportunities

a) Citrus

Processing of citrus include juices, concentrate (which can be mixed with other fruits), marmalades, jams and essential oils obtained from the fruit peels used in the manufacturing of flavours and colours for usage in drinks, essential pharmaceutical oil, and food products.

There are numerous pack houses with cold storage facilities in the province with a high number of pack houses in the Capricorn District Municipality. The majority of these pack houses belong to commercial farmers;thus, they are able to partake in the vertical integration of produce from farm to market. A high number of pack houses are located in the Greater Letaba, Tzaneen, Marble Hall and Maruleng Local Municipality. The province has citrus processing factories such as Granor Passi, H.F.P, Letaba Citrus Processors located in areas producing high volumes of citrus. These factories combine other fruits (e.g., mango, peaches, guava etc.) in their manufacturing to ensure in and out of season production.

b) Macadamia

The kernel is the main product from the macadamia nut tree. Ice cream manufacturers and the baking industry also use macadamia kernels as an ingredient. The shell and husk are used as mulch or composted for fertilizer. Oil can be extracted from nuts and used in soaps, sunscreens, and shampoos. The remaining press cake can also be used for animal feed.

7.2.6 Employment in the fruit industry

a) Citrus

The citrus industry is labour intensive, and it is estimated that it employs more than 100 000 people, with large numbers of workers in the orchards and packing houses. An unspecified number of people are employed throughout the supply chain services such as transport, port handing and allied services. It is estimated that more than a million households depend on the South African citrus industry for their livelihood.

Citrus industry is one the industry with the highest labour absorption in both primary and downstream level. It is estimated that one worker is played per ha, which can translate to 34 763 workers in Limpopo citrus farms. Direct downstream labour requirements for citrus –estimated at one labour per 2500 cartons packed per year with estimated 137 million cartons in 2019 – 54 800 jobs created at pack houses for 6 months, or 20 000 fulltime equivalents.

b) Sub tropical fruits

Avocado and macadamia farming systems are also labour absorptive, especially with orchards maintenance and harvesting activities. The job creation also extends to downstream level in packing of avocadoes and cracking of nuts.

7.2.7 Industry Growth Constraints and Opportunities

7.2.7.1 Growth constraints

There are constraints which can limit the growth of the sector:

- **The rising costs of production**: With added requirements of food safety and traceability adding to the cost of administration burden, many smaller farming units are becoming unsustainable.
- **Legislative requirements** such as labour, water and environmental laws and skills development requirements are becoming cumbersome and making the business of citrus farming less profitable.
- **Emerging sector:** Despite all the support that was received through partnerships created, the environment under which emerging farmers operate continues to demand improvement on the following:
    - Use of title deeds as a form of collateral.
    - Capacity and capability of trust and Community Property Associations (CPA) to engage on commercial ventures.
    - Accessibility to support programs from the government and other role-players.

Macadamia is expensive because it takes five to 12 years for a tree to produce nuts (a good tree will still be producing nuts 40 years on). They are cultivated mostly commercially but also grown by subsistence farmers. The other obstacle is that harvesting, which takes place in late autumn to spring, is typically done by hand, and pickers have to wait until ripe nuts fall to the ground. Mechanised shaking machines (used for pecans and almonds, for example), which dislodge nuts from the tree to speed up the process, cannot be used with macadamias, as the nuts mature on the tree at different rates.

So first the macadamia nuts are husked (like coconuts, the nut is encased within two layers) and then air-dried in the shade for at least two weeks to reduce the moisture content and allow the natural oil to develop. Once the nuts are in the cracking factory, the challenge is getting them out whole, which involves careful drying at 40-43°C to further reduce the moisture content, making the shell brittle and easier to crack.

7.2.7.2 Potential and opportunity for expansion

a) Citrus

Given the growth trend in the past 10 years, both at national and provincial level. foreign income earning for the country. Citrus is projected as a commodity with high growth potential in terms of jobs creation in the sector and as foreign income earner for the country.Beside identification of new citrus projects, Limpopo have potential to revitalise the existing citrus development projects that have been profiled by CGA situational analysis reports.

Many existing development citrus enterprises has been marred by lack of access to markets, production capital and beneficiary conflicts. This has resulted in citrus orchards not maintained, infrastructure dilapidation, low yields, and poor-quality fruits.For each profiled citrus enterprise by CGA situational report, they have identified areas that require intervention also estimated costs of development and revitalisation.

The following categorization was developed at the request of the Citrus Growers Development Chamber to determine intervention needs of different citrus development projects.

- **GREEN** refers to a grower whose farming enterprise is viable, secure markets, skilled technically and financially, good crop yields (quality and quantity), provides jobs, able to service loans, makes profit etc. This category is mostly exporting or are ready to export. These enterprises meet the required economically viable unit for citrus.
- **AMBER** refers to a grower whose orchards are not producing to full potential. One of the major limiting factors is access to finance, hence they will mostly have un-bearing orchards.
- **RED** refers to a grower whose enterprise has stopped operating for several reasons, it could be financial crisis, insecure tenure and water rights, access roads, energy shortages, dead orchards. Another limiting factor for these enterprises includes the size and the social issues.

b) Macadamia

Although most of the workforce in the fruit industry is employed seasonally for harvesting and processing, it is estimated that at least 3 000 new job opportunities have been created on macadamia farms over the last decade and another 1 000 jobs in cracking facilities. In peak season, the industry presently provides employment for more than 4 500 farm workers and about 1 500 factory workers. Since production is expected to double within the next 5 to 7 years, employment creation will continue to grow at a similar pace.

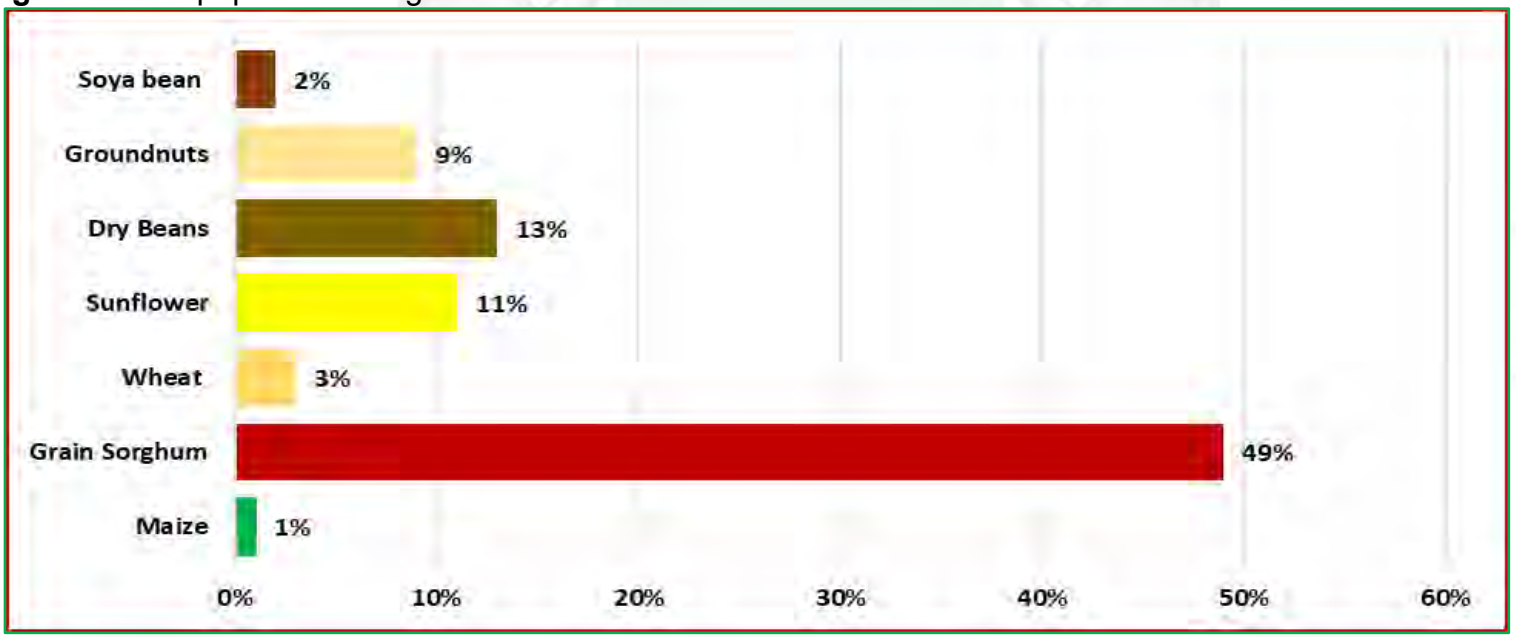
Field Crops

7.3.1 Grains and Oil Seeds

While Limpopo is highly competitive in fruits and vegetables, the province is an insignificant producer of grains and oilseeds, but it has potential to expand its production given the existing agro climatic limitations.Our demand for grain and oilseeds products far outstrips our supply and we mitigate for our shortfall through imports from provinces such as Free State, Northwest, and Mpumalanga.

Our agro-climatic conditions are not conducive to produce enough grains and oilseeds under rain fed conditions, whilst at the same time we do not have adequate water resources to produce under irrigation due competition with other high value commodities.Limpopo percentage production share of grains and oilseeds commodities in the country is illustrated on the figure below.

Figure 24: Limpopo Percentage Contribution: Grains and Oilseeds Production



Source: DAFF CEC and Own Analysis

From the graph above, Limpopo is insignificant producer of maize and, but with proportional share on production of sorghum, dry bean, and sunflower. There is potential to expand production of sorghum, dry bean, and sunflower.

Maize is the most important grain crop in South Africa, being both the major feed grain and the staple food for most of the South African population. About 60% of maize produced in South Africa is white and the other 40% is yellow maize. Yellow maize is mostly used for animal feed production while the white maize is primarily for human consumption. Maize is produced throughout South Africa with Free State, Mpumalanga and Northwest provinces being the largest producers, accounting for approximately 83% of total production. Limpopo contributes only 1% of the total production in the country.

Sunflower is the third largest grain crop produced in South Africa after maize and wheat. South Africa is not a significant role player in the production and trade of oilseeds in the international market since it contributes only about 3% to the sunflower seed produced in the world (DAFF, 2012). Limpopo currently produces about 61 000 tons of sunflower seeds (CEC, 2019). It contributes 11% of the total production in South Africa and it is ranked third after Free State and Northwest. Most seed produced is marketed locally by expressers, animal feeds and for seeds.

Groundnuts can be consumed in an unprocessed state, but they also serve in the economy as raw materials for the manufacturing of various products. These include, but not limited to, the manufacturing of such products as peanuts, peanut butter, sweets, and cooking oil. The production of groundnuts is highly affected by the costs of production inputs as well as the demand for groundnuts.

As already mentioned above that, Limpopo is not the major producer of grains at large as we account for only 1% of maize production in the country. Most of the farmers in Limpopo produce grains under dry land and the minimum rainfall needed for production of maize is 400-600mm per annum. The province is mostly dry and hot which makes the production of grains such as maize and wheat to be at minimal.

Most of the commercial grain production happens in Sekhukhune, Waterberg Districts, and some part of Capricorn. Small holder and subsistence productions mainly happen in tribal lands under dry land in Vhembe, Mopani, Capricorn, and Sekhukhune.

Maps below shows the geographic distribution of production grains and oilseeds crops in the province.

