

# THE POTENTIAL IMPACT OF THE NATIONAL MINIMUM WAGE ON THE AGRICULTURAL SECTOR

An analysis of agricultural wages in South Africa



# Background to BFAP

The Bureau for Food and Agricultural Policy (BFAP), founded in 2004, analyses the agro-food, fibre and beverage sectors in South Africa and the rest of Africa. The vision of BFAP is to inform decisions by providing unique insights gained through rigorous analyses. BFAP offers two very distinct value propositions; a Policy Value Proposition, and a Commercial Value Proposition. This is offered through a unique suite of tools, databases and techniques, experience, and rigorous independent research - all combined to offer insights – leading to better decisions. BFAP is a non-profit company with an advisory board consisting of representatives from universities as well as the private and public sector. BFAP has focused on the development and maintenance of core analytical research capacity in the form of well-trained researchers, databases and modelling systems in order to respond quickly to complex research questions, focussing on the full value chain (seed-to-shelf) and taking the trends in the global food systems into consideration. Through continuous investments, the first components of the modelling system and databases were developed more than 10 years ago and have been maintained, refined and expanded up to the most recent innovations that have been developed in partnership with the Integrated Value Information System (IVIS). IVIS offers software as a service to support the integration of the BFAP modelling system along multi-dimensional value chains, through integration of data, interactive maps, visualisation and systems-solutions to articulate informed insights

BFAP has a distinguished history of partnerships in the South African agricultural sector, providing exclusive advanced analysis and insights of both primary and secondary agricultural markets to public and private sector. In addition to publication of the annual baseline outlook, its integrated analytical framework has been applied in a number of research projects supporting the agricultural sector at large. Such projects include an evaluation of the possible contribution of the agro-industrial complex to employment creation for the National Planning Commission, an analysis of the long-term impact of mining on food security in South Africa, an assessment of the impact of proposed minimum wages for farm workers in South Africa, the impact of the drought on agricultural output and employment, various tariff applications and trade agreements like AGOA, and the research fact pack that served as the point of departure for the work streams at Operation Phakisa for DAFF and DRDLR. Furthermore, the training of individuals in specialized strategic decision-making and analytical techniques in collaboration with universities remains a key priority, ensuring the provision of high quality human capital to support the greater South African and African agricultural industry.

Over the past decade BFAP has developed into a well-positioned global virtual network linking individuals with multi-disciplinary backgrounds to a coordinated research system that informs decision making within the Agri, Food and Beverage sectors. The core analytical team consists of independent analysts and researchers affiliated with universities, as well as public and private sector institutions. Furthermore, BFAP not only offers the expertise and information systems of a diverse local group with a strong network in local industry organizations, private and public sector, but also provides access to a broader international network that has been established over the past decade. This includes institutions such as the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri, the Food and Agricultural Organization (FAO) of the United Nations, the Organisation for Economic Cooperation and Development (OECD) and the agri benchmark group at the Thünen Institute in Germany. BFAP is also a founding partner in the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) in Eastern and Southern Africa.

BFAP's vision and mission is to:

- undertake unbiased, scientifically rigorous and industry relevant research;
- generate research outputs and solutions guided by market based requirements and scenarios in order to drive sustainable commodity and food production and improve food security;
- support capacity development through postgraduate research at the associated Universities;
- publish research outputs with the associated Universities in peer reviewed journals as well as respected valid popular media.

# Executive summary

The South African government is pursuing the dual goal of ensuring maximum employment and wages. The relevance of these goals cannot be disputed but they are often in conflict and hence a fine balance has to be struck between ensuring that workers receive a decent wage whilst ensuring the long term financial sustainability of agribusinesses, investment and ensuring a conducive environment for maximum employment.

In the National Development Plan 2030 (NDP), agriculture, forestry and fisheries were identified as the key sectors to drive inclusive growth in rural economies with significant job creation opportunities (BFAP Baseline, 2017). The key focus of the NDP lies on access to better opportunities by rural communities to participate fully in the economic, social and political life of the country. In other words, although the performance of the agricultural industry is typically measured as its contribution to GDP, the principle that agriculture has a much broader footprint in the economy and society, and therefore plays a critical role in the future of the country, is generally accepted.

Investment in agriculture is widely recognised as a key precondition in achieving goals related to improving food security, creating jobs, creating wealth, and thereby reducing poverty. The returns to agricultural investment, defined as achieving these developmental goals, not only depend on the scale of investment but also the quality of such investment. The will to invest hinges on one basic tenet, namely the belief that there will be growth in the future. If growth occurs, it implies that there are positive income streams that can be used to pay off borrowed capital, pay the accumulated interest, as well as meet the opportunity cost of own capital invested in a venture. This is a very basic idea, but critically important for any debates regarding the future of the agricultural sector and the country.

Rural areas are still characterised by poverty and inequality. On the contrary, the ability of agriculture to address poverty and inequality in rural areas is subject to a conducive policy and investment environment. The introduction and phasing of the legislated national minimum wage will increase disposable household income for the share of the South African population who are employed. Yet, an increase of above 20 per cent will inflate the cost of production, in particular for labour-intensive industries.

Commercial agriculture in South Africa has faced two large wage shocks over the past two decades. The first was the introduction of a minimum wage for agriculture in 2003, after the first Sector Determination. While it is not known how many farm workers earned above or below the 2003 minimum wage, gross remuneration per worker was 32 per cent higher in real terms in 2007 than it was in 2002, and at least a part of this can be ascribed to the introduction of the minimum wage. The strong depreciation of the Rand in 2001/2002 also contributed, as it boosted fruit and wine exports, two industry leaders in the setting of farm wages.

The second large wage shock came in March 2013 when the minimum wage was increased by more than 50% after considerable labour unrest centred on the table grape industry in the Western Cape in the last quarter of 2012. There is some evidence that this increase was eventually accompanied by a decline in employment, after the level of employment initially increased. Again, this was the net result of the myriads of decisions that farmers take when confronted by a sudden shock to their profit margins. Trading conditions were good in 2013-2015, and farmers have more options than merely laying off workers to deal with such sudden shocks (as is argued in basic economic theory). How they deal with it depends on the environment within which production takes place, on the idiosyncrasies of the different industries, and on the circumstances of the individual farmers. These factors are seldom taken into account in textbook treatments of the impact of a shock in wages.

It is precisely its ability to take these factors into account that makes the BFAP modelling process so powerful tool in assessing the impact of such shocks. The macro model brings in environmental factors, the sector models provide a level of realism that is unknown elsewhere, the farm level models provide guidance to individual producers on what they can expect going forward, and the household modelling completes the picture that policy makers need in order to design more appropriate policies.

The introduction of a national minimum wage is not as large a shock to the farming sector as its two predecessors, but it is still substantial. Why, then, is this report necessary?

As argued above, textbook treatments of the impact of a minimum wage largely ignore the political, social, historical, natural, etc. environment within which it is implemented. Similarly, it ignores the idiosyncrasies of the different production sectors in agriculture and the characteristics of the farming businesses. Possibly more seriously, though, it also ignores the impact on farm worker households. Thus, a better understanding of how farmers are expected to react to the change in wages, whether the change is large or small, improves our understanding of the likely outcomes under different scenarios.

Given these two distinct challenges, namely *the consumer and the producer problem*, a research scoping meeting was conducted between BFAP and various industry stakeholders on 26 October 2017 to discuss the likely implication of the implementation of the legislated national minimum wage. It is argued that the implementation of the minimum wage will favour consumers, especially marginal households often located in rural areas. In contrast, the implementation will affect the financial performance of primary producers. The consensus reached in the research scoping meeting was that there exists the need to commission formal research to inform industry and government stakeholders on the likely outcomes of the national minimum wage. A Terms of Reference was drafted between the industry stakeholders on the specific outcomes of the research, which include:

- *South African agricultural- and food systems in context:* The objective is to provide an overview of key drivers that are shaping the agricultural and food systems environment in South Africa by considering recent performance, economic factors that are influencing this performance and recent events informing drivers of change. The context section further includes employment trends in agriculture. The key objective is to determine the state of agriculture in the context of the goals stipulated by the National Development Plan (NDP) with the argument that a single event, such as the introduction of the minimum wage, should not be observed in isolation, but rather as part of a system of events which will impact future performance of the sector. It is therefore important to understand the integrated nature of agriculture and how it is shaped by policy and macroeconomic volatility.
- *Towards a food affordability perspective:* Understanding the implication on the household consumer because of the implementation of the national minimum wage. The objective of the consumer section is to provide an overview of existing food intake and requirements for different household composition types in South Africa, their respective food baskets, typical food consumption behaviour, food affordability and other consumer dynamics. The objective is further to determine the consumer situation after the implementation of the national minimum wage in 2018 and 2019.
- *Producer implication:* The objective of this section is to determine the implication on selective primary agricultural industries because of an increase in the minimum wage. The immediate impact is further interpreted in concurrence with other realities currently experienced in the South African farming environment. The focus as determined by the Terms of Reference committee is on selective labour intensive industries and is dependent on the availability of data pertaining to cost structures, production systems, on-farm employment and financial records. It is important to note that only a few industries form part of this study and in order to determine a holistic impact because of wage increases, industries not reflected in this study should conduct their own analysis on the matter. It is acknowledged that the impact at farm-level and affordability of the increase in agricultural wages will vary across industries. The information presented in this study serves only as guideline for the industries represented and not for agricultural at large.

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# 1 South African agriculture in context

The objective of this report is to quantify the impact of the new national minimum wage on agricultural production and food consumption to the extent possible. The results of such an assessment must however be seen within the context of South African agriculture's unique economic, social and historical landscape. The agro-food sector in South Africa is faced with numerous other challenges in addition to the introduction of the national minimum wage, and contextualisation of this setting is therefore critical to any policy debate.

## 1.1 The minimum wage in agriculture

Under the current Sector Determination 13 for the agricultural sector, the wages of farm workers are as laid out in Table 1. However, the planned introduction of the National Minimum wage supersedes SD 13 from 1 May 2019.<sup>1</sup> The actual minimum wage to be paid in agriculture in these subsequent years is also reflected in Table 1.