Figure 25: Small Scale Maize production areas in Limpopo

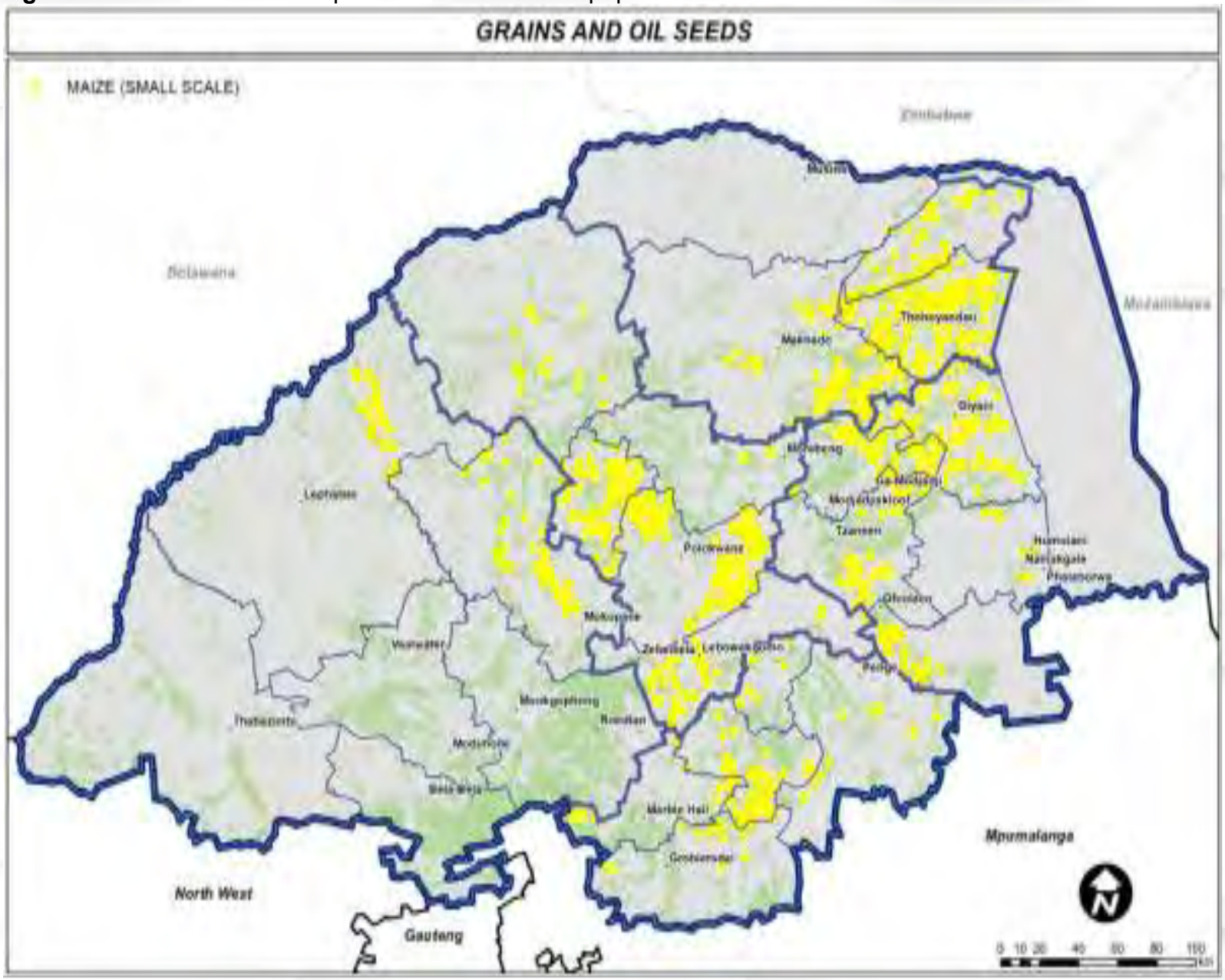


Figure 26: Commercial Maize Production Areas in Limpopo

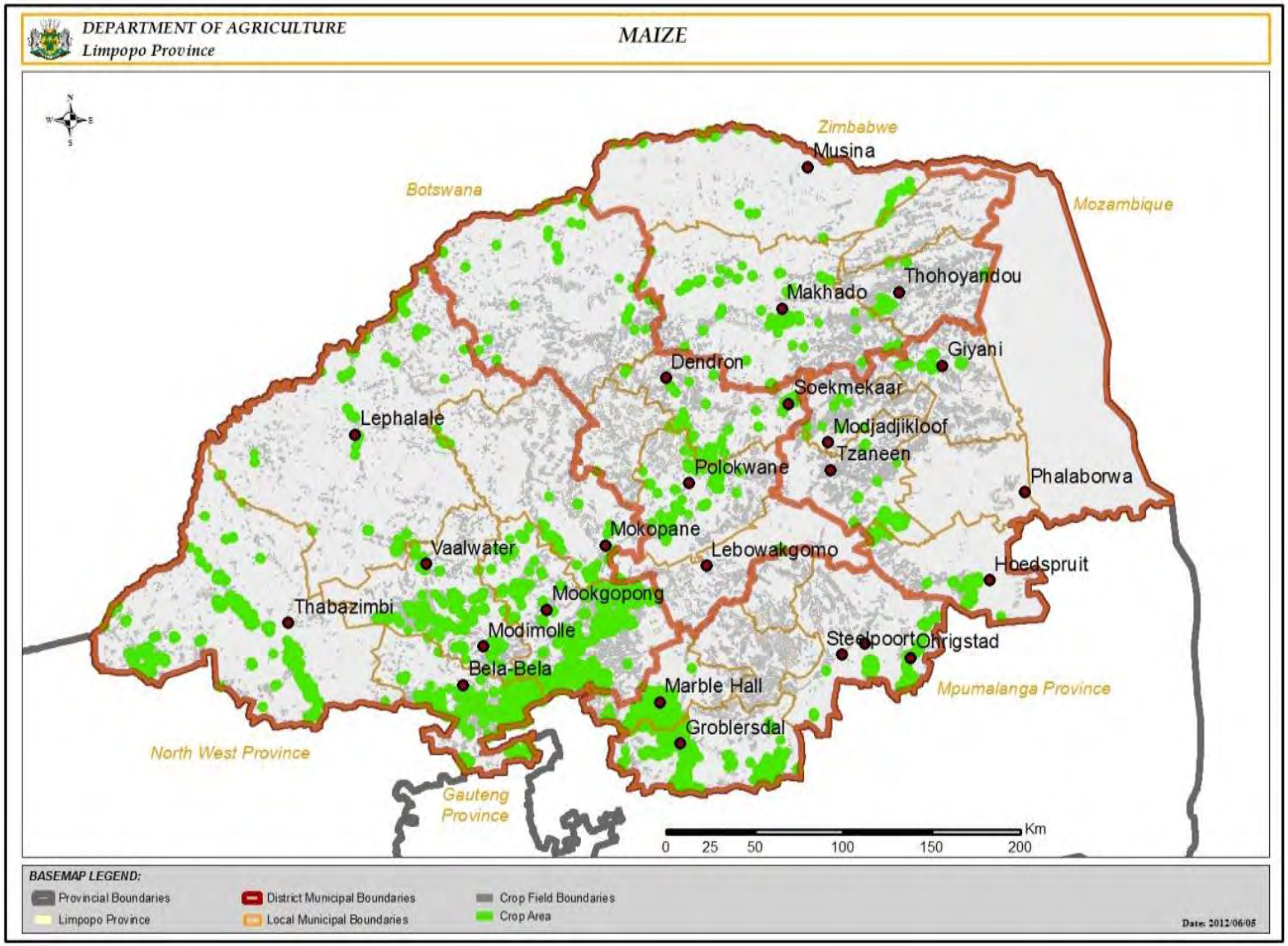
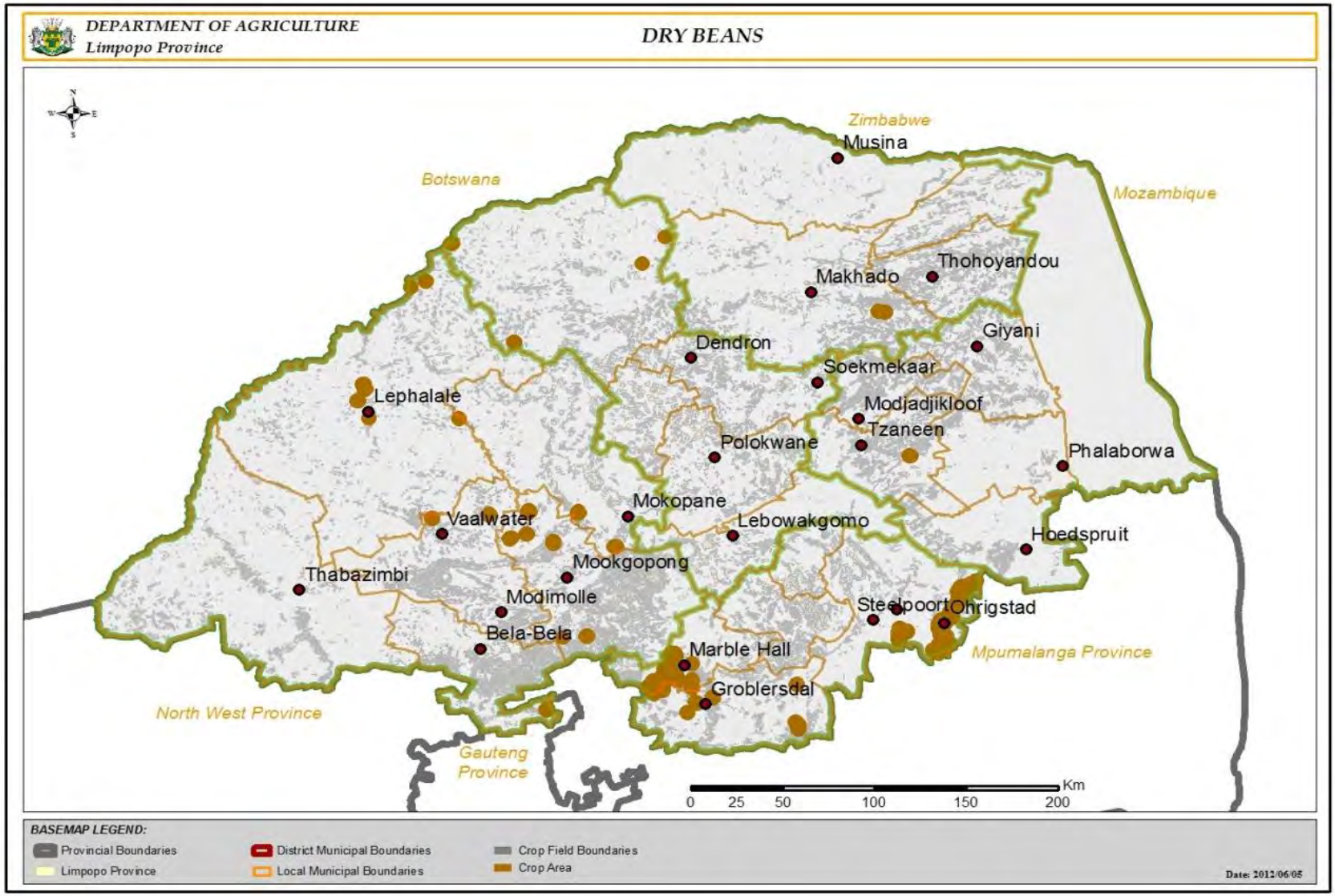


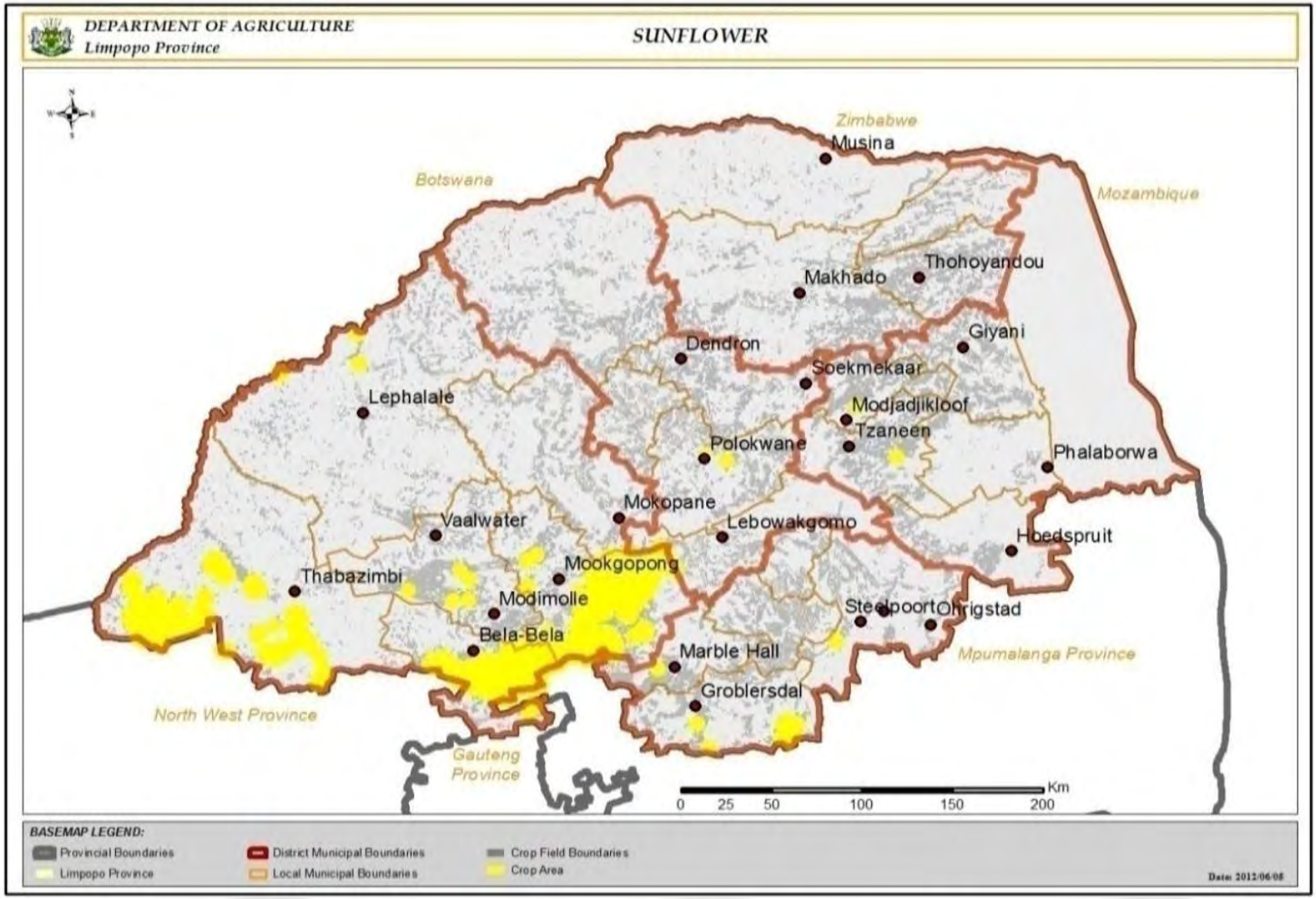
Figure 27: Dry Beans Production Areas in Limpopo



Source: Limpopo Department of Agriculture 2012

The dry beans producing areas in the province are mainly found in the Greater Tubatse, Greater Marble Hall, Mookgopong and Elias Motsoaledi Local Municipalities.

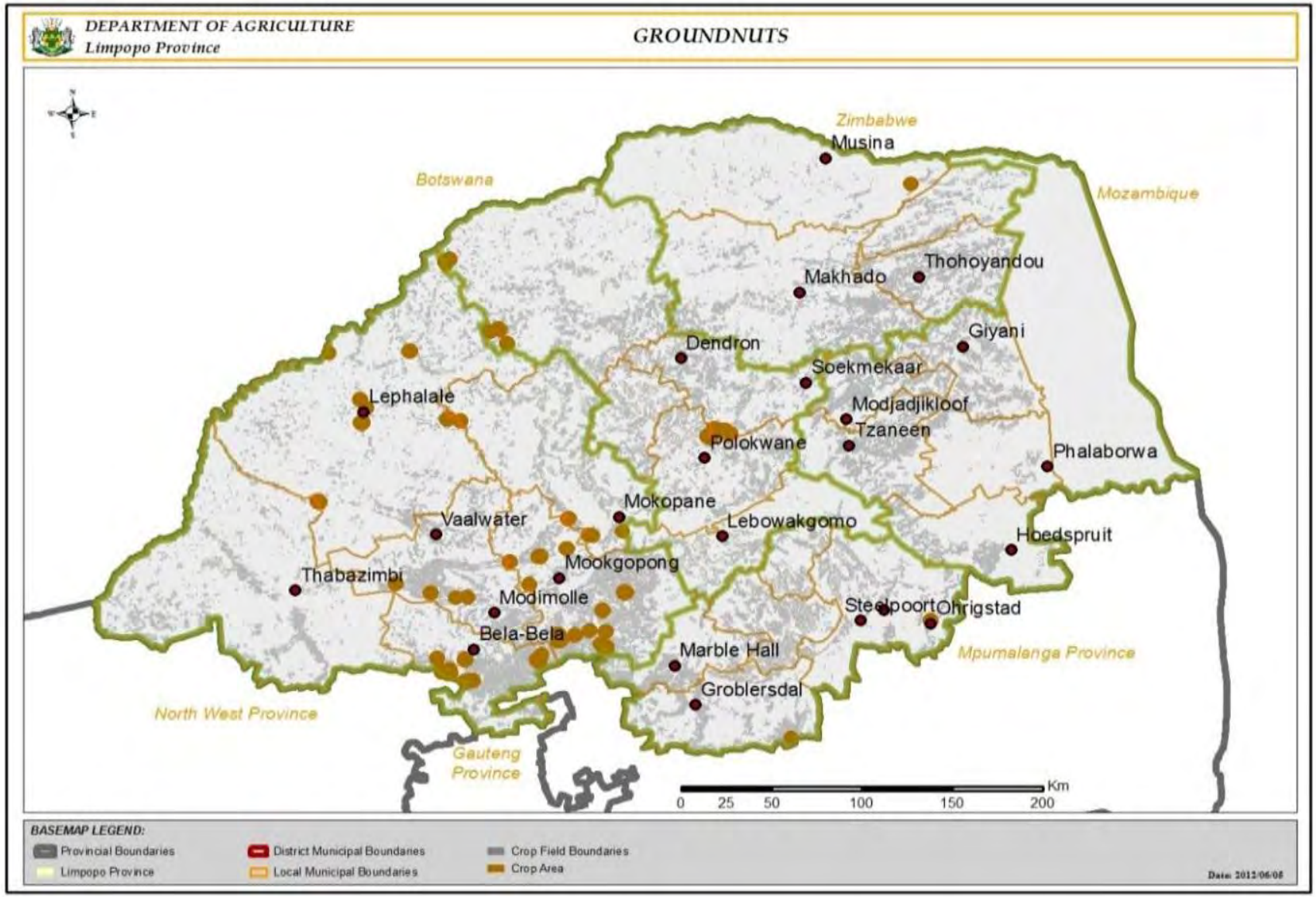
Figure 28: Sunflower production areas in Limpopo



Source: LDARD 2012

Sunflower production in the Limpopo province mainly happens in the Mookgopong, Bela Bela and Thabazimbi Local Municipalities.

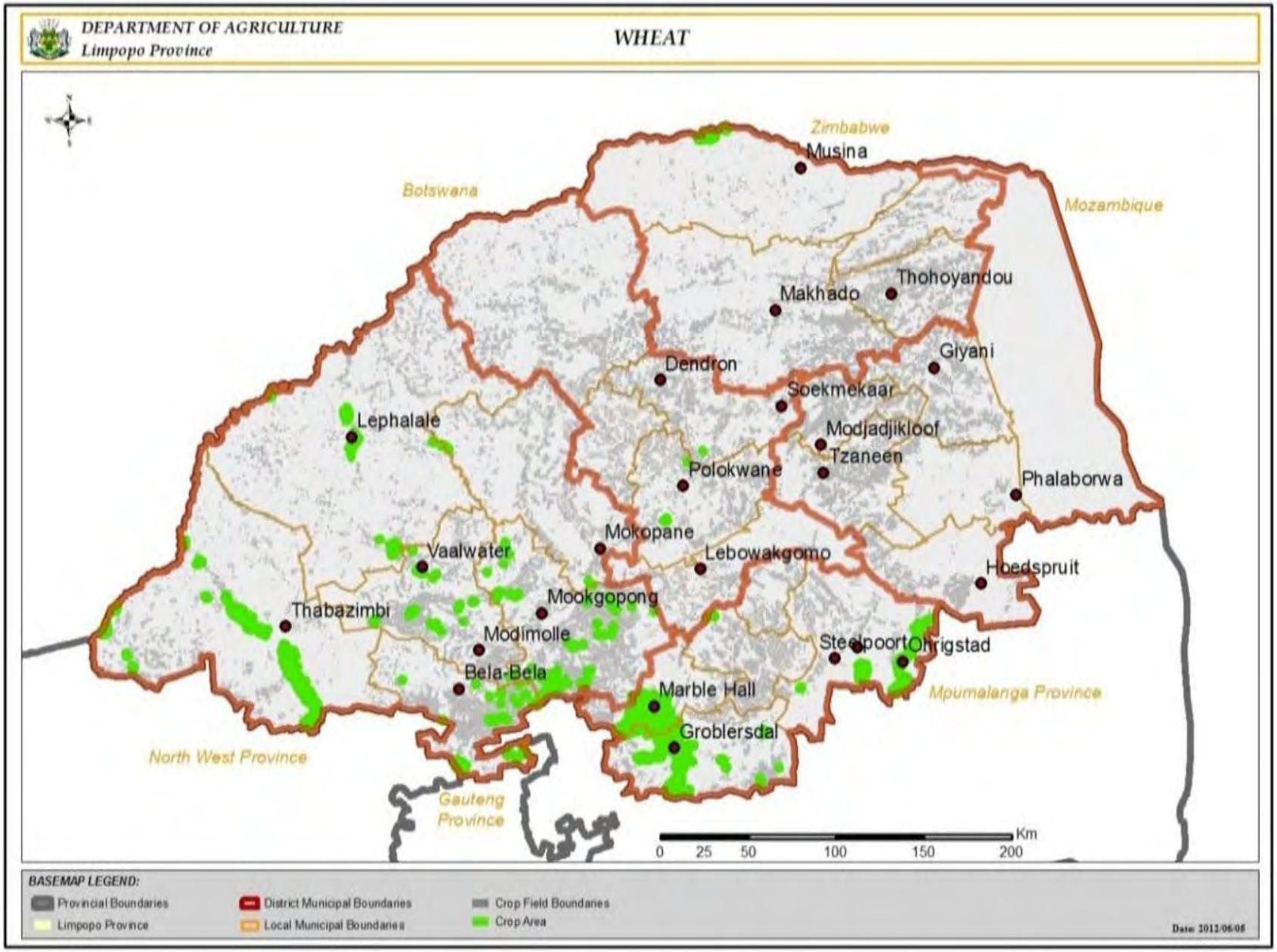
Figure 29 : Groundnuts production areas in Limpopo



Source: LDARD 2012

Map 4.4 illustrates groundnuts production areas in the Limpopo province. The Mookgopong, Lephalale, Bela Bela and Blouberg Local Municipalities have high areas planted for the production of groundnut.

Figure 30: Wheat production areas in Limpopo



Source: Limpopo Department of Agriculture 2012

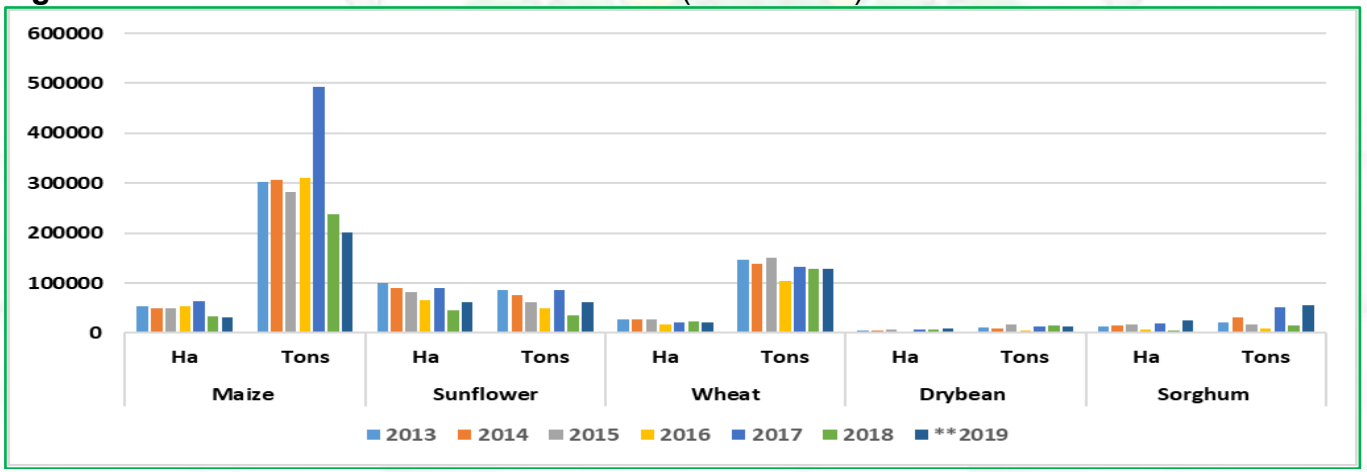
7.3.2 Growth trend and Market Structure

Table 09: Grain and Oilseeds Production data (2013 -2019)

Prod Year	Maize		Sunflower		Wheat		Dry-bean		Sorghum	
	Area Planted (ha)	Prod (tons)	Area Planted (ha)	Prod (tons)	Area Planted (ha)	Prod (tons)	Area Planted (ha)	Prod (tons)	Area Planted (ha)	Prod (tons)
2013	53500	302000	99 000	85 000	28 000	146 000	5 400	10 800	12 000	21 000
2014	50 000	307 000	90 000	76 275	27 500	137 500	5 500	9 625	14 000	32 000
2015	49 500	282 750	82 000	61 500	27 000	151 200	7 000	16 800	16 000	17 600
2016	53 500	310 000	65 000	48 750	17 000	103 700	3 000	3 750	7 000	9 800
2017	64 000	492 000	90 000	85 500	20 000	132 000	7 000	12 950	18 000	50 400
2018	33 000	237 700	45 000	36 000	22 000	128 000	7 500	15 000	5 000	15 500
****2019**	30 800	200 200	61 000	61 000	20 000	128 000	7 800	12 480	25 000	55 000

Source: DAFF -CEC

Figure 31: Grain and Oilseeds Production data (2013 -2019)



Source: DAFF -CEC

The production data in the table above and depiction in the figure 31 shows the production trend of grains and oilseeds in Limpopo. The data confirms insignificant contribution by the province in production of major grains crops such as maize (1%) and wheat. (3%).

Production area of all major grain and oilseeds crops has drastically reduced after 2017 boom harvest due erratic rainfall and lower market prices. Grain sorghum production area has expanded drastically from 17% in 2018 to 49% in 2019. Limpopo now leads in the production of grain sorghum in the country. Sunflower and dry bean has potential to expand especially in irrigation schemes in Sekhukhune districts as part revitalisation program.

7.3.2.1 Market Channels and Agro-processing Opportunities

The maize kernel is processed by two industries namely the wet and dry milling industries. During the dry milling process, the maize kernels are refined to maize meal. The products derived are samp, maize grits and maize rice, un-sifted, and coarse maize meal. Wet milling is a process carried out by putting maize grains in water to obtain pure starch.

The major players who have a large market share of white maize milling are: Premier Foods, Tiger Milling Company, Pioneer Foods (SASKO) and AFGRI. Silo owners such as NTK also play a major role within the maize industry.

Limpopo has two major grain markets which is Progress Milling and NTK. NTK and Progress milling are the main local processors, but they differ in terms capacity and market. NTK source raw materials from commercial farmers through maize future contracts. While Progress milling relies on smallholder farmer‘s supply and imports. Progress offers incentives to local producers in the form of free transport and storage, this encourages local smallholders farmers to trade their maize with them.

Limpopo has two major grain markets which is Progress Milling and NTK.

a) NTK

NTK milling is found in Mokopane, Alma, Lehau, Mokgopong, Belabela and Modimolle. They also have silos in Roedtan and depot in Polokwane. The milling company specializes with sorghum, sunflower, yellow maize, white maize, wheat and sugar beans. Flamingo is one of their brand and they also mill both sifted and super maize meal.

NTK support small scale farmers in providing market for their grains and also provide storage. For storage the farmer needs to pay storage fee and handling fee which differ according to the type of grain the farmer

will be willing to store. NTK also has a provision for a farmer who wants to do maize exchange. The farmer can bring the grain and collect it as maize meal then pay the milling fee.

b) Progress Milling

Progress Milling is dynamic role player which supply basic food with its main focus being Limpopo Province. The Company conducts its business informally based on formal business ethics. Progress Milling manufactures fortified maize and sorghum products and also suppliers of the Fox range products like maize samp, maize rice, beans, cake flour and distributor of animal Feeds.

Progress Milling is currently operating 100 depots throughout the Limpopo Province. It is also expanding to other provinces and African regions like Botswana.

Progress Milling has a social responsibility to farmers in Limpopo. They provide free storage for farmers and have a maize exchange. Farmers can also opt to sell their maize during the peak time when prices are higher. Maize exchange means farmers can exchange their grain as maize meal.

Transport is the most challenging aspect for our farmers; the cost of transporting their produce to the market is expensive to them. But Progress milling also provide transport at a minimum cost provided the produce are transported in bulk. SAFEX prices are used as market price for grains.

Progress Milling is not optimally using its capacity due to shortage of enough maize supply in the province, so they import maize from Free State and Northwest. At the worst incidence they import maize from Zambia. The fact is, there is a shortage of dry bean and maize in Limpopo and therefore the markets are not fully using their processing capacity.

7.3.3 Transformation and empowerment opportunities

South Africa has well established grain industry. Grain South Africa (GSA) represent the interest of local grain producers. GSA have a dedicated farmer development program as part of their transformation mandate.

There are number of farmer development initiatives to assist black grain producers across the country. These initiatives involve provision of farmer training programmes, supplying, and financing inputs, sharing experience and machinery. The are other independent farmer development initiatives by PDA‘s, NAFU, Agribusinesses, Trusts, etc.

One key development initiative by government run by Provincial Departments of Agriculture (PDA‘s) is —EtsaTlala” (end hunger) food production programme.

FetsaTlala is a national initiative supported by various programmes including the Integrated Food Security Production Programme (IFSPP) championed by DAFF. Through FetsaTlala Food Production Initiative (FTFPI) government assist subsistence and smallholder producers to put fallow arable land back to production.

Some of the key commodities that are targeted for production as part of FetsaTlala are mainly grains and oil seeds crops. One of main challenges that smallholder farmer‘s face is marketing and processing of the grains.

Smallholder maize production in Limpopo is mainly for subsistence purpose, not commercially driven. Producers exchange maize for mealie meal at the local processers and some take their maize for grinding at local rural small-scale millers.Commercial production of maize is dominated by commercial established farmers with few black producers producing at large scale.

The trading practice of maize exchange for maize meal is prevalent in most Limpopo rural communities, probably one of the best ways to ensure that maize produced my communities is transformed into food.

Progress milling is one leading processor in the province that have developed maize exchange program as part of smallholder market access program. Dry bean production by smallholder farmers in Limpopo is characterized by small farms of less than 5ha on average is 2ha. Dry bean farmers produce under irrigation and their produce especially seed producers are being supervised by Dry Bean Producers Organisation (DPO) quality assurers. They visit the farms for quality assurance and advice on better production practices to make sure that farmers produce quality seeds.

NTK offer market opportunity to dry bean farmers through contract farming. Sunflower industry is one industry where there is opportunity for commercialisation of black farmers through contract farming arrangements with oil processors. There are number of emerging farmers producing sunflower in Sekhukhune and Waterberg districts.

7.3.4 Employment opportunity

Grain industry is labour intensive especially small-scale level, where seasonal labourers are hired during ploughing and harvest period. Commercial production is highly mechanised; hence the industry is very small in the province. Employment can also be created in the processing industry especially in community or rural milling enterprises.

7.3.5 Growth constraints and opportunities in the industry

Agro-climatic conditions are not conducive to produce enough grain under rain fed conditions, whilst at the same time we do not have adequate water resources to produce under irrigation. Commercial production mainly under irrigation and is also too expensive to get good margins due to unpredictable international maize prices, and competition with other high value commodities.

Climate in Limpopo suits mostly fruits and vegetables that is why almost all grains are produced in small percentage. Maize does not do well on very higher temperature of above 32 degrees Celsius especially during cob formation because the higher temperature lowers the ability of maize plant to bear more. Most small-scale farmers produce maize under dry land and because of higher temperature in Limpopo, small scale farmers end up with lower yield and sometimes discouraged by it.

It is still a challenge to attract new development farmers in the sunflower industry as it is highly capitalized and requires sophisticated technology. There is a lack of black economic empowerment in this industry and in the seed trade industry in general. Grain SA has identified range of factors constraining performance in the grain industry and thus affecting competitiveness and profitability.

The industry strategy has highlighted the following factors as constraints to growth:

- Poor extension and support services
- Erratic weather condition
- High production costs
- Labour productivity and costs (quality of unskilled labour)
- Deteriorating research infrastructure and capacity
- Quality concerns in the value chain (quality of inputs, grain, grain products, imported grain)
- Access to and cost of finance.
- Poor access to timely, relevant, and accurate market information
- Poor infrastructure and logistical issues.
- International agricultural policies distorting grain markets.
- Surplus production
- Deficit production
- Volatile currencies
- Low and variable rainfall and limited good arable land

7.3.6 Potential and opportunity for expansion

Expansion potential for smallholder and subsistence production exists given the abundance of land especially the communal land that is lying fallow in most rural villages of the province. But at very low yields that render it uneconomical.
Commercial expansion will always be limited to irrigation in the existing growing areas of Sekhukhune and Waterberg Districts Sunflower is drought resistant crop and the weather in Limpopo is favourable for the crop. It can serve as an ideal alternative crop on low-potential soils when it is late to plant maize.

Limpopo has potential of increasing the production of groundnuts because the climate is conducive for the production of groundnuts. Vhembe, Waterberg and Sekhukhune districts are the districts that can be able to produce groundnuts.

Livestock Industry

7.4 Livestock Industry

7.4.1 Red meat

Beef

7.4.1.1 Beef Production

Beef is produced throughout South Africa. The amount of beef produced depends on the infrastructure such as feedlots and abattoirs, not necessarily by the number of cattle available in those areas.

South Africa has highly developed transport infrastructure that allows movement of cattle and calves from one area to another, even from other countries such as Namibia.

According to DAFF 2016 data- Mpumalanga accounts for the greatest share of beef production in South Africa accounting for 21% of the beef produced in 2016 followed by Free State, Gauteng, KwaZulu-Natal and Northwest accounting for 19%, 14%, 11% and 9% respectively.

The province has favourable conditions for beef production. The production of beef takes place throughout the province with communal households owning cattle and cattle commercial farming producing high volumes of livestock. The ZZ2 livestock division also operates in the province. The company operates an intensive weaner-calf production system producing quality animals for their own feedlot and other major feedlots in the SA beef industry. There is also a high number of livestock that are under the emerging sector.

The feedlots and weaner farming has high profit margins as well as the processing and value addition industry. The large-scale feedlots account for 70% to 80% of cattle in the feedlot industry. The large-scale feedlots are usually integrated and have incentive programmes such as paying transport cost for weaner producers and providing technical assistance to producer for quality livestock (IDC Nguni Massification Strategy). The integration of feedlot system requires a high capital investment, which large commercial feedlots are able to achieve. The small to medium scale feedlot enterprises find difficulty in entering or expanding in the feedlot industry as it requires high capital investment and large volumes of weaner calves are required to maintain profits.

a) Geographic distribution

The figure below indicates the Limpopo beef production areas and large scale beef farming takes place in the Mopani and Vhembe district but both districts have high prevalence of foot and mouth diseases.