TABLE 1: THE MINIMUM WAGE IN AGRICULTURE, 2017-2020

Date of inception	Monthly	Weekly	Daily	Hourly	% increase
28/02/2017	2778.83	641.32	128.26	14.25	
01/03/2018	3169.19	731.41	146.28	16.25	14.0
01/05/2019	3499.20	810.00	162.00	18.00	10.7
01/05/2020	3900.00	900.00	180.00	20.00	11.1

Source: Department of Labour, 2018

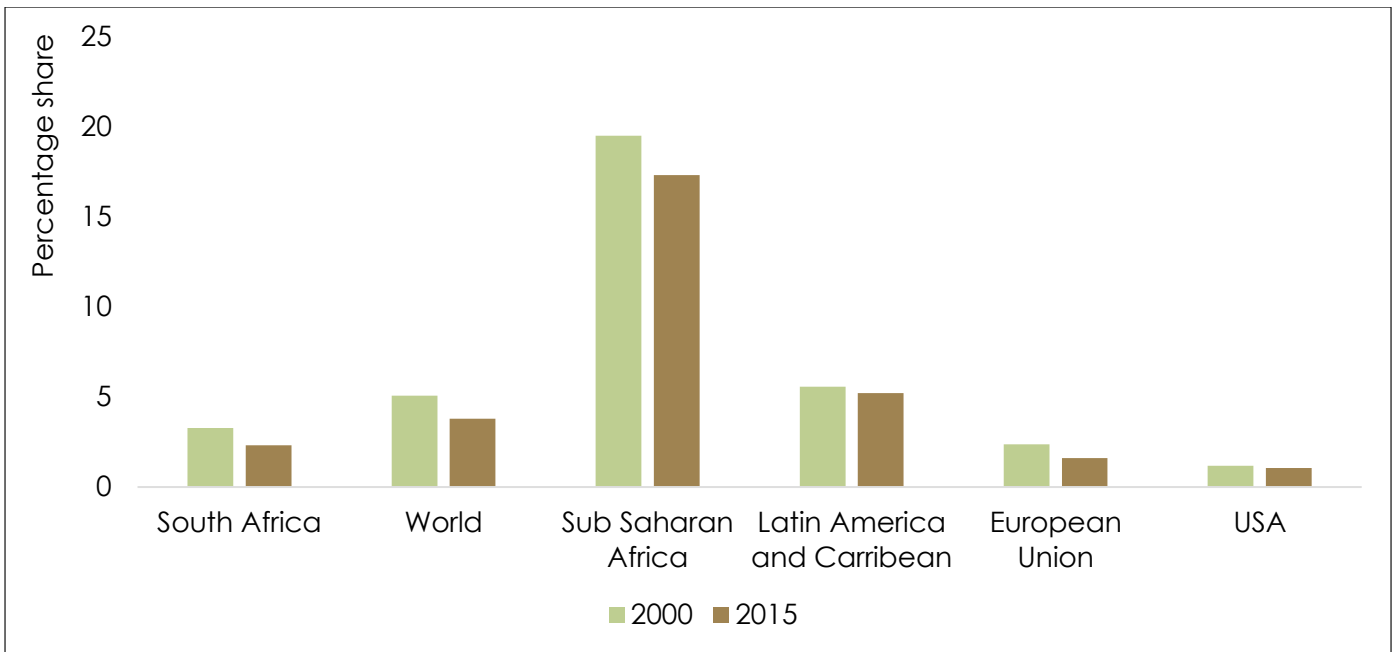
The minimum wage paid to farmworkers is set to increase by 10.7 per cent in 2019, and then by 11.1 per cent in 2020. The overall increase is 23 per cent over the two years from 28 February 2018 to 1 May 2020. The terms of reference which were drafted by industry stakeholders was to investigate the debate around the implementation of a national minimum wage of R20 per hour where agriculture is exempted in 2018. The remainder of the document therefore assumes a R18 per hour in 2018 and R20 per hour in 2019 in order to inform the national minimum wage debate.

## 1.2 Agriculture in the broader economy

Agriculture represents a small subsector in the South African economy, which implies that it is sensitive to volatility in the broader macro-economic environment, but this does not diminish the importance of its contribution to society. Primary agriculture's mere 2.3% share in Gross Domestic Product (GDP) in 2015, down from 3.3% in 2000, represents a trend consistent with the development and maturing of the economy, and is a trend found in virtually all countries.. Figure 1 indicates that agriculture's contribution to the global economy declined from 5.1% in 2000 to 3.8% in 2015. If the 2015 global average is compared to specific regions, Latin America had a higher agricultural contribution to GDP with 5.2% whilst the European Union and the United States of America, had a smaller contribution with 1.6% and 1.1% respectively. In the rest of Sub-Saharan Africa, where economies are typically less developed, it is also higher than global averages

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<sup>1</sup> This on the assumption that the National Minimum Wage was implemented on 1 May, which was not the case. This does not change the magnitude of the increases by much.



**FIGURE 1: AGRICULTURE'S SHARE IN THE ECONOMY**

Source: World Bank, 2017

However, agriculture's economic contribution stretches beyond the primary level. For example, the manufacturing of food and beverage products has experienced faster growth than that of the manufacturing sector overall and is now the largest subsector of manufacturing (Table 2). Furthermore, while performance has often been measured in terms of contribution to GDP, agriculture is accepted as having a much broader footprint in the economy and society, and therefore plays a critical role in the country's future. It remains critical to food security objectives, employment goals and provides opportunities for improvement of rural livelihoods. The significant role of small farmer development and improvement of redistribution projects in the agricultural employment growth foreseen in the NDP is testament to this broader footprint.

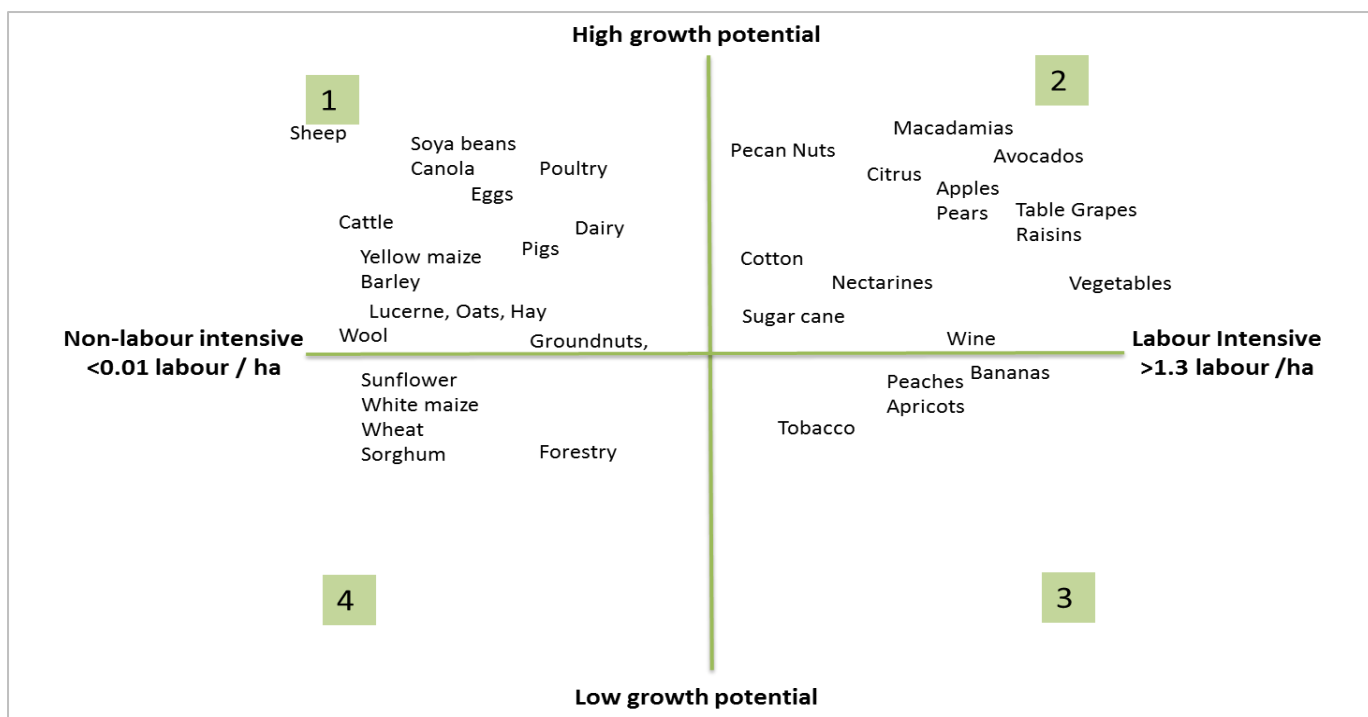
**TABLE 2: AGRICULTURE'S SHARE IN VALUE ADDED IN THE MANUFACTURING SECTOR**

	2000	2010	2017
Food and beverages	17%	21%	24%
Basic iron and steel, non-ferrous metal products, metal products and machinery	24%	22%	21%
Petroleum, chemical products, rubber and plastic products	18%	21%	21%
Motor vehicles, parts and accessories and other transport equipment	13%	13%	13%
Wood and wood products, paper, publishing and printing	9%	8%	7%
Other	19%	15%	13%

Source: Stats SA

In its envisioned contribution by agriculture to economic growth and employment goals, the NDP prioritised a number of industries seen to have significant growth potential, whilst also relying on labour intensive practices. Such industries are highlighted in the top right corner of the matrix presented in Figure 2. These industries produce high value products, in most instances destined for export markets. Whilst underpinned by their fundamental competitiveness in the export market, they also rely on irrigated production practices, hence water availability and management are critical to their success. Investment in this regard is paramount for future development. Labour intensive production practices also imply that these are typically industries that will be impacted significantly from changes to agricultural wage levels.





**FIGURE 2: INDUSTRIES WITHIN SOUTH AFRICAN AGRICULTURE SORTED BY GROWTH POTENTIAL AND LABOUR INTENSITY**

Source: National Development Plan

Despite the clear goals expressed for the agricultural sector in the National Development Plan and the plethora of commitments, plans, discussions and efforts to unlock the growth potential of the sector and to promote transformation concurrently, the sector was unable to reach the envisioned goals over the past five years (BFAP, 2016). In short, the following main issues hamper the agricultural and food sector:

- Slow or declining multifactor productivity growth for a number of industries, driven by a range of factors such as unfavorable weather conditions in recent years.
- Slow growth in export markets mainly due to red tape and slow bureaucratic processes for permits and removing sanitary and phyto-sanitary trade barriers
- Ineffective and duplicating service provision by the many layers of government departments.
- Constraining legislation and policies from other ministries such as DTI, Labour, Water, and Rural Development and Land Reform
- Policy uncertainty and slow progress with land reform
- Low levels of new investment in fixed improvements, land improvements and expansion of farming operations due to political ambiguity and uncertainty about private property rights, especially with respect to land and water.

### 1.3 Performance of the South African agricultural sector

The South African agricultural sector experienced unprecedented growth over the past two decades. This growth is reflected in a rapid increase in the real gross value of agricultural production index in Figure 3, which is plotted alongside the real GDP per capita. Growth was supported by numerous factors, both domestically and in the global context. In the early 2000's, agricultural growth was ignited by the strong performance of the South African economy and the increase in social grants, boosting per capita disposable income and resulting in a sharp increase in the demand for high(er) valued products such as chicken meat. This trend was also coupled with the benefits of the liberalisation of agricultural markets that provided rapid access and growth in export markets for wine and fruits. Globally, 2005 represented the start of the so called "commodity super-cycle", which was initiated by the introduction of the biofuels industry in the developed countries. This combined with strong growth in developing economies such as China and India supported demand for

animal products and the feed grains used in their production. The consequence was a significant upturn in the demand for agricultural commodities, causing a spike in global grain and oilseed prices and supporting profitability in extensive grain and oilseed production.

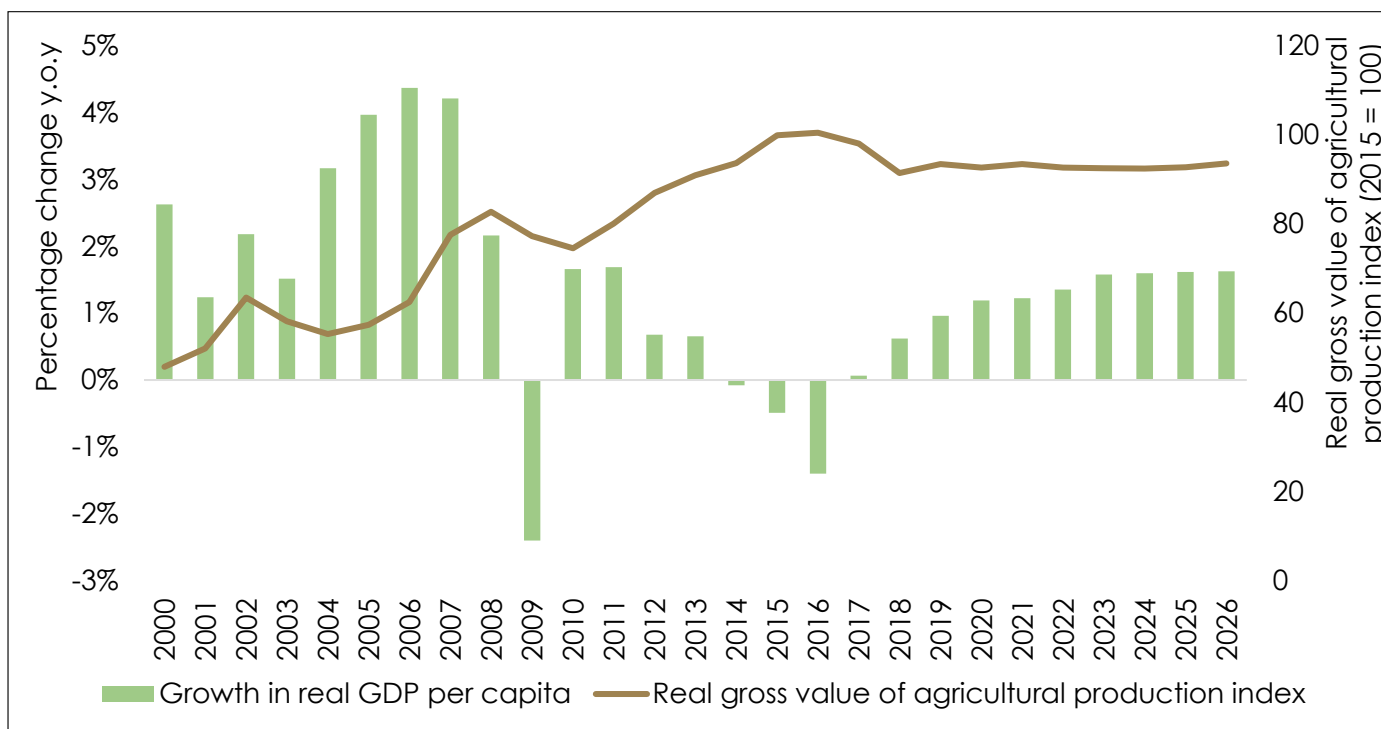


FIGURE 3: REAL GROSS VALUE OF AGRICULTURAL PRODUCTION AND REAL GDP PER CAPITA IN SOUTH AFRICA

Globally, area under grain and oilseed production expanded rapidly to meet the growing demand, yet in South Africa, area consolidated as marginal land fell out of production and producers focused on driving productivity growth. The global financial crisis in 2009 introduced a cycle of slower economic growth and the South African economy did not escape this trend. In fact, after a short recovery, the South African economy has failed to outpace population growth, and from 2014 to 2016, per capita GDP declined. This slowdown in economic activity also affected the agricultural sector, as the real gross value of agricultural production declined to 2010. Consecutive drought years in the USA caused yet another spike in world grain prices from 2011 to 2013, and subsequently supported profitability in South African agriculture, despite the prolonged slowdown in the domestic economy. Significant depreciation in the South African exchange rate offset much of the decline in world price levels since 2014 and following drought conditions in 2015 and 2016, the reality of the lower global price cycle only materialised for South African producers in 2017 when a record summer grain crop resulted in an exportable surplus and carry-over stocks.

Over the coming decade, growth prospects are far more subdued. Under the assumptions of the BFAP Baseline, the strong economic growth and high world prices that underpinned growth will be far less supportive going forward. It is expected that this will initiate a period of consolidation within the agricultural sector, similar to the early 90's. Despite the positive sentiment surrounding the changes in government, structural challenges remain in the South African economy and, although a recovery in growth is projected, it will likely remain slow. At the same time, improved sentiments have resulted in a significant appreciation in the exchange rate. Limited exchange rate depreciation over the next 10 years will be positive in reducing inflation, thereby improving consumers' disposable income, but it also implies that one of the factors that improved the competitiveness of South Africa's horticultural products in the global market is no longer present. It will also increasingly expose South African producers to the reality of the current lower international price cycle.

Following consecutive years of above average yields, global stocks are high, and prices of major grains and oilseeds have declined to levels last observed in 2007. International institutions such as the Food and

Agriculture Organisation of the United Nations (FAO) and the Food and Agricultural Policy Research Institute (FAPRI) suggest that in the absence of another extreme weather event, which causes multiple years of below average yields in major production regions, world prices are expected to remain in a lower price cycle, trading mostly sideways in nominal terms.

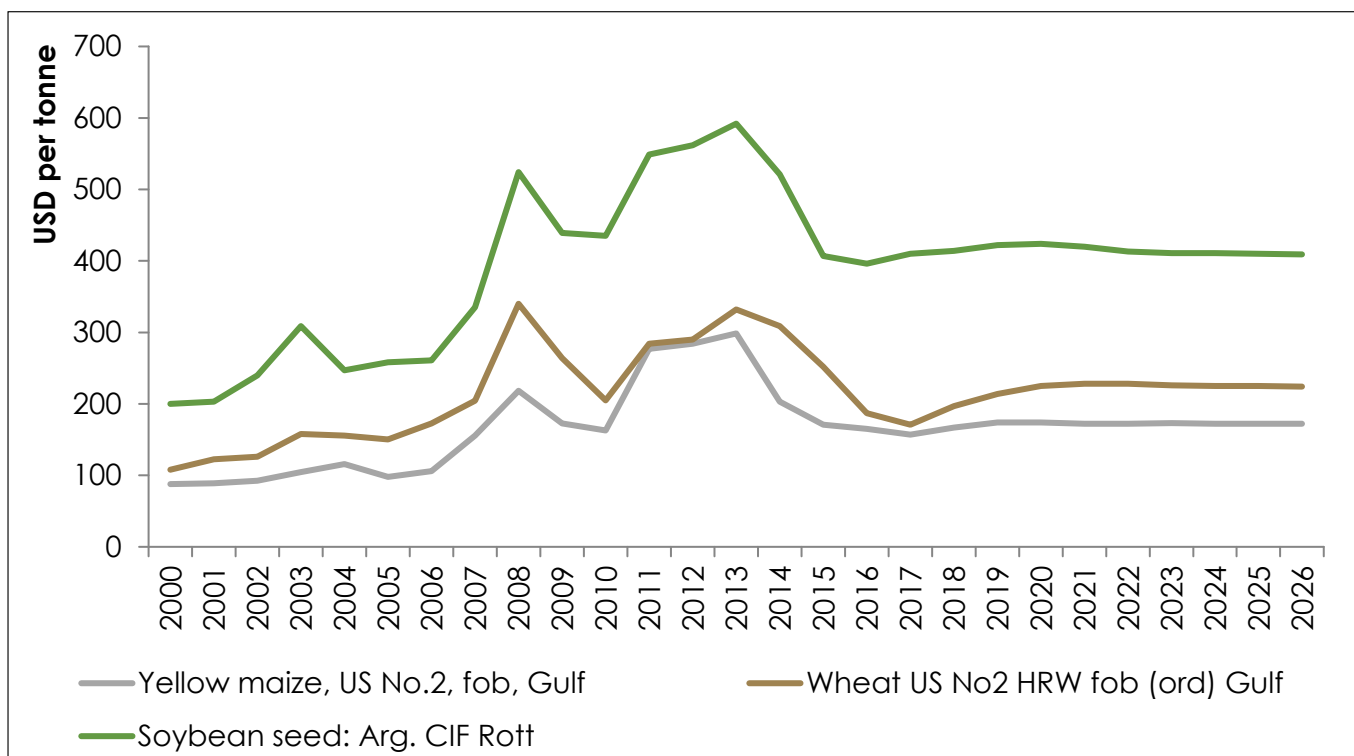


FIGURE 4: OUTLOOK FOR KEY GRAIN AND OILSEED PRICES TO 2026

Source: BFAP, 2017

Given these realities in the macroeconomic context and world price paths, competitiveness and productivity are paramount to achieving envisioned growth objectives. Real prices for agricultural commodities have been on a declining trend for many years (OECD-FAO, 2017) with similar projections for South Africa. Figure 5 indicates that, under stable weather conditions, nominal maize and soybean prices are expected to increase only marginally over the coming decade, yet input costs continue to rise on a path more consistent with inflation. South Africa remains a net importer of fertiliser and the projected price path is consistent with a marginal increase in international fertiliser price projections, as well as inflationary increases in the costs associated with bringing it to its final point of use. Given these relative movements in input and output prices, the price cost squeeze is expected to increase and profitability will be dependent on continuous gains in productivity.