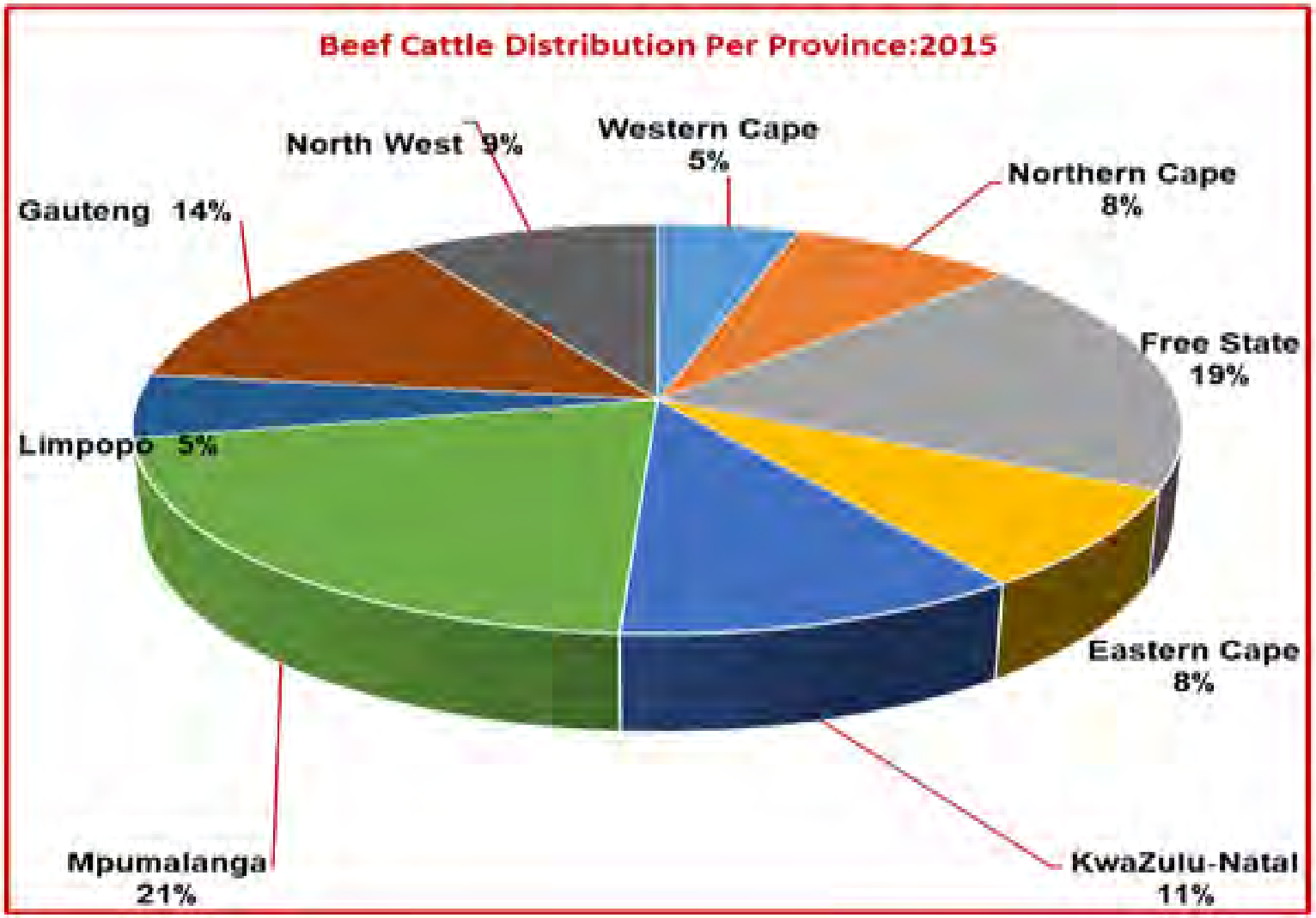
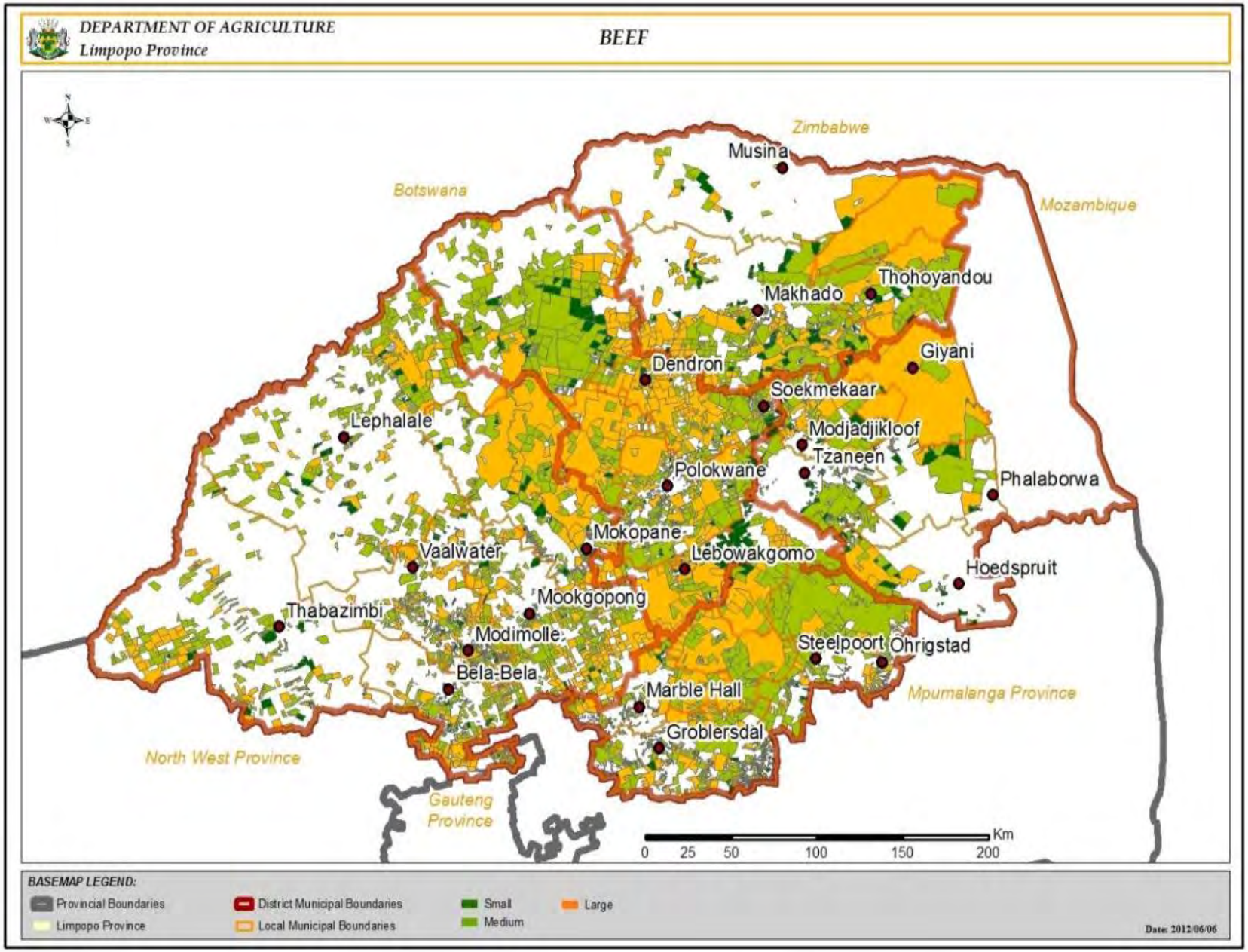


Figure 32: Beef production areas in Limpopo



Source: Limpopo Department of Agriculture 2012

A high number of livestock are also found in the Waterberg district, where lot of commercial livestock farming happen. Capricorn, Mopani and Vhembe also District have a large population of livestock, but majority is in the hands of emerging farmers farming on communal land.

b) Growth Trends and Market analysis

The red meat industry evolved from a highly regulated environment to one that is totally deregulated today.

Various policies, such as the distinction between controlled and uncontrolled areas, compulsory levies payable by producers, restrictions on the establishment of abattoirs, the compulsory auctioning of carcasses according to grade and mass in controlled areas, the supply control via permits and quotas, the setting of floor prices, removal scheme, etc., characterized the red meat industry before deregulation commenced in the early 1990s.

Since the deregulation of the agricultural marketing dispensation in 1997, the prices in the red meat industry are determined by demand and supply forces. Price information is one of the important forces in making decisions regarding production and marketing of beef and beef products.

c) Domestic Market

- In past 5 years they have been decline in the number of herds in SA due drought. Between 2012 – 2017 national herd decline by 1.7%.
- During drought in beef producing areas, grazing condition deteriorate, and forces farmers to reduce their stock, dome go into liquidation.
- Since December 2016 producing areas received some good average rain, that gave prospects grazing veld recovery and rebuilding of the stock.
- Prices of beef have been increasing overtime due to increased consumption caused by rising living standards of a large number of consumers and low domestic production in other years.

d) Imports and exports

South Africa‘s imports of beef were higher than exports for the past 5 years. This automatically makes South Africa a net importer of beef during the period mainly due to the demand which is higher than supply.

South Africa‘s mainly exports its beef to African and Asian countries, very little to EU. Africa command the highest export of SA beef.

e) Beef processing opportunities

Beef can be processed into carcasses, hide, and skin and incorporated into the production of other products. The meat products produced from beef include minced meat, sausages, biltong, corned beef, steaks, ribs etc. There are 460 registered red meat abattoirs in South Africa, according to the Red Meat Abattoir Association. The category for the abattoirs range from Grade A to E, the grade is determined by the number of cattle an abattoir can slaughter per day. The majority of large-scale commercial abattoirs have linkages with feedlots increasing vertically integrated business in the beef industry. In the feedlot industry large feedlots own their own abattoirs and sell directly to consumers through their retail outlets or wholesale level.

Red meat abattoirs are scattered throughout the Limpopo province and a high concentration of red meat abattoirs are found in the Waterberg District. The commercial farmers are able to reach high volumes due to adequate capacity and they have integrated vertical linkages.

The province has numerous red meat abattoirs in the province, however there are not able to operate at full capacity as there is a shortage of livestock.

Table 10: Meat Abattoirs in Limpopo

Abattoir name	Maximum daily slaughter	Municipality
Potgietersrus	**99 (150)**	**Mogalakwena**
Waterberg Regional	**80 (120)**	**Modimole**
Madicor 16	**100**	**Makhado**
Devenco 32 (Pty) Ltd (Gaza)	**100**	**Capricorn**
Thabazimbi	**60**	**Thabazimbi**

Source: Limpopo Department of Agriculture

Table 11: Cattle slaughter statistics for the past years

YEAR	TOTAL FOR LIMPOPO	TOTAL FOR THE COUNTRY	% Contribution by Limpopo
2012/2013	130 264	2 463 198	5.3%
2013/2014	131 945	2 706 946	4.8%
2014/2015	134 643	2 898 356	4.6%
2015/2016	138 024	2 965 698	4.6%
2016/2017	136 907	2 787 674	4.9%

Source: DAFF

f) Industry Growth constraints and Opportunities

g) Sector Challenges

The challenges faced by red meat industry in the province can be described as:

- The emerging sector not being fully exploited as they have a large number of livestock but do not make high profit margins due to lack of value addition infrastructure.
- The increasing price of agricultural land is impacting the quantities of cattle produced as grazing land is compromised.
- The ownership of land plays a huge hindering role in the livestock industry.
- There is inadequate infrastructure to enhance red meat production such as cold rooms and storerooms.
- The barriers to enter or grow in cattle production are mainly due to high capital cost of feedlots and the required capital for infrastructure.
- The province also has a shortage of weaner production impacting its ability to meet local red meat demand, thus the province is a net importer of red meat.
- Feedlot chain is dependent on imported animal feeds
- The province is prone to drought
- Disease outbreak impact on the province red meat agribusiness e.g Foot and Mouth Disease

h) Potential and opportunity for expansion

- The opportunities in the red meat industry for emerging farmers are stud breeders and in farm value addition. The province can increase value addition facilities for the red meat industry to reduce red meat imports into the province.

- Commercialisation emerging farmer‘s livestock farming can increase the province production output.
- Reintroduction of indigenous breed such as Nguni can explore new markets
- Partnerships with value chain players such as Angus Association

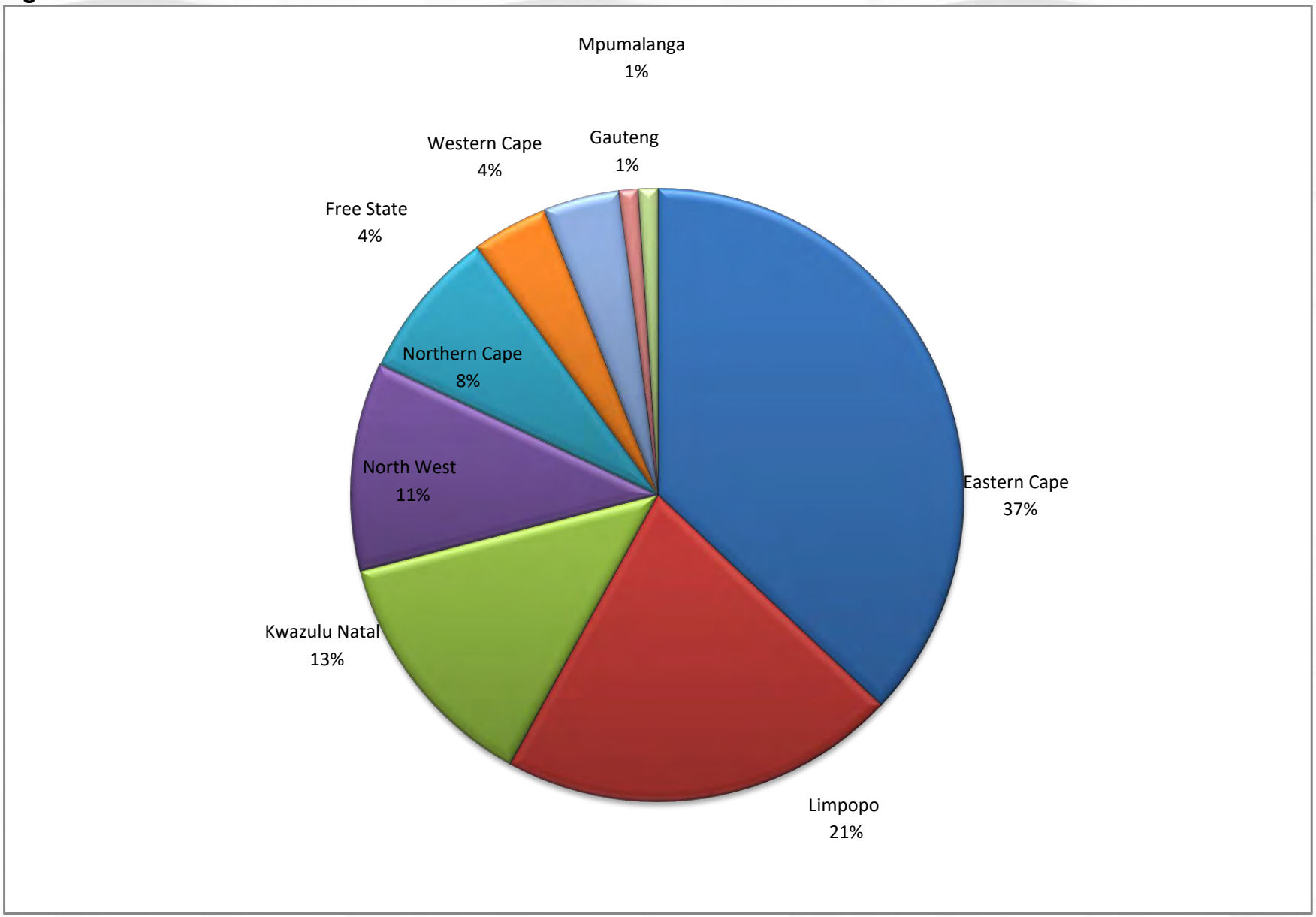
7.4.1.2 Goat/ Chevon

South Africa is a relative small goat producing country and possesses only approximately 3% of Africa‘s goats and less than 1% of the world‘s number of goats. The Boer goat, Savanna and Kalahari Red are currently recognized as commercial goat breeds for the production of meat and skins and small quantities of cashmere. Goat meat is often called chevon when from adults and cabrito when from young animals. Angora goats produce mohair. Saanen, Toggenburg and Alpine goats are mainly kept for milk production. Goat‘s milk is highly priced because of its quality and is less prone to causing allergies in humans than cow‘s milk. Gorno Altai goats produce cashmere. Indigenous goats refer to various goat types that are in the hands of small-scale producers and contribute primarily to family needs for meat and to a lesser extent for milk, depending on the prejudices of the community.

a) Production in Limpopo

Goats are found throughout the country with Eastern Cape and Limpopo Provinces being the largest producers, accounting for approximately 58% of the total production. The Eastern Cape has the highest distribution of live goats contributing 37% to SA goat production. This province is followed by the Limpopo province accounting for 21% of SA live goats production.

Figure 34: Provincial Distribution of live Goats in 2009

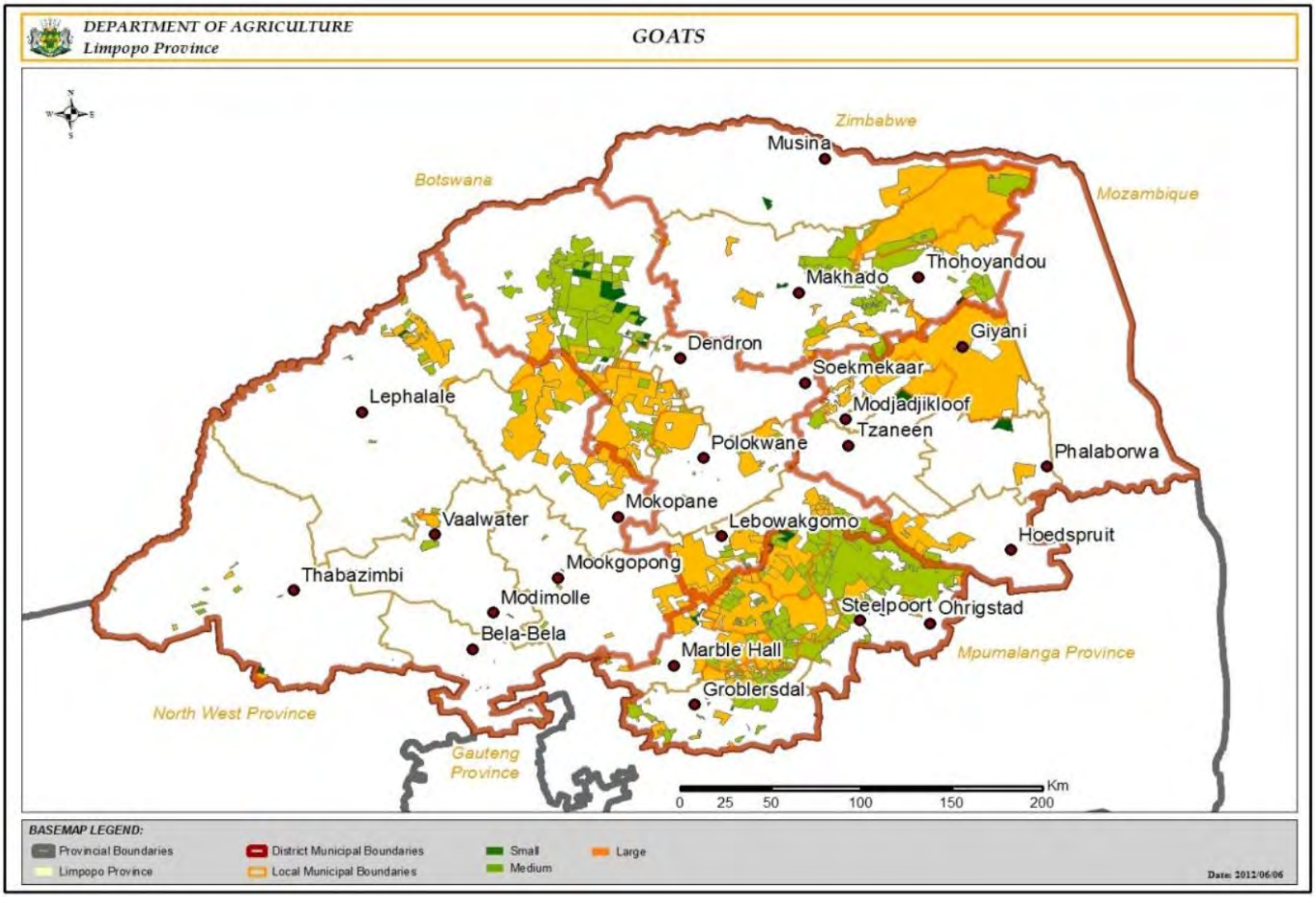


Source: DAFF - A Profile of the South African Goat Market Value Chain 201

Geographic distribution

Figure 35: illustrates the goat production areas in the province ranging from small, medium and large-scale producers.

Figure 35: Goat Production areas in Limpopo



Source: Limpopo Department of Agriculture 2012

The large to medium scale goat farming occur in the Sekhukhune and Capricorn District. The Vhembe and Mopani district also have high volumes of large-scale goat producers.

c) Goat meat processing

Goat processing has a variety of uses for its meat and milk. Goat milk can be processed into goat cheese and milk used as an alternative to cow milk. Goat is sometimes used to replace mutton or other meats in production of sausages and polonies when meat prices are too high.

d) Industry Growth constraints and opportunities

- The challenge the goat industry faces is that the meat is not popular as compared to beef or chicken, thus branding and marketing initiatives are required to enhance the industry.
- Goat meat consumption is low compared to beef and mutton.
- Little attention in terms of marketing and unfortunately has a negative connection of an undesirable odour.
- Small-scale farmers do not see goats as a saleable commodity. They see them as financial security. There is a perception that goats are a poor man‘s animals.
- Drought condition
- Disease outbreaks (heart water)

There are reasons why many people do not eat chevon and some of them are as follows:

- Chevon smells
- Beef and mutton are tastier.
- The meat fibre of chevon is too coarse.
- Goats are only used in traditional ceremonies.
- Goats are pets so should not be consumed.

e) Potential and opportunity for expansion

- The emerging sector can be encouraged to produce goat for commercial use many rural households have high number of goats.
- The processing of goat and goat milk products can enhance incomes for local goat famers and goat produce in the province can be branded to large retail stores.
- The demand for organic meat is increasing locally and internationally, this presents a target market.
- The processing of goat hide at tanneries can also generate money for local farmers. The collaboration of goat farming cooperatives is required to ensure sustainability of processing facilities.

- Chevon demand exceeds supplies in most parts of the world, notably in the tropics and the subtropics tropics and the subtropics, where 74% of the world‘s chevon is produced.
- Substituting goats for cows in milk production can increase the goat contribution to animal production in RSA, particularly with the communal farmers.
- Compared to cattle, goats produce more milk on less food and are not adversely affected by declining veld conditions. Products made from goats‘ milk can be explored.

7.4.1.3 White Meat

a) Poultry

According to the Department of Agriculture Forestry and Fisheries (DAFF), the broiler industry is the biggest within the agricultural sector of South Africa in terms of production value. In 2016, the sector generated R36.6 billion of gross value which was about 16% of total gross value of agricultural products. Broiler production dominates the agricultural sector, and it is the main supplier in protein diet than all other animal proteins combined followed by beef. The growth has spill-over effects in the grain and chick industries.

Broiler meat accounts for about 93.6% to the total poultry-meat production, with the rest made up of mature chicken slaughter (culls), small-scale and backyard broiler meat production and other specialized broiler meat products (geese, turkey, ducks, and guinea fowl). Pure lines are imported at great-grandparent level. Currently 7.8 million parents are required to produce commercial progeny for the broiler meat industry from 212 000 grandparents and 4 000 pure breed lines.

b) Size of the industry

Within the livestock and meat industry, broiler meat accounts for 31% of all animal products in South Africa in Rand terms. South Africa remains the major broiler producer in Southern Africa accounting for 80% of total broiler production in the region. The farm income from broiler meat for 2013 was R31 520 billion at farm gate level and R54.0 billion at a retail level (eggs and meat together).

Figure: 37: Broiler Industry gross value

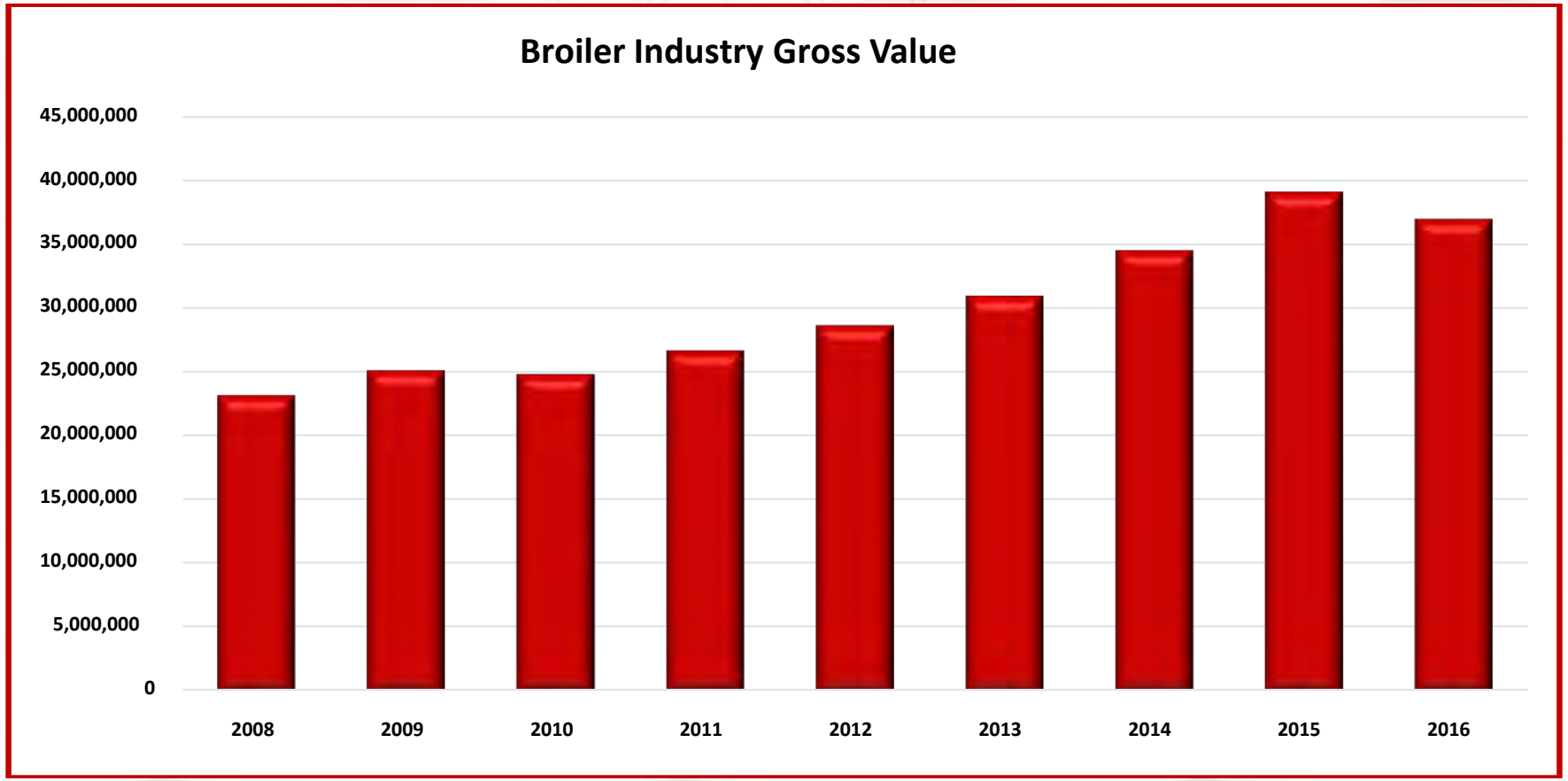
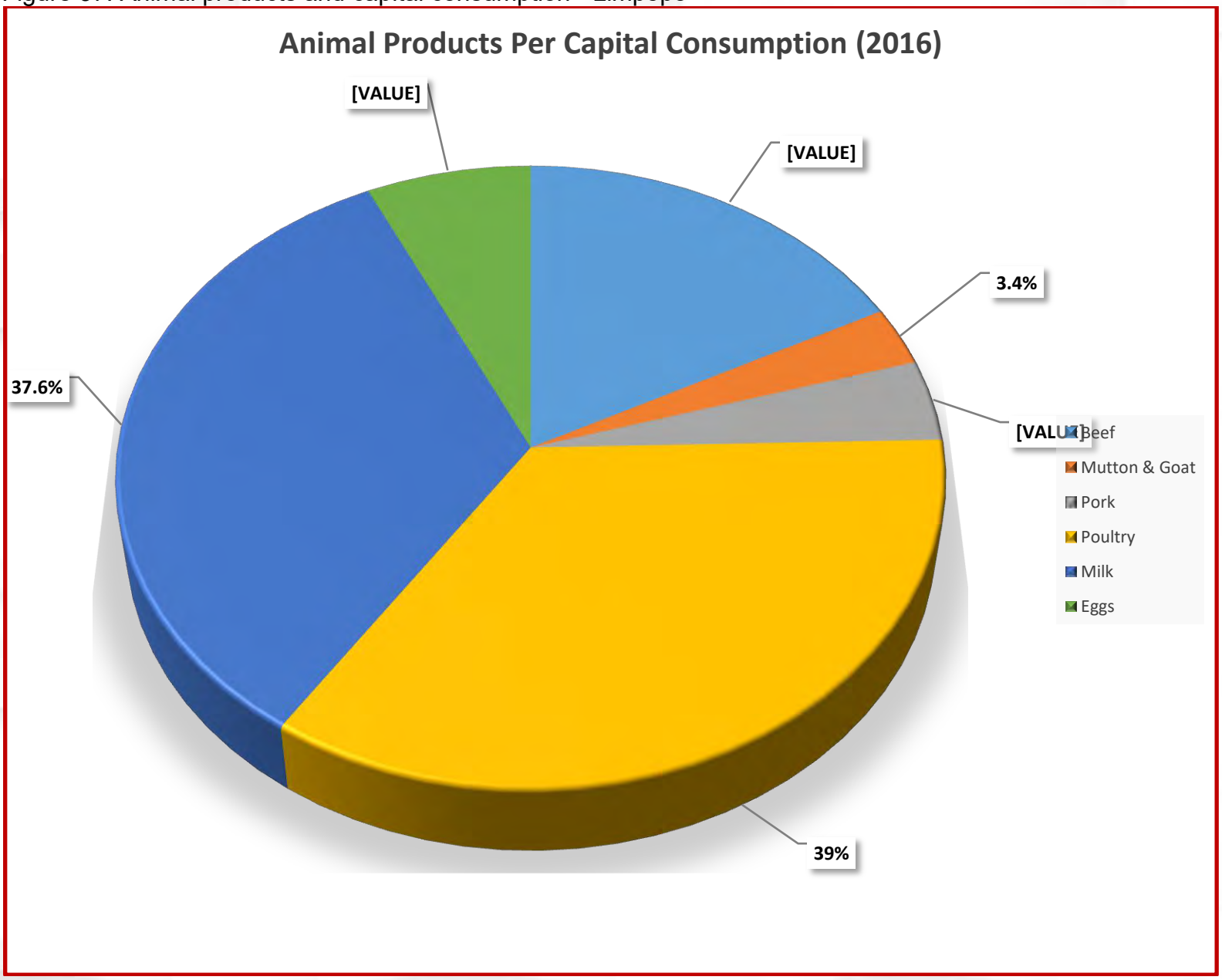


Figure 37: Animal products and capital consumption - Limpopo

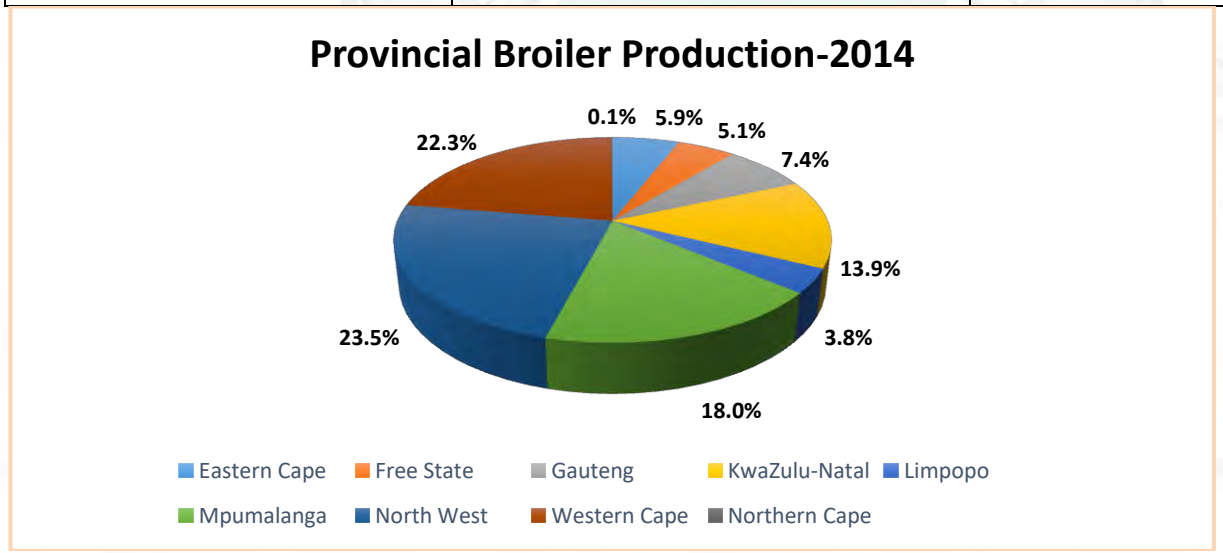


SA Production Geographic Distribution

Broiler meat is produced throughout South Africa with the Northwest, Western Cape, Northern Cape, Mpumalanga and KwaZulu–Natal provinces being the largest producers accounting for approximately 78% of total production. Figure 2 below shows the distribution of production during 2014.

Provincial distribution of broiler chickens in South Africa

Provinces	Broiler Birds	% of total broiler birds
Eastern Cape	7 041 453	5.9 %
Free State	6 067 200	5.1 %
Gauteng	8 744 332	7.4 %
KwaZulu-Natal	16 505 240	13.9 %
Limpopo	**4 543 300**	**3.8 %**
Mpumalanga	21 429 738	18.0 %
Northwest	27 858 969	23.5 %
Western Cape	26 474 884	22.3 %
Northern Cape	157 000	0.1 %
GRAND TOTAL	**118 822 116**	100%



During 2014 North West province produced 24% of the entire broiler meat in South Africa followed by Western and Northern Cape provinces at 22%, Mpumalanga province at 18% and KwaZulu–Natal province at 14%. Limpopo was the least producer, producing on 4% of South African broiler meat.

iii) Geographic distribution

Map below indicates poultry production areas in the Limpopo province. The large-scale poultry commercial producers are found in Mopani and Capricorn district and large-scale poultry production also takes place in the Sekhukhune and Waterberg district. The broiler producers in Limpopo province are small operators and serve the regional markets, the majority of the producers tend to do direct selling. Although the cluster is dominated by small-scale producers, their contribution is approximately 30% of the entire production in the province (South African Poultry Association, 2006).

iv) Poultry processing

Poultry meat is processed into variety of food products used for everyday household consumption such as chicken viennas, polonies, chicken steaks and semi processing can be done at butchery level where pieces of chicken are sold spiced and seasoned.
The capacities of the major abattoirs in the Limpopo province are indicated in Table 3.61. Rainbow and Mike‘s Chicken abattoirs have the highest slaughtering capacity of ±150 000 units per week. The abattoirs listed below account for 90% of processed chicken meat in the Limpopo province. The Northern Poultry Abattoirs in Lebowakgomo has been recently refurbished and expanded to cater for the market access challenges faced by farmers in Sekhukhune and Capricorn District. It is evident that the province is not producing enough broilers to meet local demand; therefore, imports from outside the province are used to meet the market demand.