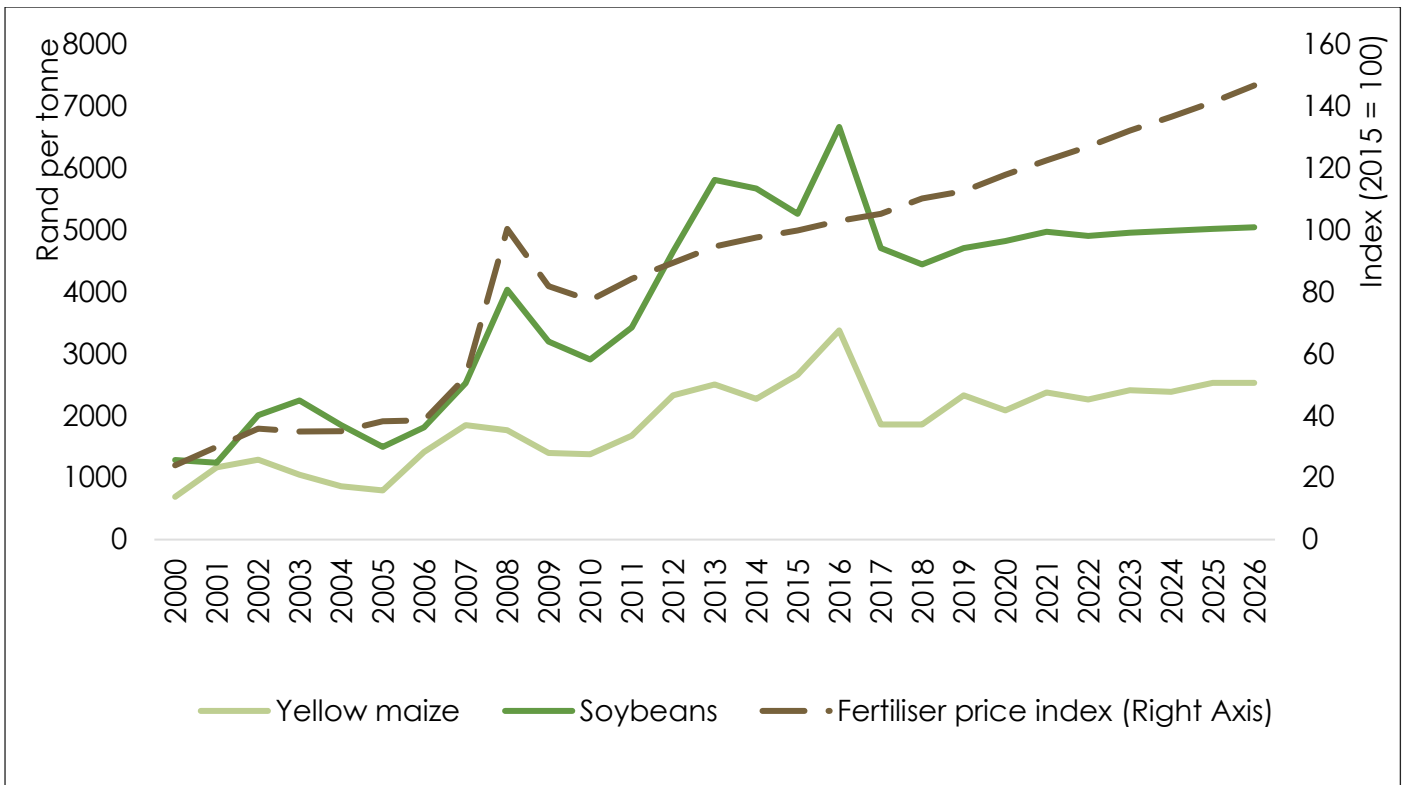


FIGURE 5: MAIZE AND SOYBEAN PRICES IN SOUTH AFRICA RELATIVE TO A FERTILISER PRICE INDEX

Productivity can be defined as a ratio of the outputs produced over the inputs used, as illustrated in the equation below. In addition to this this, apart from ensuring efficient marketing practices, producers are price takers on both the input and output side. Productivity gains has been achieved very successfully in the past, as marginal land was removed from production and increasingly efficient farm practices were implemented. With area consolidating, marginal gains will however be harder to obtain and investment into the best technology available will become increasingly important.

$$\begin{aligned}
 \text{productivity} &= \frac{\text{output}}{\text{input}} \\
 &= \frac{P_y Q_y}{P_i Q_i}
 \end{aligned}$$

Competitiveness, in the global context, is critical for survival and ultimately growth. The cycle of reduced global grain and oilseed prices will not only bring relief to basic food prices, but also lower feed costs, which will support intensive livestock operations such as the broiler, pork and dairy industries. This will support these industries to be more competitive and resilient against cheaper imports. Industries such as dairy and poultry are important from a food security perspective and they make significant contributions to the value added to South African agricultural production. These sectors represent big offtake markets for feed grains such as maize and soybeans. While the importance of such industries within South African agriculture is clear and must always be maintained, they are not the industries that have generated rapid growth in the past few years. Figure 6 suggests that, with some exceptions, most of the fastest growing industries are smaller, high value products destined for the export market such as soft citrus, lemons, limes and naartjies. Many of these are also the industries that were identified as having high growth potential and labour-intensive production practices in the NDP.

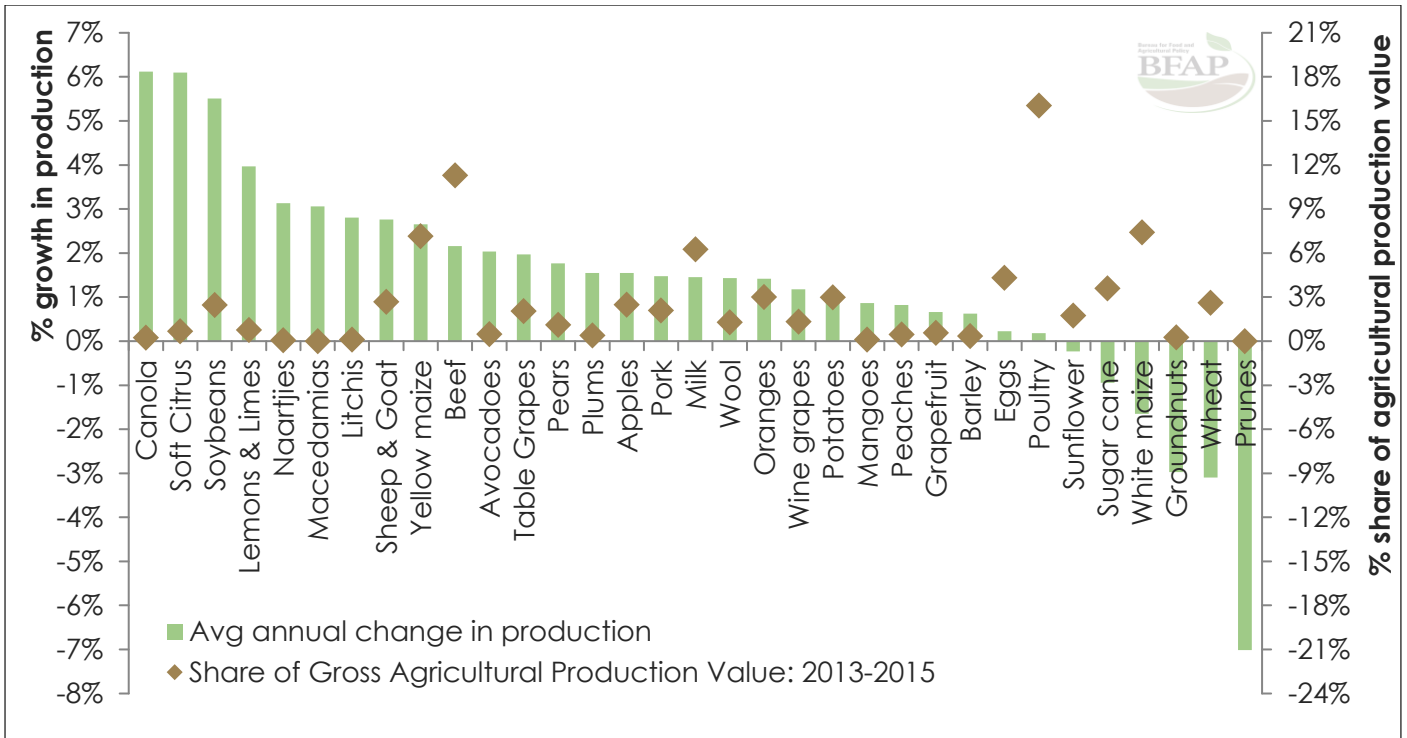


FIGURE 6: PRODUCTION GROWTH AND CONTRIBUTION OF DIFFERENT AGRICULTURAL SUBSECTORS IN SOUTH AFRICA

Source: BFAP, 2017

South Africa remains a net exporter of agricultural products by value and in many of the industries that have expanded rapidly over the past few years, such as citrus, South Africa's share in total global exports has also increased. This ability to increase market share is indicative of a fundamentally competitive position in the global market, which is critical to future growth prospects.

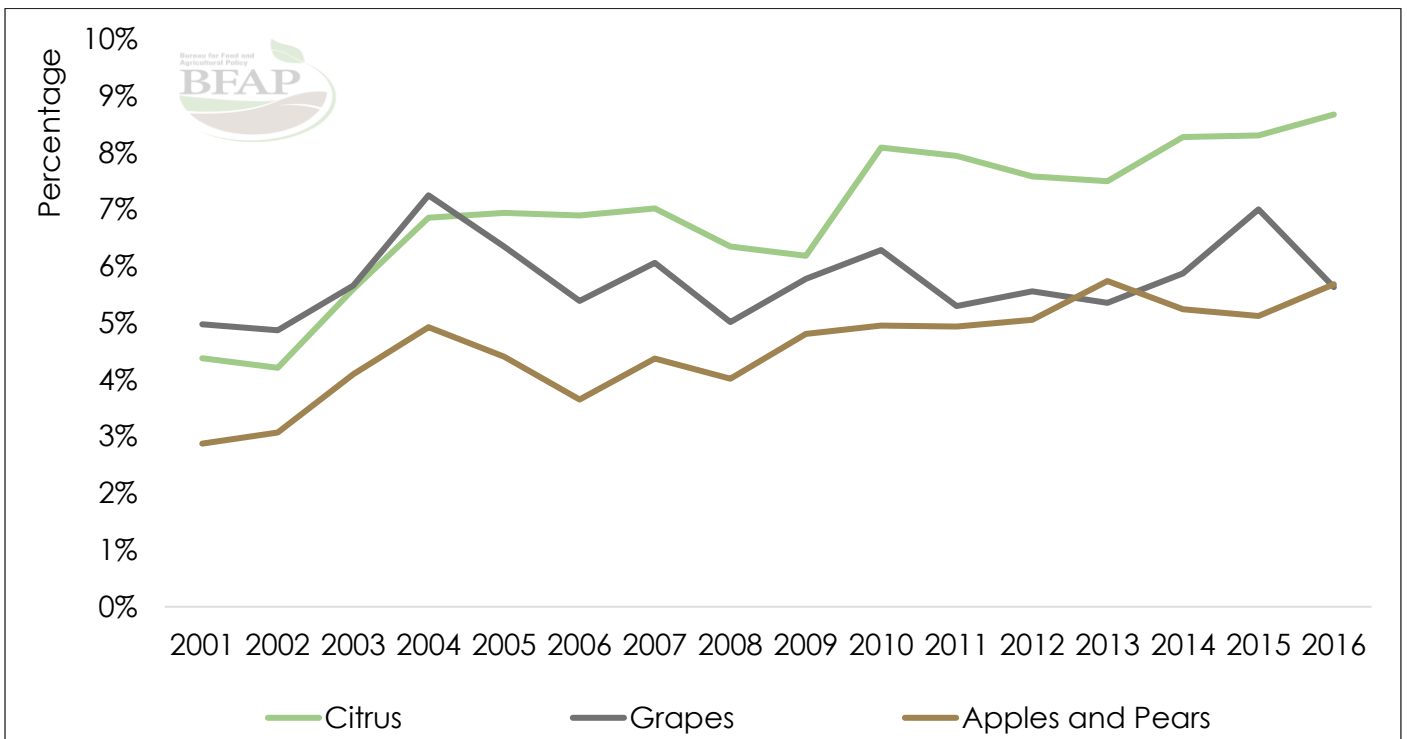
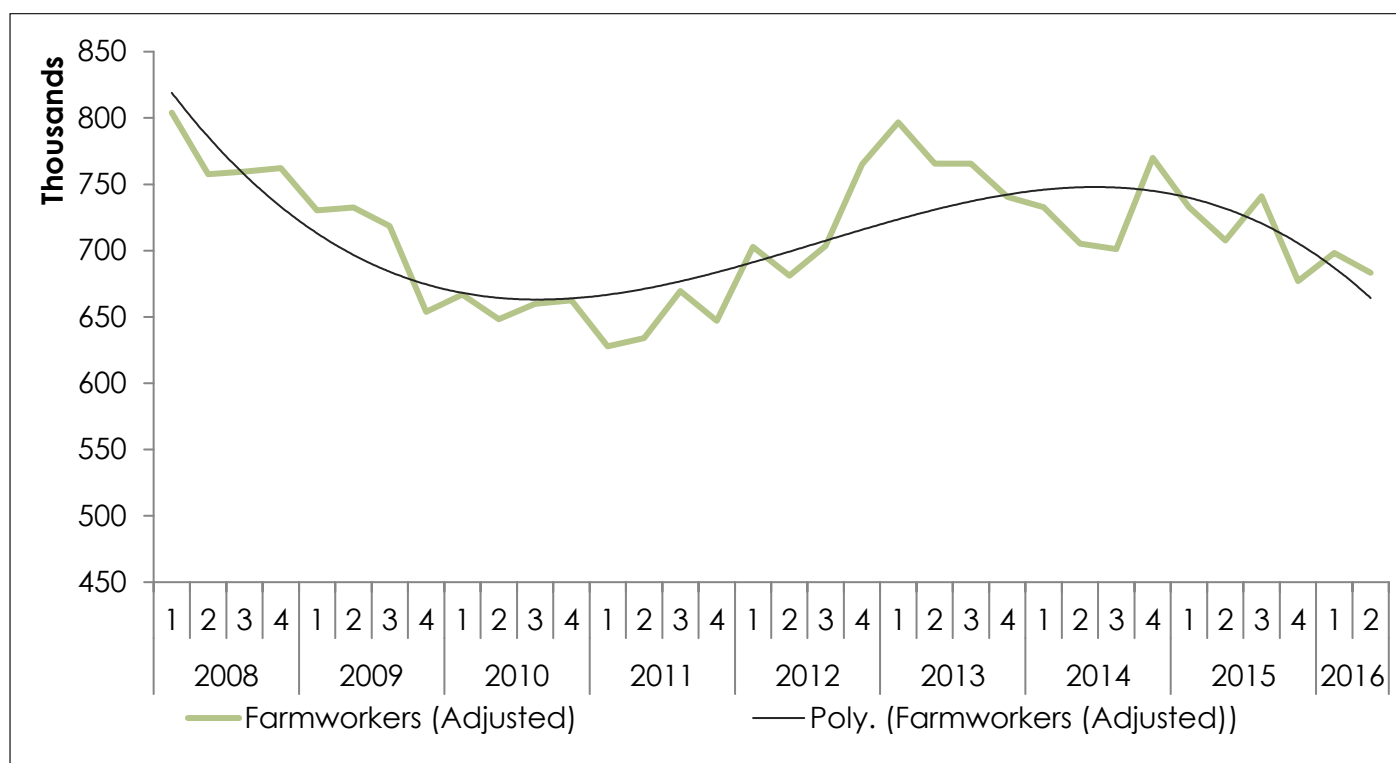


FIGURE 7: SOUTH AFRICA'S SHARE IN WORLD EXPORTS BY VALUE, 2001-2016

Source: ITC's Trade Map

## 1.4 Agriculture's contribution to employment

It bears repeating that agriculture's footprint is wider and deeper than just its contribution to GDP. In the first instance, its contribution to employment, particularly in rural areas, is another very important factor. Figure 8 portrays the quarterly trend in employment in the agricultural sector since 2008 as the number of general workers, machine operators and agricultural workers who work in the primary sector, i.e. including workers in forestry and fisheries. The green line shows total agricultural employment (adjusted for the change in the sampling methodology). There was a clear decline from 2008 until the start of 2011, after which the sector added jobs, principally because of the weakening in the exchange rate that increased the competitiveness of South African horticultural exports. This trend was reversed by the more than 50% increase in the minimum wage in 2013.



**FIGURE 8: THE NUMBER OF GENERAL WORKERS EMPLOYED IN AGRICULTURE, FORESTRY AND FISHERIES**

Source: Stats SA QLFS report, 2008 -2016

From a provincial perspective, the Western Cape, KwaZulu-Natal and Limpopo are the provinces where the most agricultural workers are employed. While employment numbers have been declining in the Western Cape and KwaZulu-Natal, an upward trend can be observed in Limpopo (Figure 9). While these data cannot be disaggregated to provide employment information by subsector, the provinces that make the biggest contribution are also the ones that have a high concentration of labour intensive subsectors. The labour multiplier model developed by BFAP in 2012 suggests that the citrus subsector employs the largest number of workers, followed by sugarcane, grapes and tomatoes

Table 3). This model is based on assumptions developed in close cooperation with industry bodies and producers regarding the number of workers employed per hectare.