Table 14: Major Poultry Abattoirs in the Limpopo Province

Name	Slaughter units per week	Area
Bush Valley now operating as Rainbow	± 150 000 units per week	Tzaneen
Mike’s Chicken	± 150 000 units per week	Polokwane
Spif	70 000 units per week	Naboomspruit
Lebowakgomo Poultry Abattoir	100 000 units per week	Lebowakgomo

Source: Limpopo Department of Agriculture, 2012

There are currently number of emerging farmers that were supported by government with intensive broiler production infrastructure that don‘t have access to the market, relying on the operationalization of the Lebowakgomo abattoir that was recently upgraded.

v) Industry Growth Constraints and opportunities

- Cheap imported chicken meat product suppresses local industry.
- High feed cost continues to cripple emerging farmer production and decrease profit margins of commercial producers.
- Availability of Day-Old Chicks and feed in the province
- High transport cost for feed and day-old chicks
- Availability of the abattoir near the production points is the major challenge that affects the growth of the broiler industry in the province.
- Limited market in the form processing abattoirs
- The lack of feed mills and long distances travelled to obtain poultry feed increase input cost for local farmers, thus they are not able to meet profit margins.
- High cost for intensive production infrastructure development.

vi) Potential and opportunity for expansion

- Available processing facility capacity for producers in Mopani (Tzaneen) and Capricorn Districts (Polokwane, Lebowakgomo)
- Available land for maize production to contribute to animal feed milling.
- Increased demand of poultry products by consumers
- Market opportunity to supply government institutions, hospitality industry and mining industry.
- Promoting small scale processing for emerging farmers for local / community market.

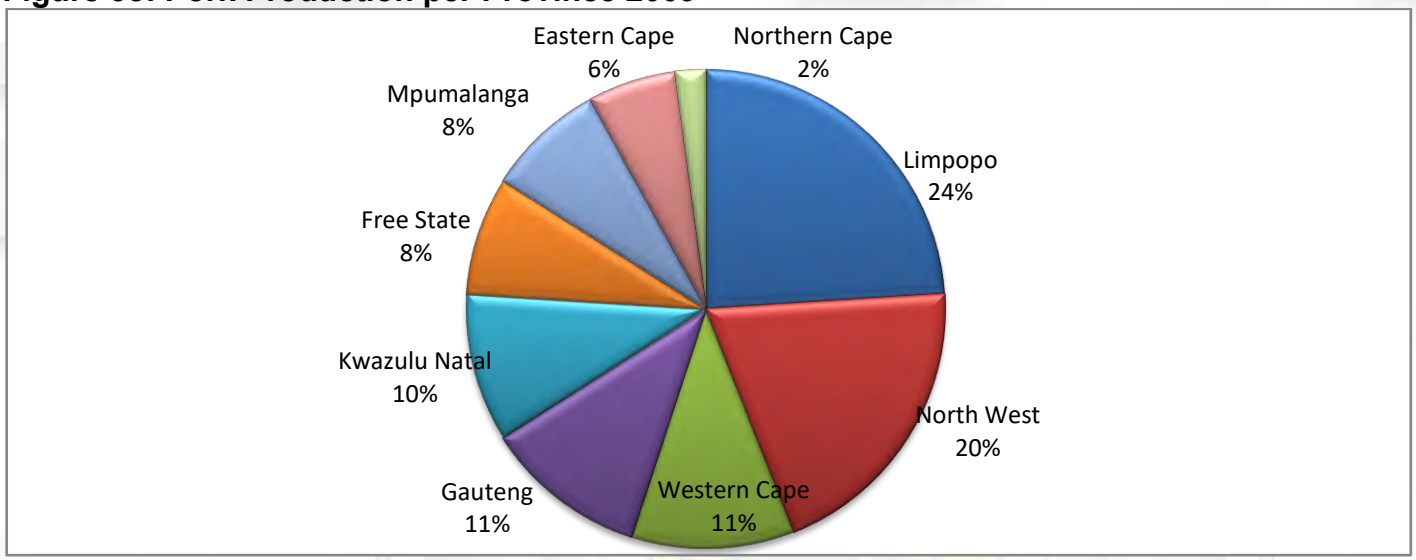
7.4.1.4 Pork

The number of pigs in the RSA at the end of February 2006 was estimated at 1,649,000. Most of South Africa‘s pig population occurs in the Limpopo Province with a population of 402 771 (24%) (however, only an estimated 170 000 are commercially farmed), followed by the Northwest Province with 300 000 (18%) and Gauteng with 180 000 (11%). The pig population in the province is centred around the Polokwane and the Bela Bela areas. There are three big commercial farmers in Limpopo: They are: 1) Ibis Piggery of Mr. John Wright –close to Polokwane, 2) Mockford Farms of Mr. Peter Mockford also close to Polokwane and 3) Walt Landgoed Farms of Mr. Johan van der Walt in Bela Bela. Emerging farmers and projects are scattered all over Limpopo. The two emerging commercial piggeries in which SAPPO is directly involved are: 1) Doornspruit piggery – a 400 out-grower unit in Doornsprtuit and the Itsani Piggery in Vhembe District Municipality in Thohoyandou. South Africa produced in 2006 an estimated 141,300 tons of pork of which Limpopo produced in excess of 8000 tons. Approximately 5000 tons was consumed in Limpopo and approximately 3000 tons was transported to Mpumalanga.

a) Production in Limpopo

Pork is produced in high volumes throughout many provinces in South Africa as it can easily be domesticated. Figure 3.57 below indicates pork production per province for 2009 with Limpopo and Northwest province being the largest producers accounting for 44% of total SA pork production.

Figure 38: Pork Production per Province 2009



Source: DAFF - A Profile of the South African Pork Market Value Chain 2010

The culture dynamics such as religious and cultural issues in the Limpopo province (e.g. High number of population in the province belong to the Zion Christian Church religious forbidding consumption of pork) might have a slight influence on local consumption level of pork. However, the general consumption level for pork in the country are high and have experienced an increase over the years as indicated in the figure above. The province is a large producer of pork and can take advantage of increasing SA consumption levels over the years.

b) Geographic distribution

The spatial distribution of livestock population indicates the Waterberg district has the highest number of pork producers followed by Capricorn district then Sekhukhune District. The final report for Red and White Meat Cluster 2009 identifies pork production clusters in the Waterberg district with 9 000 tons of production capacity and Capricorn district with 5 000 tons production capacity.
The Waterberg and Capricorn Districts are dominated by pigs from the commercial sector while Sekhukhune district is dominated by pigs from the communal areas.

c) Pork processing

Pork is cut into carcases, ribs, and other cuts. Pork is processed into a variety of easy convenient food such as bacon, hams, and sausages and mixed in with a variety of other meat products. There are 46 registered pig abattoirs recorded by SAPPO using modern technology and are responsible for slaughter more than 2 million pigs annually.
Most of the pork meat produced in Limpopo is sold to abattoirs outside the province. In the Province we have abattoir that process pork in Makhado and Mokopane.

d) Industry Growth constraints and opportunities

- One of the main challenges facing the pork industry in Limpopo is to turn the basic pig keeper operations in the rural areas into profitable commercial units.
- Production costs on pig farms in Limpopo are dominated by high feed costs for conventional feedstuffs.
- Cost of capital investment required for a commercial piggery is very high, which serve as barrier to enter the pork value chain.
- The culture dynamics such as religious and cultural issues in the Limpopo might affect the local demand.

e) Potential and opportunity for expansion

The fact that the province is a net importer of processed pig product, meaning that processing happens outside the province boarders, it presents the opportunities to explore investment in local processing. The province is the second largest producer of pork therefore room exist for pig processing and value addition in the province.

Marketing and research for the pork industry is done by SAPPO, pork producer in the province can join organisation to receive technical support.

There are two ways in which emerging farmers can be integrated into the pork supply chain:

- Emerging farmers can specialise in producing feed for pigs.
- Local producers can enhance sow units by forming collective cooperatives.
- Pork processing and value addition facilities

8. Agro-processing industry development

According to FAO (1997), —Agro-processing industry is a subset of manufacturing that processes raw materials and intermediate products derived from the agricultural sector. Agro-processing thus means transforming products that originate from agriculture, forestry, and fisheries". The Standard Industrial Classification also categorises the following eleven divisions under the agro-processing industry: food, beverages, paper and paper products, wood and wood products, textiles, wearing apparel, furniture, tobacco, rubber products, footwear and leather and leather products.

8.1 Facts about agro processing in South Africa

During 2016, the contribution of the agro-processing industry to the real value added (GDP) by the manufacturing sector and economy accounted to 32.2% and 4.4% respectively. Furthermore, the contribution of agro-processing industry to the real output of manufacturing sector and economy was 31.6% and 7.7% respectively.

The industries' share of real domestic fixed investment in the manufacturing sector and the economy was 14.3% and 1.8% respectively. Additionally, the total agro-processing exports relative to manufacturing sector and economy was 19.1% and 10.9%, respectively, while total imports relative to the manufacturing sector and the economy was 18.2% and 9.7% respectively. Lastly, the agro-processing industry accounted for 41.3% and 3.6% of the total employment in the manufacturing sector and the economy respectively (Quantec, 2016).

8.2 Agro-processing development in Limpopo

Limpopo is one of the South African's richest agricultural areas, known for its endowment with suitable natural resources (Land, subtropical climate, and water) necessary for production of high value agricultural commodities such as citrus, subtropical fruits and vegetables. The province has a considerable amount of opportunities in agricultural primary production and agro-processing and yet many people are still trapped in poverty, unemployment and inequality and are excluded from the mainstream economy.

It is against that backdrop, agro-processing industry is among the sectors identified by the Limpopo Development Plan as one of the key potential industrial clusters in the province to spur economic growth and create employment because of its strong backward linkage with the primary agricultural sector. The National Development Plan (NDP) and the Industrial Policy Action Plan (IPAP) identified the potential of agro-processing to transform the economy through agricultural industrialisation.

8.3 Potential to create jobs

Whilst large enterprises in the agro-processing industry contributed a significant share of the income and employment, the relative share of small and medium agro-processing enterprises to the total employment is higher compared to their share of total income in the industry (Quantec, 2014). Accordingly, small and medium agro-processing enterprises have a great potential of generating sustainable jobs.

Considering the forward and backward linkages and the ripple effect, the potential to create jobs is even greater within the agriculture and manufacturing sectors (NDP, 2010).

8.4 Contribution to food security

Smallholder producers experience high post-harvest losses which negatively affects the financial sustainability of their operations. According to Africa Post Harvest Loss Index (2014), the losses for roots and tubers were at 10-40%, fruits and vegetables at 15-44%, whilst fish and sea food were at 10-40%. Inherently, food security within rural communities is being threatened.However, agro-processing development endeavours have a potential to reverse loses either through indigenous knowledge (dry, salting, crushing, pre-cooking) or modern technology-based methods, such as extraction, canning, bottling and concentrates. Therefore, agro-processing activities have a potential to positively contribute towards food security.

8.5 Industry growth constraints

8.5.1 Challenges for start-up agro-processors.

The following are some of the barriers of entry by small and medium agro-processors to penetrate and participate in the mainstream economy:

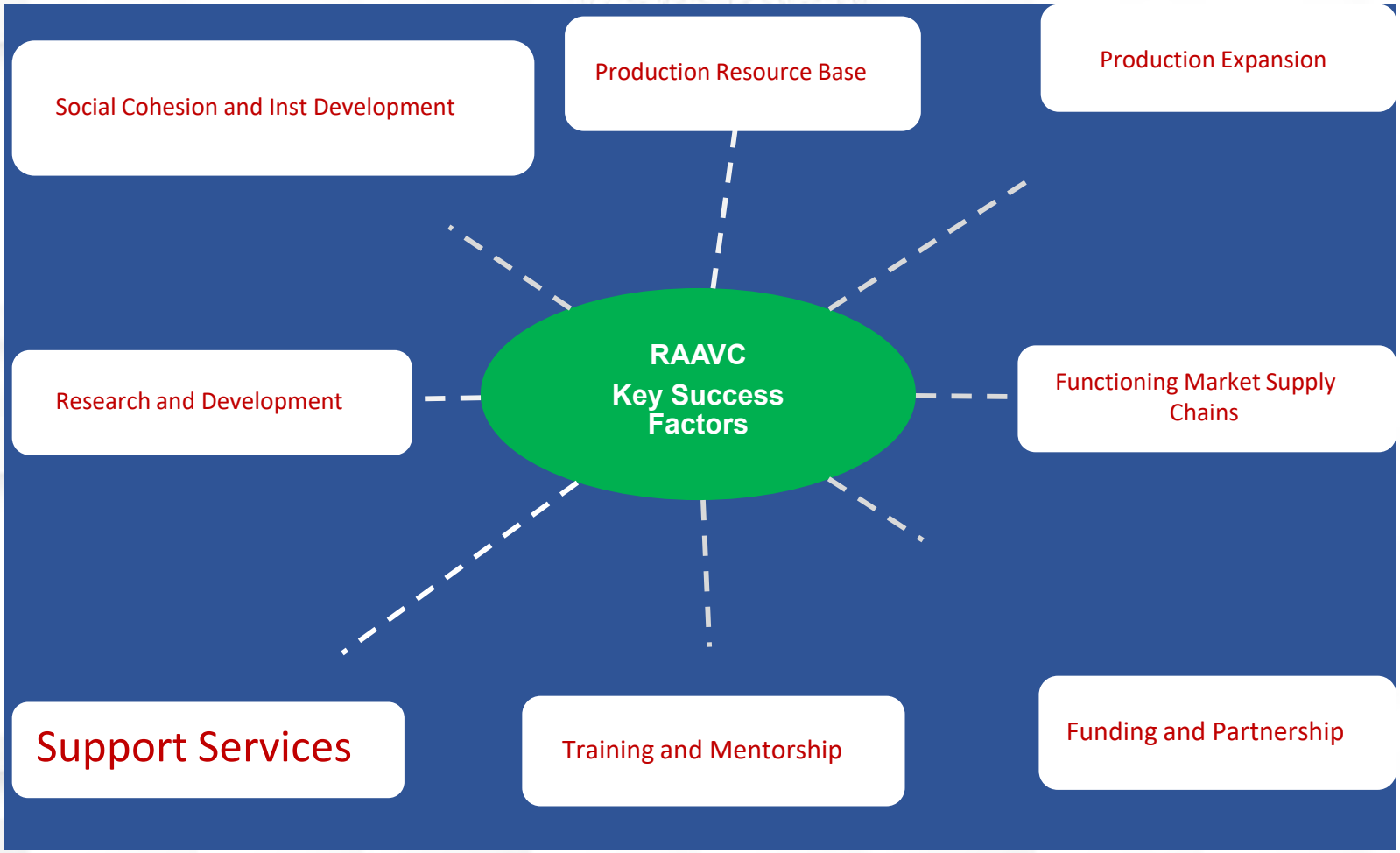
- High post-harvest losses
- Inadequate funding instruments suitable to start-up agribusinesses
- Lack of appropriate agro-processing technologies suited to start-up agro processors.
- Non-compliance to stringent agro-processing norms, standards, and regulations; and
- Intermittent supply of raw materials

9. Critical Success Factors for RAAVC Plan

As part of consultative process and sector engagement, LDARD established RAAVC Technical Committee to provide strategic direction and oversight of the development of the Limpopo RAAVC plan. The RAAVC Technical Committee identified range of key aspects as Critical Success Factors (CSF). **Critical success factor** (CSF) is a management term for an element that is necessary for an organization or project to achieve its mission. To achieve our goals, we need to be aware about each key **success factor** (KSF) and the variations between the keys and the different roles key result area (KRA).

The Critical Success Factors for RAAVC Plan have been identified and are depicted in the figure below.

Figure 39: Critical Success Factors for Limpopo RAAVC Plan



9.1 **Success Factor 1**: Production Resource Base

Production resources, such as land, climate, soil, water, and energy are at the centre of any agricultural production. Part of a process for the RAAVC plan development included was a situational analysis done through a workstream on land and water availability.
The land availability analysis conducted on databases obtained regarding the properties already purchased, with respect focused on the land required through various land reform programmes, namely Land Restitution, Land Redistribution and State land.

In the agricultural sector, water is mainly used for irrigation and livestock watering, which increases the productivity of high value agricultural commodities grown in Limpopo. Limpopo Province precincts over four water management areas (WMA), namely, Limpopo WMA, Luvuvhu/Letaba WMA, Olifants WMA and Crocodile Marico WMA (Map 3). Within the WMA's there is Water Catchments Areas (WCA) with different water sources such as rivers and dams.

Water entitlements licenses for irrigation have been the biggest limitation for development and settlement of new emerging farmers. Many emerging farmers are farming in the former homelands under tribal land with limited access to water. Majority in the irrigation schemes are operating using existing lawful water use (ELU) authorisation.

9.1.1 Proposed areas of intervention on land matters

As a first phase the work stream focused on the identification of available land in the respective categories in an effort to give a holistic perspective of the province. In order to identify areas with potential where increase in production can take place on the short-, medium- and long term, profiling of the available land is required. The profiling should also include analysis of relevant resources like climate, soil and water for irrigation.

a) Short-term.

At the time of approval of this plan the profiling has been conducted on most of the Land Restitution properties and to a limited extent on the SLAG, LRAD programmes, as well as some of the Small Holder Irrigation Schemes. A report was also obtained from the DW&S on water allocation to the respective land restitution properties.
This progress would thus make it possible for the RAAVC plan to be focused, in the short to medium term, on the identified projects with potential areas for development under Land Restitution and some of the irrigation resources where proofing has been completed.

b) Medium term

During the second phase, the profiling of the remaining categories of land namely SLAG, LRAD, PLAS other state- and tribal land, including the remaining Small Holder Irrigation Schemes, need to be completed in order to identify areas that could potentially be utilized to increase production. This should also include the water allocation from DW&S on these properties. Due to the extent of these properties, the time frame required for the completion of this phase is estimated to be between 9 to 12 months.

Water availability and access – for each agricultural development project, water availability must be ascertained. The industry must work closely with the Department of Water Affairs through CCAW committee to validate water allocations and facilitate water licence applications.

9.2 Success Factor 3: Functioning Markets Supply Chains

Market access is a matter of supply chain management, wherein the producer plans to produce the products that meet the specification of the market. This includes looking at issues of quality, quantity, and supply timing. All these aspects remain a responsibility of the producers, while the government has a role to provide market support and regulatory services.

Market access remains one of the major challenges faced by black emerging farmers. Some farming operations have either collapsed or failed due to inability to penetrate certain markets, and in turn requisite income to make the enterprise viable.

To ensure a well-functioning market supply chain, intervention is required in the following key areas.

9.2.1 Agricultural Marketing Information and Research

Agricultural market information is essential for farmers who wish to become fully market orientated and ensure that their production is in line with market demand. The availability of reliable market information can help farmers to reduce the risks associated with marketing, decide where to sell their produce, check whether the prices they are offered are in line with market prices, decide whether or not to store, grow produce —out of season" or grow different products. Reliable market information also improves market transparency and farmers' bargaining power.

Development of market information infrastructure, platform and programs for efficient flow of market information will ensure that farmers receive market information timely for better decision making.

9.2.2 Market Access linkages and facilitation

Part of the support to improve market access, particularly by black farmers should be a deliberate government process that aims to facilitate linkages. This should be through among others, targeted market infrastructure provision and a focused capacity building which include support towards necessary certification in General Agricultural
Practice (GAP) that is required to access certain markets, domestic and international.

Understanding market requirements and how they function is one of the critical tools that are required to move smallholder farmers towards the desired level of commercialisation. Therefore, investing in agricultural marketing skills cannot be overemphasized.

Government should therefore take a lead and strengthen collaboration with the industry and other stakeholders.

Reportedly, government spend billions on the procurement of goods and services annually. Limpopo province has adopted the Limpopo Procurement Strategy. This strategy specifies targets for procurement from small and medium enterprises. For black farmers, the hurdle is still on the issue of quantity and quality. The LDARD should therefore strengthen its support towards addressing such challenges. Of importance also, is a paradigm shift on the part of the farmers towards more cooperative marketing.

Markets such as school feeding schemes and institutionalized catering such as hospitals, correctional facilities and emergency food packages provides a big opportunity for this farmer category. Therefore, a change of mind set to work together to make up the required quantities are central for sustaining these markets.

Sustainable market access require consistency in terms of quantity, quality, and timing of production. It is proven that, in order to generate any economies of scale and build market power, producers need to work together under one marketing umbrella. The concept that is advocated to address economics of scale is cooperative model that has historically been the mainstay of agricultural marketing in South Africa.
Agricultural marketing cooperatives may assist in assembling products of several producers into a larger lot to facilitate more efficient handling and competitive sales, and then grade and transport these lots to the market. Some agricultural marketing cooperatives may perform first stage processing while others vertically integrate by processing products for the consumer or the industrial market.

9.2.3 Market Infrastructure and Agro logistics

Increased investment in agricultural and rural infrastructure remains central and an enabler for the growth of the agricultural sector. The SIP 11 has identified specific agriculture and rural infrastructure support interventions as part of addressing market access and agro-logistics challenges. Support interventions include improving post-harvest handling facilities including storage (silos, fresh-produce facilities such as cold chain facilities, pack houses), livestock production infrastructure and transport links to main networks (rural roads, branch train-line, ports), processing and value-adding facilities.

9.2.4 Compliance with Markets Standards and Protocols

Within the framework of DAFF marketing strategy, we have developed marketing development support programs that will integrate or enable emerging producers into formal food market value chain as part of broadening access to local and international markets.

To ensure food safety and quality of agricultural products produced by farmers as food business operators, government need to enhance marketing support capacity through collaboration with their SOE Perishable Products Export Certification Board (PPECB)‘ to provide technical support on compliance with market standards and protocol in domestic and export markets.

The market standards certification program aims to get agricultural food business operators to get certified in the following agricultural practices and protocols.

- Local Gap
- SA-GAP
- GLOBAL-GAP

The market standards and protocols listed above addresses basic food safety and good agricultural practices requirements, which include:

- Traceability of fresh produce from the point of production to the retailer until it reaches the final consumer,
- Record keeping of all activities undertaken during the production of fresh produce,
- Hygiene and responsible use of agrochemicals (pesticides, fungicides, and fertilisers).

To provide comprehensive agricultural marketing support to agricultural food business operators, LDARD and the industry associations should identify farms, pack houses and agro-processing agribusiness

enterprises to assess their readiness for SAGAP market certification through audits by approved and accredited service providers in terms of the Agricultural Product Standards Act (APS Act), No. 119 of 1990.

9.3 Success Factor 4: Funding and Partnerships

Agricultural finance is crucial to support the growth of the agricultural sector, yet financial constraints in agriculture remain pervasive, particularly amongst emerging entrepreneurs in the sector. Agricultural finance is costly and inequitably distributed, severely limiting smallholders' ability to compete. The environment for agricultural finance is further influenced by the growing concentration of control in the agricultural sector.

Access to financing is vital for the growth of the agriculture sector, mainly for working capital such as acquiring inputs (seedlings, farm fertilizer) and for hiring labour, as well as for fixed capital acquisition such as machinery. The absence of financing limits the average hectarage of cultivated farmlands and thereby, impedes agricultural growth with consequences for the macro economy as a whole.

South Africa's agricultural sector has many special characteristics, which the financial system does little to accommodate, although progress has been made in the last 25 years. Banks and (micro)finance institutions offer few financial services which are adapted to the needs of farms and agro-based enterprises, such as the seasonal nature of agriculture or the risks attached to prices and weather. This limits or prevents investments in agricultural production, processing, and marketing. However, financial institutions and banks face opportunities (and challenges) in providing financial services to the agricultural sector.

Typically, models for funding emerging black farmers in South Africa are known to be categorised into two types: loan funding and grant funding. Grant funding is commonly provided by government whilst loan funding is provided by private financial institutions, development funding institutions (DFIs), some government parastatals etc. Sources of agricultural loan financing in South Africa can be broadly classified into institutional and non-institutional sources. Institutional sources include co-operatives, financial intermediaries, commercial banks, and development funding institutions (DFIs) such as the Land Bank, Industrial Development Corporation (IDC), etc. Non-Institutional sources include moneylenders, traders and private borrowings, commission agents, relatives, and landlords.

Without an effective funding model, development and acquisition of appropriate agricultural skills, emerging entrepreneurs are not likely to successfully play a role in South Africa's agricultural development.

Another limiting factor for emerging entrepreneurs in the sector is lack of adequate skills to run and manage viable and profitable operations. Apart from financing as a challenge, emerging farmers need a

helping hand in the form of partnerships with established commercial farmers, commodity organisations and other entities with interest in the development of the agricultural sector. These relationship/partnerships should be fostered to bolster agricultural skills amongst emerging farmers and also build their asset base so that they can be bankable in future. Partnering emerging entrepreneurs and established agricultural firms for the purpose of skills transfer is always touted as a stopgap measure until the smallholder can stand on their feet.

9.3.1 Possible funding schemes for the implementation of the RAAVC plan

Funding Model	Description
Out-grower/Contract farming / Joint Ventures	Farming, which is focused on the bilateral relationship between an agricultural producer and a contractor. The contractor finances the farmer to produce the crop agreed upon. This financing model is a simple and practical legal tool for buyers and producers to improve their business relations and help make responsible agricultural investment a reality. It can help address power asymmetries, create more equitable and sustainable business relationships, and support a transparent business environment for contract farming schemes.
Guarantee Schemes	Guarantee mechanisms is always perceived as a potential mechanism for encouraging banks to lend to certain economic sectors such as small businesses. Guarantee funds can be set up privately or by a government and are used to pay the lending bank an agreed percentage of losses incurred on guaranteed loans. This "insurance' reduces the bank's risk, thereby allowing the bank to lend to borrowers who, on their own, would not have enough collateral or reputation to qualify for a bank loan.
Insurance-based Lending	There are situations where insurance may unlock credit. Several reasons might encourage FSPs to offer crop insurance including the possibility of reducing default risks, reducing the use of costlier and less efficient risk management techniques, reducing interest rates, raising profits, attracting more clients, reaching poorer smallholders, competing better with competitors, and generating fee income.
Intermediary Model	Financial institutions provide wholesale lending to commodity-based intermediaries to on-lend to growers.

Blended Funding	Blended Funding Model is the provision of a loan and a grant to improve access and affordability of finance by black producers and reduce reliance on grants. It is the first blended instrument developed in partnership with the DRDLR and the Land Bank. investment that would unlock and enhance production by black producers through deliberate, targeted, and well-defined interventions.
Cashflow-based Lending	This applies to cases where the entrepreneur does not have collateral, but the business shows viability and profitability based on the projected Cashflow
Cooperative Banks	A co-operative bank is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank. Co-operative banks are often created by persons belonging to the same local or professional community or sharing a common interest. Co-operative banks generally provide their members with a wide range of banking and financial services (loans, deposits, banking accounts etc.

9.3.2 Agricultural Partnerships

A partnership is an arrangement in which two or more individuals pool money, skills, and other resources, and share profit and loss in accordance with terms of the partnership agreement. Ideally, it is an arrangement where parties agree to cooperate to advance their mutual interests. However, this definition can be far-fetched in the context of partnerships between emerging agricultural entrepreneurs and established agricultural business. The two most important elements lacking within the emerging agricultural sector are skills and finance. Therefore, emerging entrepreneurs may have no skills and resources to contribute to the partnership. The reason for promoting partnerships within the emerging agricultural sector is, therefore, to address issues of skills shortage and lack of financial resources.

a) Contract farming

Contract farming is agricultural production carried out according to an agreement a buyer and farmers, which establishes conditions for the production and marketing of a farm product or products. Typically, the farmer agrees to provide established quantities of a specific agricultural product, meeting the quality standards and delivery schedule set by the purchaser. In turn, the buyer commits to purchase the product, often at a pre-determined price. In some cases, the buyer also commits to support production through, for example, supplying farm inputs, land preparation, providing technical advice and arranging transport of produce to the buyer‘s premises.

Another term often used to refer to contract farming operations is "out-grower schemes", whereby farmers are linked with a large farm or processing plant which supports production planning, input supply, extension advice and transport. Contract farming is used for a wide variety of agricultural products.

b) Strategic Partnership Model

The strategic partnership model has been widely used in Limpopo Province with a mixture of successes and failures. This model entails the farmer getting into a business partnership/relationship with an investor, resulting in the formation of a separate operating company in which an investor and the farmer/s are shareholders.

This model has largely been used in restitution farms. The combination of highly productive commercial land, lack of recipients' skills and capital, loss of export revenues, loss of farm employment and threatened food security has led to the LDARD to embrace a partnership model in Limpopo Province. The adoption of this model by Limpopo Provincial Government was a move to halt the sharp decline in productivity on many agricultural estates with high value agricultural enterprise on them. The idea behind the model is that the strategic partner will bring all the elements that are lacking within the beneficiaries, such capital, management skills, etc.

9.4 Success Factor 5: Research and Development

Agricultural research and technology development plays a very important role in meeting the sector's expansion and growth targets. Climate change and its effect have been evident on the performance of the agriculture and agro-processing sectors. The sector has started to experience significant impact of the changes in the weather patterns which in turn affect production patterns. Frequent occurrences of natural phenomena such as cyclones, drought, crop pests and diseases and animal diseases among others, have become a new normal.

This reality therefore calls for continuous research and development of new technologies including alternative crop cultivars and animal breeds and adoption of new production innovations that also come with the 4th Industrial Revolution.

For a successful RAAVC, the province needs to build partnerships in the field of R & D. successful partnership will require:

i. Development of a plan that integrates the necessary R&D with the overall industry strategic plan.
ii. Identification and prioritisation of R&D projects based on the contribution of the likely research outcomes to overall industry performance.
iii. Long-range program approach rather than commission a series of independent projects
iv. Ensure that R&D is commercially focused on the product outcome.

9.5 Success Factor 6: Support Services

Many emerging farmers lack technical and managements skills in high value agricultural commodity enterprises. Horticultural industry is one the industry with very limited participation of black farmers. The proposed development is about transformation, therefore capacity building in both technical and management skills is important especially for youth to be able to establish and manage viable agri-businesses.

There is a compelling need to develop entrepreneurial spirit and skills of black farmers to equip them with the tools and support services to help them successfully set up and manage potato enterprises, thus, enabling them to generate income and jobs in their communities.

There is a general public perception that government extension services lack capacity to address commodity-based needs. Valuable skills on farm planning, appropriate production practices, post-harvest handling of crops, business management, and marketing are key to provide a demand driven extension support. As part of the extension recovery plan of government, extension officers are linked with key industry associations to tap into their experience and network with established commercial farmers.

This would be achieved through partnership with various industry associations. A comprehensive integrated capacity building program must focus on among others the following:

- Primary production (crop production)
- Secondary sector (post-harvest, food processing and appropriate
- technologies)
- Tertiary sector (marketing, quality assurance, agribusiness, and services)
- Management (leadership, community development)
- Mechanization operations
- Irrigation and water management

9.6 Success Factor 7: Social Cohesion and Institutional Development

Agrarian transformation is dynamic in nature, by its goal of ensuring inclusive participation in the sector and its value chain. Limpopo has many land reform projects and irrigation schemes that are owned and controlled by communities as communal properties.

Institutional structures and arrangements vary, from Communal Property Associations (CPAs), cooperatives and family farming. Group farming is many found in irrigation schemes that were consolidated as part revitalisation of small holder irrigation schemes.

Each form of institutional arrangements presents its unique challenges, depending on what is at stake. Many of the land restitution farms and irrigations have collapsed or are non-operational due community conflicts caused by leadership contestation and lack of transparency on financial benefits of the beneficiary members of the community.

Community dynamics can cause huge economic loss on strategic prime agricultural lands. Limpopo production expansion and revitalisation plan require every available piece of arable land in province to produce high growth commodities.

To ensure that land reform farms and irrigation schemes are productive and sustainable, following intervention is required:

- Facilitation of training to empower CPA's and cooperatives.
- Facilitation of partnerships and business models with strategic partners.
- Capacity building to ensure effective governance structures on the irrigation schemes.
- Facilitation a comprehensive stakeholder engagement and empowerment
- Building internal capacity on conflicts and disputes management

10. Potential Employment Boost

Jobs in relation to a particular industry are categorised as a direct and indirect jobs, in order to ring-fence the job statistics and ensure consistency in the estimates. Direct jobs refer to jobs directly involved in the project activities and include the development, implementation, construction, operation, and management phases of the projects (IRENA, 2013). Indirect jobs are indirectly associated with the project activities, but not directly, such as manufacturing, acquisition of materials and contracted support services such as legal and banking services (Steinberg, Porro & Goldberg, 2012). There are also induced jobs, which are related to direct and indirect employees spending their money in support services such as accommodation, food, and beverages (Rutovitz, 2010, Steinberg et al, 2012).