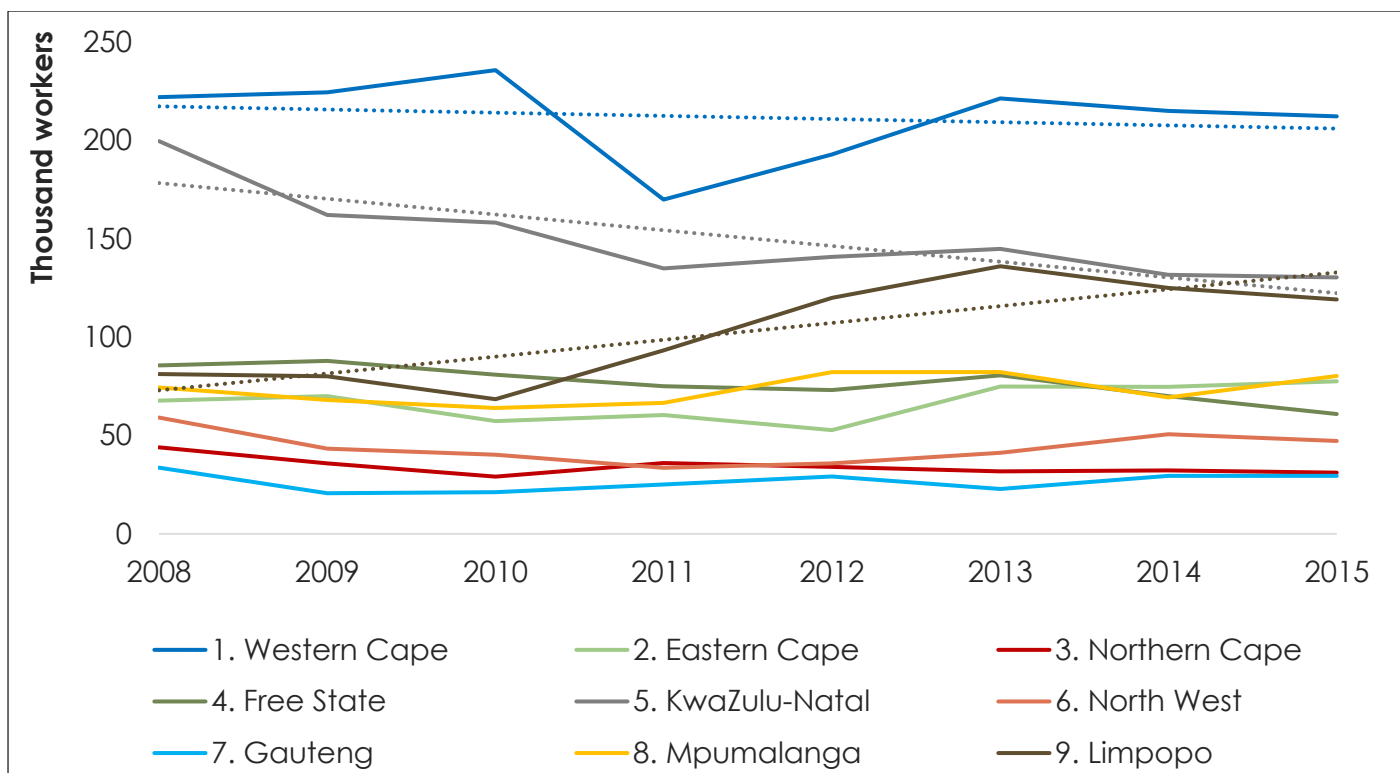


FIGURE 9: THE NUMBER OF GENERAL WORKERS EMPLOYED IN AGRICULTURE, FORESTRY & FISHERIES BY PROVINCE

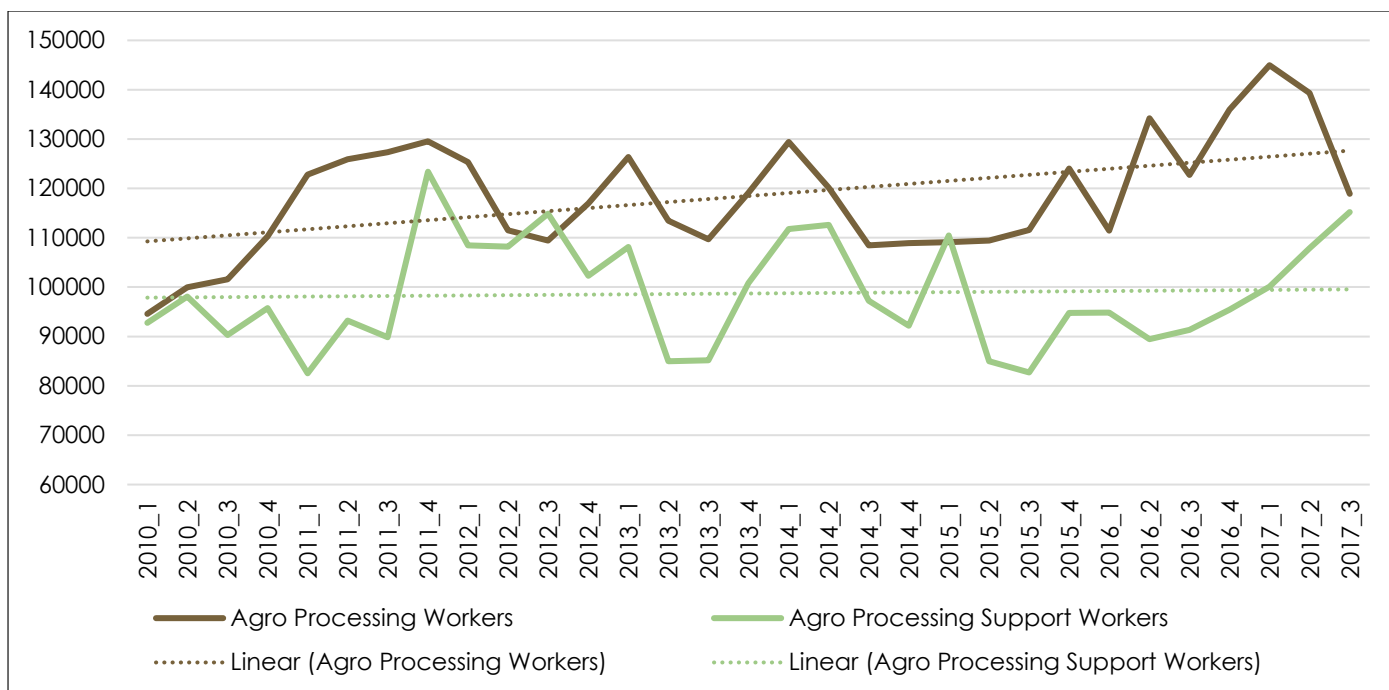
Source: Stats SA QLFS reports

TABLE 3: THE TOP 10 HIGHEST EMPLOYING INDUSTRIES IN SOUTH AFRICAN AGRICULTURE

	Permanent	Seasonal	Total
Citrus	10 200	75 000	85 200
Sugar cane	7 560	70 875	78 435
Grapes (Table & Dry)	20 478	18 903	39 381
Tomatoes	33 284		33 284
Potatoes	5 972	24 885	30 857
Wine grapes	24 136	6 034	30 170
Apples	14 248	13 152	27 400
Pineapples	15 858		15 858

Source: BFAP, 2012

As illustrated in Table 2, agriculture's footprint is not limited to the primary sector and as such, assessments of its contribution to employment can also be broadened to agro-processing. While the number of agro-processing support workers has fluctuated seasonally around a fairly constant trend since 2010, an upward trend is evident in the number of general agro-processing workers (Figure 10).



**FIGURE 10: NUMBER OF WORKERS IN AGRO-PROCESSING AND AGRO-PROCESSING SUPPORT SECTORS**

Source: Stats SA QLFS report, 2008 -2016

## 1.5 Agriculture remains in an uncertain environment

Volatility in weather, in commodity prices, and in the macroeconomic environment create an uncertain environment for South African agriculture. The drought conditions in the summer rainfall areas in 2015 and 2016, followed by the recovery and record summer crop in 2017 resulted in price movements of more than 50% year on year in the white maize market. While crop volumes recovered quickly when rainfall returned, producer cash flow takes much longer to recover. This is particularly true in the case of 2016, as many producers were unable to plant the intended area because of insufficient precipitation during the optimal planting window. Therefore, in terms of revenue at national aggregate level, high prices offset some of the loss in volumes, but producers who were unable to plant their full crop did not have sufficient output to enable them to benefit from the higher prices. This put a severe strain on cash flow positions and while output volumes increased to record levels in 2017, the low price for the associated periods limited recovery. In early 2018, producers in the western parts of the summer rainfall cropping areas were facing uncertain times once again because of insufficient rain. High carry-over stocks will however negate the price impact associated with the reduced plantings mentioned above; hence, 2018 could see reduced volumes at lower prices.

To illustrate the prolonged recovery from the 2015/16 drought, Figure 11 depicts the cash flow position of a representative farm in the North-West province. The North West prototype farm is used since the area has experienced a number of dry seasons since 2011. Given the uneven rainfall, as well as differences in debt levels and requirements for finance restructuring, the situation on each farm looks different, but the figure serves to illustrate the extended period of recovery required for cash flow to turn positive following the drought. Given the initial uncertainty surrounding rainfall for the 2018 season, two scenarios were developed. The baseline scenario represents normal rainfall from February 2018 onwards, which allows cash flow to turn positive in 2019. Under an alternative scenario of reduced rainfall for the rest of the 2018 season, yield levels are reduced and this subsequently causes cash flow to remain negative beyond 2019. This, in turn, will place severe strain on many producers' ability to continue operations and further illustrates that the margin for error is becoming increasingly small.



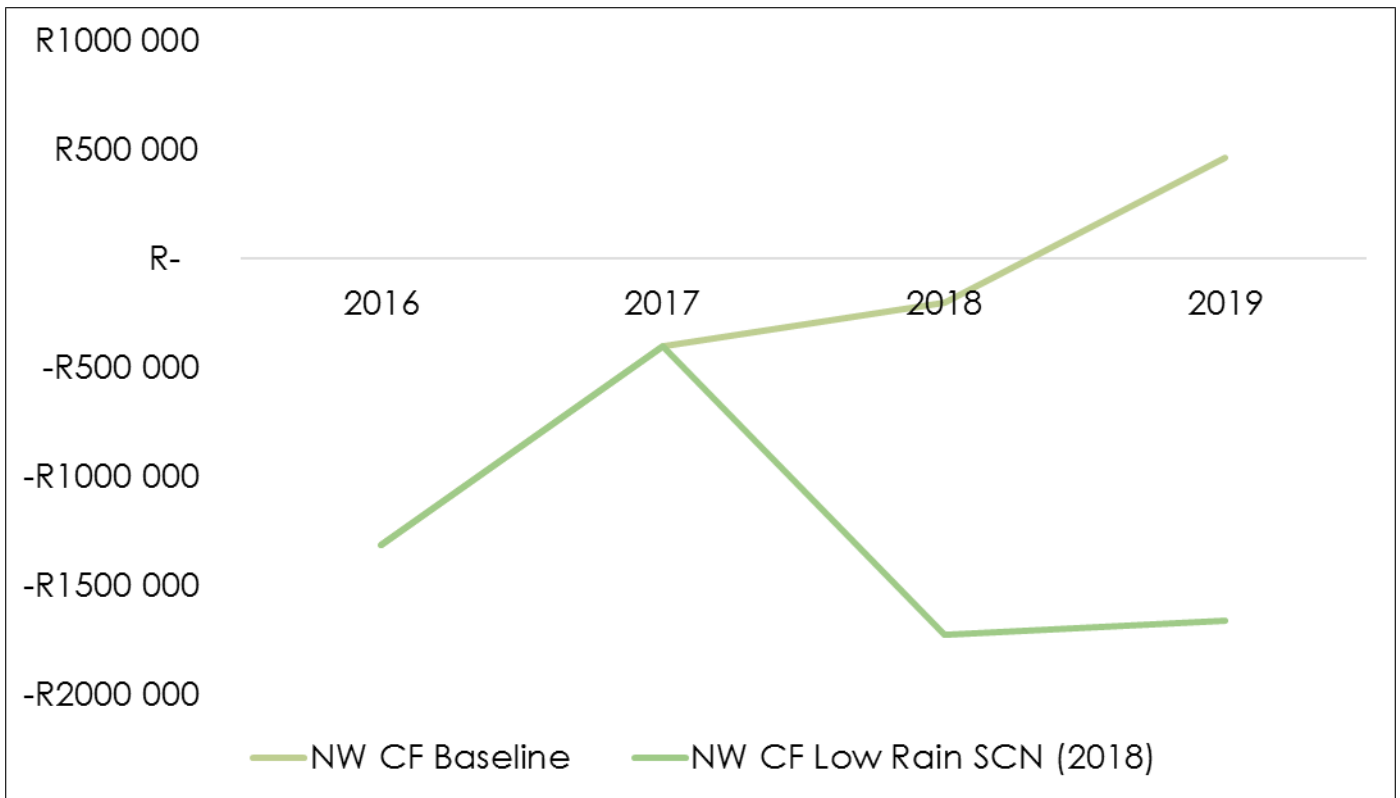


FIGURE 11: CASH FLOW ON THE BFAP REPRESENTATIVE FARM IN THE NORTH WEST

While summer crop production volumes recovered quickly from the drought, production cycles in other subsectors do not enable such a quick recovery. Estimates indicate, for example, that South Africa's beef herd was reduced by as much as 15% as a result of the 2016 drought and while many regions entered a rebuilding cycle following the 2017 rain, it takes time for this expansion to show in production volumes. Some of the loss in inventory was offset by higher carcass weights in 2017 due to reduced feed prices, but beef production is still expected to decline by almost 10% year on year. Due to limited supply, producers with mixed operations did benefit from higher weaner calf prices, but those in the North West and Western Free State, where the drought impacts were the largest, reduced herds to the extent that they had limited volumes to market at higher prices in 2017.