10.1 Skills and associated project phases

Projects are executed through a sequence of activities related to project phases, as well as supportive services, as shown in figure 40 below.

11. Organizational and Implementation structures

11.1 Organizational Structures and their Key Roles

To develop an integrated sector development in the form of RAAVC plan, LDARD Has engaged in consultative process with sector key players in February 2019. Hereunder is a consolidated generic role that key sectors players can play to make things happen.

Role Player	Generic Role
Government	Government has identified agriculture as a key strategic economic sector that can create employment and grow the economy. This will be achieved through revitalisation of agriculture and agro-processing value chains and by supporting key value chains, products, developing new markets and reducing reliance on imports. While government main role is to set policies and regulatory frameworks, it needs to provide production infrastructure support to commercialization of black farmers. Government can leverage its resources through innovative financing and partnership with the industry.
Industry	South Africa have established commodity associations with capacity to develop the sector through provision of technical advisory support and facilitation of mentorship. The industry associations have capacity to implement development projects as part of their transformation mandate and statutory requirements.
Development Finance Institution (DFI)	As part of innovative financing, DFIs have a role to leverage government support through blended funding and tailor-made financial products to service development farmers.
Commercial Agriculture	Established commercial farmers are key in driving agrarian transformation in South Africa. Commercial agriculture can provide technical expertise, access to markets, and financial resources through joint ventures.
Mining Houses	Mining houses are involved in the development in the communities where mining activities are taking place. Through the social labour plans (SLPs), several agricultural development projects are being undertaken across Limpopo where mining activities are taking place. The current partnership agreement Between the Limpopo government and impact catalyst provides a good opportunity for LDARD to strengthen the collaboration with the Mining Houses in the Province, on agricultural development in the context of RAAVC.

12. Implementation models

As previously stated, that, the RAAVC Plan articulates commodity specific plans with catalytic projects that seek to actualize the objectives of the revitalization and maximization of primary agricultural production and agro-processing and value adding. Partnership between government and private sector is therefore key for the successful implementation of the RAAVC plan and the achievement of the objectives, for the following reasons.

- To augment the capacity of the department in terms of financial resources and skills and expertise
- Empowerment of black producers through knowledge and skills transfer, improved market access, which are critical elements for the growth of black producers and their meaningful participation in the mainstream economy.

Therefore, various models would be explored, whereby government funding is used to leverage private sector funding for development, especially for identified commercially oriented projects which development would require a significant amount of capex investment. Furthermore, building requisite capacity of the targeted beneficiaries of such development remains an integral part of this RAAVC plan. Details of the envisaged models are fully articulated in the reviewed Farmer Support Policy, which was approved by the executive council in March 2021.

The models to be explored include but may not be limited to the following.

Model	Brief description
Co-funding with Development Finance Institutions (DFIs)	• Development finance institutions and investment partners are key development initiator and funding partners. • At national level LDARD has signed a Cooperative Agreement with the IDC for implementation of blended funding for Comprehensive Producer Support • It is envisaged that the partnership agreement shall provide a framework for LDARD's development partnership with the IDC. • Government invests directly as development equity contributor for community/black producers within the PFMA prescripts
Partnership with LEDA Agribusiness	• As per the MOU signed between LDARD, LEDET and LEDA, the partnership is through Project Specific Agreements between LDARD and LEDA wherein specific project deliverables are set, and funds are transferred to LEDA for implementation.

Partnership with Commodity Producer Organizations (CPO) as implementing agency	• The CPO members contribute industry statutory levy, in terms of section 15(4)(a) of Marketing of Agricultural products Act, for a specific agricultural product at the point of sale. A portion of statutory levy is mainly utilized for R&D and for industry transformation programme. • The COP have dedicated transformation development programme aimed at developing black producers and integrating into the mainstream agricultural production across the value chain. • Government may partner with commodity association to implement a development project whereby the department can transfer funds for specific partnership project.
Contract Farming/Outgrower agreements	• The out-grower contract model entails a scenario wherein the market provides guaranteed production contract to the farmers with conditions in terms of quality and quantity. • The buyer becomes the financier of inputs and the operator. The buyer further provides technical advisory services and monitor the production to ensure compliance with the specifications on the crop. • The department provides infrastructure development, were in necessary.
Voucher system for production inputs	• The department creates a dedicated list of suppliers on the database with agreed prices per items. • Once an application for support is duly approved by LDARD, the applicant would be informed through a letter which states the amount and list of production inputs approved. • The voucher would not be exchanged for cash or any other item
Direct state grant funding	• The department fund the applicant without any partner (co-funding) after due process have been followed • The applicant would have applied, assessed, found to be compliant with the assessment criteria and approved. • Implementation will follow the established project implementation processes and through normal procurement of goods and services by the department. • The department may also in collaboration with private investor, support development of long-term crops/orchards over a prescribed period • Support for development includes establishment costs, operational costs, and maintenance costs. • Approval is per the qualifying criteria outlined in the Farmer Support Policy

13. Results framework and impact orientation of the Limpopo RAAVC Plan

The results framework has been aligned with the LDARD's MTSF priorities as outlined in the Departmental Strategic Plan 2020 – 2025. RAAVC strategic priorities therefore mirror the LDARD's MTSF priorities. It should be noted however that, some of the envisaged development would go beyond the MTSF period.

For the strategic framework, roles and responsibilities at multiple levels are outlined in the table below, as well as high level deliveries. Set of roles and responsibilities that are project specific will be informed by the project specific deliverables. A RACI (Responsible, Accountable, Consulted, and Informed) chart is a matrix of all the activities or decision-making authorities undertaken in an organisation set against all the person/institution responsible, accountable, consulted or informed for that activity or decision. The accountable person/institution is the individual who ultimately answerable for the accountable body (person/institution), is the individual who is ultimately answerable for the activity of decision. This includes —yes" or —no" authority and veto power. Only one accountable body (person/institution) can be assigned to an action. The body is the one expected to complete the task.

13.1 Results Framework and Impact Orientation

	Goal: By 2024, Sector Transformation through increased participation of black people in the entire value chain			
	Milestone: By 2024 , Increased Production through inclusive participation and ownership by black producers in the key sub sectors			
Strategic Priorities	**SP1:Increase production through revitalisation and expansion of key commodity industries**	**SP2:Ensure sector transformation through promotion and support of black producers in key commodity industries**	**SP3: Increase the participation of black producers in the domestic and export markets**	**SP4: : Broaden and increase participation of black producers in the agricultural value chain**
	Horticultural Crops			
Targets	1000 ha of citrus production developed	100 black producers commercialised	00 black producers in the fruits industry linked with domestic and export markets	200 black producers linked with agro-processing and value add facilities
	2000ha of Subtropical fruits orchards developed			8 value addition projects facilitated
	5000 ha of tomato production developed		2000 black tomato producers linked to Norjax Tomato Processing Factory	5 agro-processing initiatives facilitated
	500ha of potato production developed		20 black potato growers linked with formal markets	50 black entrepreneurs involved in agro-processing supported
				5 black owned pack houses certified with SAGAP/ GlobalGAP
	Field Crops			
	1000ha of oilseeds production developed	100 black producers supported towards commercialisation in the oil/protein seeds industry	10 black producers linked with formal markets	Number of black producers linked with agro-processing and value add facilities
		100 black producers commercialised in the cotton industry		Number of value addition projects facilitated
	500ha of cotton production developed		100 black cotton producers linked with formal markets	Number of agro-processing initiatives facilitated
				Number entrepreneurs involved in agro-processing supported

	Livestock / Animal Products			
Targets	10 livestock enterprises developed	10 black red meat producers commercialised 10 lack pork producers commercialised	20 farmers linked with formal markets	

13.2 Key Indicators

Strategic Priorities	**SP1:Increase production through revitalisation and expansion of key commodity industries**	**SP2:Ensure sector transformation through promotion and support of black producers in key commodity industries**	**SP3: Increase the participation of black producers in the domestic and export markets**	**SP4: : Broaden and increase participation of black producers in the agricultural value chain**
Key Enablers	Collaborationwith the industry to revitalize and expand key commodity sectors. e.g citrus, subtropical fruit, tomato and potato	Leverage farmers support through innovative financing and sustainable partnerships	Develop innovative market linkages and partnership with sector players	Improve farm incomes by helping farmers to move up the value chain by supporting forms of agro processing and value addition
	Horticultural Crops			
Indicators	Number of hectares of fruits orchards revitalised/ established	Number of black producers supported to produce high value fruits and vegetable commodities	Number of black producers supported with market access/linked to markets	Number of black producers linked with agro-processing and value add facilities
	Number of hectares of high value vegetable crops increased			Number of value addition projects facilitated
				Number of agro-processing initiatives facilitated
				Number black entrepreneurs involved in agro-processing supported
				Number of black owned pack houses certified with SAGAP/ GlobalGAP
	Field Crops			
	Number of hectares of field crops production expanded	Number of black producers supported towards commercialisation in the oil/protein seeds industry	Number of black producers supported with market access support	Number of black producers linked with agro-processing and value add facilities

		Number of black producers supported towards commercialisation in the cotton industry		Number of value addition projects facilitated Number of agro-processing initiatives facilitated Number entrepreneurs involved in agro-processing supported
	Livestock/Animal Products			
	Number of livestock enterprises expanded	Number of black producers commercialised in red meat production Number of black producers commercialised in white meat production (pork)	Number of black producers supported with market access support	Number of black producers linked with agro-processing and value add facilities Number of value addition projects facilitated Number of agro-processing initiatives facilitated Number entrepreneurs involved in agro-processing supported

13.3 Implementation Framework

	Strategic Objective	Implementation Timeframe	R(Responsible)	A(Accessible)	C(Consulted)	I(Informed)
SO1	**Increase production through revitalisation and expansion** of key commodity industries					
Activities	Conduct industry situational analysis in the province	Immediate term	• Industry Associations	• Industry Associations	• LDARD • DRDLR	All stakeholders
	Identification of existing commodity enterprises for revitalisation	Immediate term	• LDARD • DRDLR	• LDARD • DRDLR	• LDARD • DRDLR	All stakeholders
	Identification of land for new development and expansion	Immediate term	• LDARD • DRDLR	•	• LDARD • DRDLR	All stakeholders
	Facilitation of access to water	Immediate term	• LDARD • DWA	• DWA	• LDARD • DRDLR	All stakeholders

	Facilitation of access to finance and partnership	Immediate term	• LDARD • DRDLR • Land Bank • IDC	• LDARD • DRDLR • Land Bank • IDC	• Industry associations • Other DFI's	All stakeholders
	Social facilitation	Short term	• LDARD • DRDLR	• LDARD • DRDLR	• Communities • Farmers	All stakeholders
	Facilitation of training and mentorship	Continuous	• Industry Associations	• Industry Associations	• LDARD • DRDLR	All stakeholders
	Research and Development	Immediate term	• LDARD • ARC • Universities • Industry association	• LDARD • ARC • Universities • Industry association	• LDARD • DRDLR • Farmers	All stakeholders
	Stakeholder consultations	Immediate term	• LDARD	•	• LDARD • DRDLR	All stakeholders

RACI: Responsible, Accountable, Consulted and Informed

	Strategic Objective	Implementation Timeframe	R	A	C	I
SO2	**Ensure sector transformation** through promotion and support of black producers in key commodity industries (including women, youth and people with disabilities)					
Activities	Conduct industry situational analysis in the province	Immediate term	• Industry Associations	• Industry Associations	• LDARD • DRDLR	All stakeholders
	Identification and selection of black producers	Immediate term	• LDARD • DRDLR	• LDARD • DRDLR	• LDARD • DRDLR	All stakeholders
	Community mobilisation and Institutional arrangements	Immediate term	• LDARD • DRDLR	•	• LDARD • DRDLR	All stakeholders
	Community conflict resolutions	Immediate term	• LDARD • DRDLR	• LDARD • DRDLR	• LDARD • DRDLR	All stakeholders
	Design Enterprise / Business development programs	Immediate term	• LDARD • Industry Associations	• LDARD • Industry Associations	• Industry associations • Other DFI's	All stakeholders
	Capacity development and mentorship	Continuous	• Industry Associations	• Industry Associations	• LDARD • DRDLR	All stakeholders

	Strategic Objective	Implementation Timeframe	R	A	C	I
SO3	**Increase the participation of black producers in the domestic and export markets**					
Activities	Identify market ready / export ready commodities in black farm enterprises	Immediate - Long term	• Industry Associations	• Industry Associations	• LDARD • DRDLR	All stakeholders
	Assess infrastructure requirements of key development project in the province and provide market development support	Immediate term	• LDARD • DRDLR • DAFF	• LDARD • DRDLR • DAFF	• Industry Associations	All stakeholders
	Export market development, SA export market access, SA fruit industry export market promotion	Immediate – Long term	• Industry Associations	• Industry Associations	• Dti • DAFF • LEDA • LDARD	All stakeholders
	Facilitation of participation of black growers in trade missions to ensure trade agreements have a provision and allocation of black grower fruits	Immediate- Long term	• Industry Associations	• Industry Associations	• Dti • DAFF • LEDA • LDARD	All stakeholders
	Assist black growers with GLOBAL GAP certification	Immediate – Long term	• LDARD • Industry Associations	• LDARD • Industry Associations	• Export Agents, PPCEB, DAFF, APAC , Black growers	All stakeholders
	Facilitate access to domestic fresh produce and processing markets	Immediate – Long term	• Industry Associations • LDARD	• Industry Associations • LDARD	• Local market Agents, PPCEB, DAFF, APAC , Black growers	All stakeholders

RACI: Responsible, Accountable, Consulted and Informed

SO4	**Broaden and increase participation of black people in the value chain**					
Activities	Partnering with industry associations for capacity building technical extension	Immediate term	• LDARD	• LDARD	• Industry Associations	All stakeholders
	Facilitate provision of new equipment, technology and infrastructure through the value chain	Immediate- Long term	• LDARD	• LDARD	• Industry Associations • Funders –LB and IDC	All stakeholders
	Encourage and support increased black equity	Immediate	• LDARD	• LDARD	• Industry	All stakeholders

	shareholding in existing and new companies within the value chain	term	• LEDA	• LEDA	Associations • Potential investors • Black entrepreneurs • Dti and DAFF	

RACI: Responsible, Accountable, Consulted and Informed

14. Coordination, monitoring and evaluation

The following institutional arrangement has been established and it includes committees that comprises diverse sector stakeholders to oversee the implementation of Limpopo RAAVC plan. The structures are as follows:

- RAAVC steering committee, comprised of LDARD, as convener; DALRRD, ARC, Commodity Organizations, Land Bank, LEDA Agribusiness and Organized Agriculture
- Departmental implementation committee, which is comprised of all technical components of the department, convened by Chief Director Agricultural Support Services, supported by the Director for Agricultural Economics.
- RAAVC Sub-sector committees. These committees are at the sub-sector level and are composed of the commodity organizations and relevant LDARD officials.
- District implementation coordination committees, composed of LDRAD district officials, municipality LED officials, sub-sector representatives.

The above committees shall be responsible for monitoring implementation of the plan at their respective levels.

Progress reports would be complied with and processed through the Economic Cluster on a quarterly basis.

A reporting template shall be developed that would be utilized to track progress on the planned activities/deliverables, and where applicable, up to the level of project specifics.

The RAAVC plan is a living document whereby modifications, especially on the priority commodities could be made upon due consultations among the stakeholders.

It is envisaged that evaluation would be done every five years to inform a review of the plan, in alignment with the term of administration so as to ensure alignment of the plan of Government Priorities.

15. Approval of the plan

This Limpopo RAAVC plan was approved by the Provincial Executive Council on the 09th of June 2021 for implementation by all role-players in the agricultural sector.

The Member of the Executive Council for Agriculture and Rural Development is the custodian of the plan and shall provide an oversight on the implementation. The Head of the Department shall champion the implementation and the respective Chief Directors shall be the implementers, supported by the established committees as outlined in section 14 (M&E) of this plan.

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

HEAD OFFICE
67/69 Biccard Street
Private Bag X9487,
Polokwane, 0700
Tel: 015 294 3000

VHEMBE DISTRICT
Makwarela
Government Complex:
Sibasa,
Tel: 015 963 2005

MOPANI DISTRICT
Old Parliamentary Building:
Giyani,
Tel: 015 812 3210

WATERBERG DISTRICT
84 River Street,
NTK Building, Modimolle,
Corner Thabo Mbeki &
Limpopo Street:
Tel: 014 491 4973

CAPRICORN DISTRICT
Public Works
Complex Building,
Lebowakgomo Zone A
Tel: 015 632 8600

SEKHUKHUNE DISTRICT
Public Works
Complex Building,
Lebowakgomo Zone A,
Tel: 015 632 8600

The heartland of southern Africa - development is about people!