Intensive livestock production industries, such as pork and particularly poultry did not reduce volumes to the same extent as beef during the drought. Instead, the adverse impact was predominantly financial. The shorter production cycle associated with these intensive industries also supported increased production when feed prices declined again, and for the most part, broiler and pork operations performed well in 2017. An exception is the egg industry, which was hit by the outbreak of Highly Pathogenic Avian Influenza (HPAI), which resulted in the culling of an estimated 5.4 million birds at an estimated value of more than R300 million. The total economic impact of the HPAI outbreak was estimated to exceed R1.8 billion over the next 2 years.

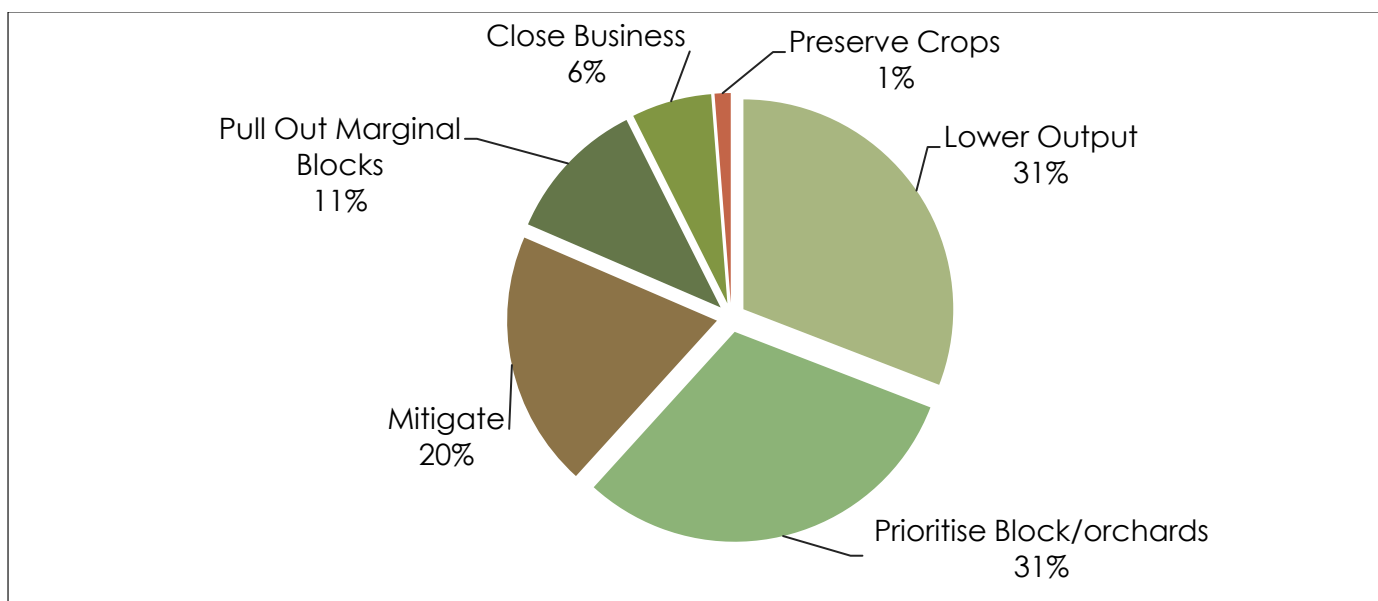
While some recovery is evident in summer rainfall regions, the impact in the winter rainfall regions is very different. The past three years have seen the Western in the grip of a severe drought. These regions have a large concentration of high value, perennial horticultural products. Given the high share of production occurring under irrigation, the immediate production impact within these industries in 2016 was less than for the summer crops, but sustained low rainfall, especially in the catchment areas away from the coast, has impacted negatively on dam levels, leading to severe water shortages. With the need to prioritise water for human consumption, the allocations to agriculture have been reduced significantly, leaving producers with the need to focus on-farm water allocation to products with the highest returns. Table 4 presents scenarios of the expected impact of reduced water allocation on the apple and pear industries. The baseline scenario represents a case where producers receive normal water allocations. The alternative scenario represents a situation where water allocations are reduced by 50% in the short term, increasing back up to 80% of what

would be considered normal by 2026. This results in a reduction of 24% in apple production and 30% in pear production by 2026, with most of the loss evident in export volumes, where prices are determined in the global market and hence price impacts are limited. This leads to substantial losses in producer revenue.

**TABLE 4: EFFECT OF REDUCED WATER ALLOCATION TO APPLE AND PEAR PRODUCERS**

	Apples			Pears		
	Baseline		Scenario vs. Baseline	Baseline		Scenario vs. Baseline
	2016	2026	% change 2026	2016	2026	% change 2026
<b>Production (Tons)</b>	902 129	999 777	-24.17%	431 535	453 161	-30.98%
<b>Exports (Tons)</b>	425 325	445 015	-28.88%	222 192	222 636	-30.20%
<b>Export Price (R/Ton)</b>	10 815	15 574	4.22%	11 157	15 257	6.75%
<b>Domestic Price (R/Ton)</b>	5 556	8 113	18.19%	5 605	8 209	14.71%

In a survey conducted amongst fruit producers in the Western Cape in 2017, respondents were asked about possible strategies to circumvent a 60% reduction in water allocation in 2018. More than 30% noted that output would be reduced, with 31% indicating that they would prioritise specific orchards for water allocation, 11% indicating that they would uproot marginal orchards and 6% that they would cease to operate (Figure 12). The decline in production was expected to average at around 37%. Given that the performance of the horticultural sector was a critical factor in maintaining a positive agricultural trade balance in 2016, such reductions are concerning for future growth prospects. The extent and period of recovery in rainfall conditions remains very uncertain. Going forward, the competition with households, tourism and industry for scarce water is, however, likely to remain a burning issue for producers. As a result, investment in water use technologies is essential to support efficiency and competitiveness of horticultural producers in the future



**FIGURE 12: PRODUCER STRATEGIES TO MANAGE A 60% REDUCTION IN WATER ALLOCATION IN 2018**

## 1.6 Concluding remarks

This section clearly illustrated that, after a period of exceptional growth over the past 2 decades, agriculture is entering a period of consolidation. World market prices have settled at levels well below recent peaks and, with the macro-economic recovery expected to be slow and prolonged, growth in agriculture's GDP will be

challenging. Most producers are still feeling the effects of the 2016 drought and water shortages in the Western Cape are currently a reality for many producers relying on irrigated production. The impacts of changes to agricultural policy going forward, such as the introduction of the national minimum wage, must therefore be considered within this context.

The drought and volatile political climate have introduced an era of uncertainty in recent years. Despite this, certain industries have flourished. Horticultural sectors, such as citrus, have increased their share in the global market and the beef subsector has moved from a net importing to a net exporting position, supported by South Africa's *free of foot and mouth disease* status. While the livestock sector performance has generally improved following the 2016 drought, the impact of the HPAI outbreak in 2017 shows how quickly a disease outbreak can wreak havoc in livestock sectors. In this context, policy application and veterinary protocols are extremely important. The negative impact associated with water shortages in the Western Cape will take time to mitigate, as many orchards have been damaged.

Over the next decade, efficiency gains will be critical for agriculture to generate growth. The competition for natural resources such as land and water will remain high, not only between agricultural subsectors, but also with other sectors such as mining. Efficiency in the use of water will need to improve if growth targets are to be met, as agriculture's water allocation is unlikely to increase. In this regard, agricultural performance remains underpinned by investment. As stated in the Foreword of this report, investment in agriculture is widely recognised as a key precondition in achieving goals related to improving food security, creating jobs, creating wealth, and thereby reducing poverty. The returns to agricultural investment depend not only on the scale of investment, but also on the quality of investment. The will to invest hinges on one basic tenet, namely the belief that there will be growth in the future. If growth occurs, it implies that there are positive income streams that can be used to pay off borrowed capital, pay the accumulated interest, as well as meet the opportunity cost of own capital invested in a venture. This is a very basic idea, but critically important for any debates regarding policy and the future of the agricultural sector.

# 2 Minimum agricultural wage – Towards a food affordability perspective

## 2.1 An introduction to the Socio-economic spectrum in South Africa

Up to 2015, the Living Standards Measure (LSM®) segments, developed by the South African Audience Research Foundation, were commonly used to describe the socio-economic characteristics of South African households. The basis for these segments was consumers' access to various amenities such as durables, household location, and dwelling type ([www.saarf.co.za](http://www.saarf.co.za)). The LSM spectrum consisted of 10 segments with rising socio-economic living conditions towards LSM 10. The ten LSM segments were viewed in terms of four lifestyle levels:

- Marginalised consumers (LSM 1 to 3) (9.5% of population aged 15 years and older in 2015);
- Lower middle-income consumers (LSM 4 to 6) (52.4%)
- Upper middle-income consumers (LSM 7 to 8) (22.2%)
- Affluent consumers (LSM 9 to 10) (15.9%).

From a spatial perspective, Figure 13 presents the distribution of the LSM segments within the various provinces of South Africa:

- Marginalised consumers residing in the Eastern Cape, KwaZulu-Natal and Limpopo, represent about 75% of the total number of marginalised consumers.
- Middle class consumers residing in Gauteng, KwaZulu-Natal, Limpopo and the Eastern Cape, represent about 66% of the total number of middle class consumers.
- Upper-middle class consumers residing in Gauteng, Western Cape and KwaZulu-Natal represent about 71% of the total number of upper-middle class consumers.
- Wealthy consumers residing in Gauteng, KwaZulu-Natal and Western Cape represent about 79% of the total number of wealthy consumers.

*Class mobility*, defined as the movement of consumers towards higher LSM groups, has been a key feature of the South African consumer landscape for many years. From 2005 to 2015, the following major changes occurred in terms of the share of South African adults within various socio-economic sub-groups:

- The marginalised consumer group: 70% decline
- The lower middle-class: 23% increase
- The upper middle-class: 65% increase
- The wealthy consumer group: 32% increase

In recent years, the class mobility rate has been variable, but generally slower in 2014/2015 compared to 2013/2014 following a general high point in 2011/2012. The class mobility rate also slowed down from 2007/2008 to 2009/2010 due to recession impacts.

The lack of AMPS LSM data for 2016 inhibits calculation of the actual class mobility rates for 2015/2016. However, BFAP estimated the composition of the consumer market in 2016 by taking into consideration the average actual class mobility rates for 2013 to 2015, the 2015 LSM composition of the population and the 2015 StatsSA mid-year population estimate figures.

The last survey which generated the LSM data was conducted in 2015, with a new system (the SEM segmentation based on the Establishment Survey (ES)) being developed and released in the last two years<sup>2</sup>. The SEM segments are based on the following variables: proximity of post office and police station to home, built-in kitchen sink, home security service, motor car, free standing deep freeze, microwave oven, floor polisher / vacuum cleaner, washing machine, type of floor material, type of roof material, water source of home, toilet type and number of sleeping rooms in house. Table 5 presents a summary of the ten SEM segments (ES October 2017 release), as well as an estimated overlap between SEM and LSM segments (Broadcast Research Council of South Africa (BRC), 2017).

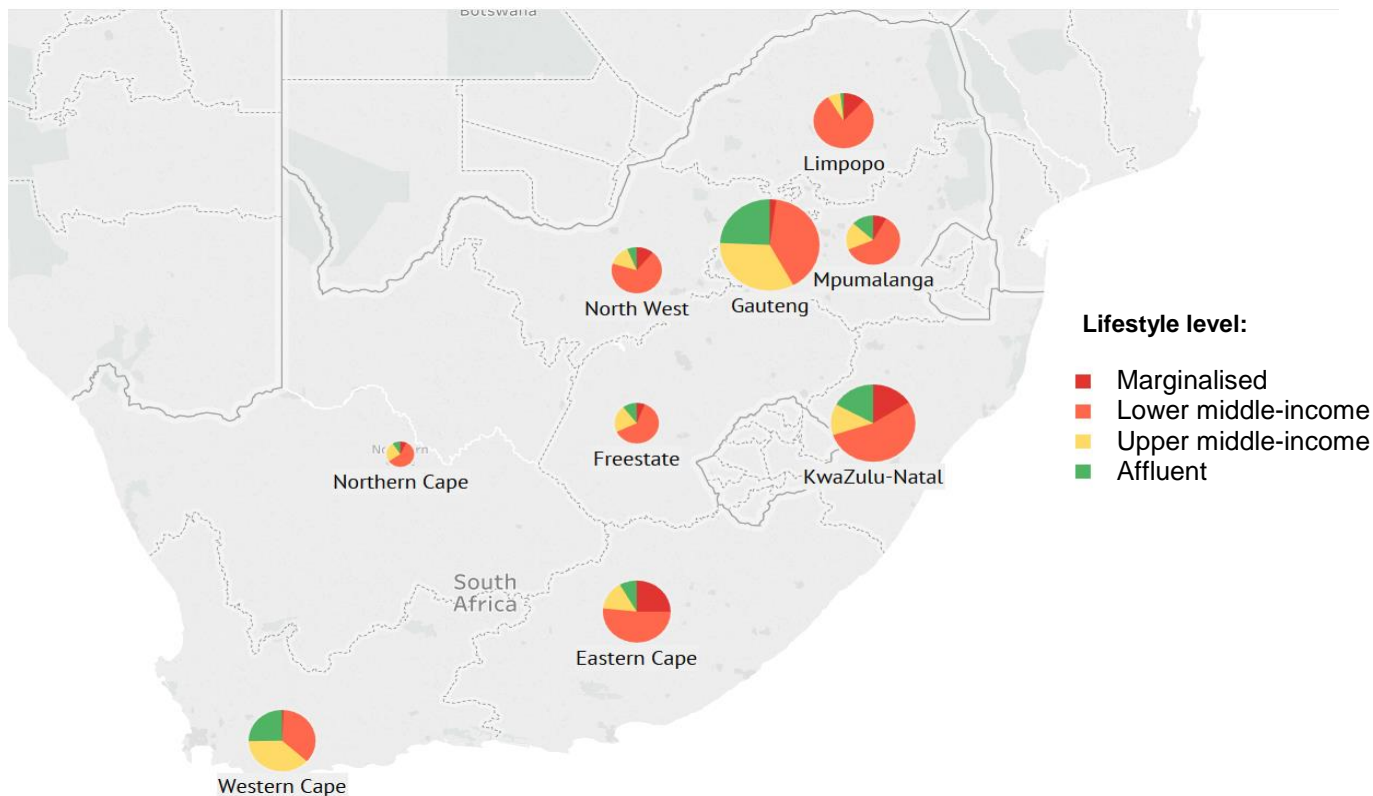


FIGURE 13: DISTRIBUTION OF THE SAARF LSM SEGMENTS WITHIN THE NINE PROVINCES OF SOUTH AFRICA DURING 2015 BASED ON SAARF ALL MEDIA AND PRODUCTS SURVEY (AMPS) 2015

TABLE 5: OVERVIEW OF THE SEM SEGMENTS (ACCORDING TO THE ESTABLISHMENT SURVEY OCTOBER 2017 RELEASE)

	Consumer segment number:									
	Lowest socio-economic living					Highest socio-economic living				
	1	2	3	4	5	6	7	8	9	10
<b>SEM population share</b>	12%	16%	13%	11%	11%	8%	9%	7%	6%	7%
<b>Income Rand/household/month)</b>	R3404	R4275	R5210	R6434	R 7442	R 9432	R 12 914	R 18 464	R 26 683	R 34574
<b>Estimated overlapping LSM population share</b>	0%	1%	4%	13%	21%	34%	12%	5%	6%	3%
<b>% of SEM group residing in urban/metro areas</b>	28%	40%	57%	77%	89%	93%	95%	98%	99%	99%
<b>Unemployment rate</b>	29%	31%	28%	25%	21%	16%	14%	9%	5%	3%
<b>Dominant provincial location</b>	KZN EC Limpopo			KZN GP EC Limpopo		GP KZN EC			GP WC KZN	

<sup>2</sup> The Broadcast Research Council of South Africa. 2017. The Establishment Survey – October 2017 release. <http://www.brcsa.org.za/establishment-survey-full-year-release-october-2017/>

A farm worker household with one wage earning adult could potentially be earning a household income of R3 129 per month, placing the household in the range of SEM 1. If there are two wage-earning adults in the household the monthly income could amount to R6 257 placing the household in the range of SEM 4.

## 2.2 The nutritional status of farm worker households in South Africa

South Africa is in a nutrition transition in which under-nutrition, notably stunting and micronutrient deficiencies, co-exist with a rising incidence of overweight and obesity and the associated consequences such as hypertension, cardiovascular disease and diabetes. Within the context of the HIV and AIDS pandemic and food insecurity, the high prevalence of under-nutrition, micronutrient deficiencies and emergent over-nutrition presents a complex series of challenges.

Despite significant development in the past decades, South Africa remains a country with a complex combination of developed and developing areas, in terms of its people, economy and infrastructure. Substantial food security inequalities remain between the urban and rural areas, among the nine provinces, and even within provinces. According to the South African National Health and Nutrition Examination Survey (Shisana, et al., 2013) 45.6% of the population were food secure, 28.3% were at risk of hunger and 26.0% experienced hunger (were food insecure). The largest percentage of participants who experienced hunger (food insecurity) was in urban informal (32.4%) and in rural formal (37.0%) localities. By province, the prevalence of hunger was the lowest in Western Cape (16.4%) and Gauteng (19.2%). Eastern Cape and Limpopo were the only two provinces with a hunger prevalence higher than 30%. There is also a significant difference in the health and nutrition indicators observed between rural and urban areas. The South African Demographic and Health Survey (SADHS, 1998) recorded the significant difference in the health situation between the different groups within the country, with the mortality rate in rural areas as high as 7.12%, compared to a 4.32% rate in urban areas, and obesity rates in children in urban areas (5.5%) were recorded higher compared to the national average (4.8%). Stunting rates are higher in younger children (1- 3 years) and for those living in rural areas and on commercial farms (26.5%) compared to children living in urban areas (16.7%) (NFCS, 1999).

The high incidence of stunting observed in children indicates chronic deficiency in essential nutrients during the growing years, yet two-thirds (68%) of women and one third of men (31%) in South Africa aged 15+ years were recorded as overweight or obese (StatsSA, 2017) indicating excessive intake of energy. Furthermore, nearly 30% of all deaths were attributed to non-communicable diseases (NCDs) with cardiovascular disease (18%) and cancers (7%) being the largest contributors (WHO, 2014).

In terms of nutritional deficiencies, in 1994 it was found that 33% of children under 6 years were marginally deficient in vitamin A (serum retinol <20mgdL-1), with the highest rates recorded among children aged 3 to 4 years (SAVACG, 1996). In 1999 it was recorded that one out of two children under the age of 9 years consumed less than half of the recommended levels of energy, vitamin A, vitamin C, riboflavin, niacin, vitamin B6, folate, iron, zinc and calcium. In this national study, diets of children were found to be confined to a narrow range of foods of low micronutrient density. Dietary intakes were particularly inadequate in rural areas (Labadarios, et al., 2011).

Even after the mandatory fortification of staple food with a fortification mix (vitamin A, B-vitamins, zinc and iron) was legislated in October 2003, a follow-up national survey in 2005 still found significant nutritional deficiencies among children and women. Fortification and supplementation as health strategies, and increased production as an agricultural strategy to alleviate micronutrient deficiencies, are applied worldwide. However, the long term sustainability of these strategies is being questioned, because many of the rural poor are not able to access fortified foods and increased agricultural production has tended to emphasise energy-rich and nutrient-poor staples (Alders, et al., 2014).

Some 35% of the country's commercial farmers contribute 75 per cent of total food production even though between 1950 and 2015, the number of commercial farming units in primary agriculture declined from almost 120 000 to around 60 000, while up to two million small-scale farmers are in need of support to contribute meaningfully to national food security in the future (NDP, 2012).

## 2.3 Background calculations, assumptions & methodology

### 2.3.1 Methodology overview

Figure 14 presents an overview of the methodology applied to construct a basic 'thrifty' balanced food basket. The main 'building blocks' were the following: monthly food retail prices, an 'ideal' eating plan framework, defined food guide units (FGU's), quantitative data on consumers' food preferences and demographical inputs (household size and household composition). The following sections will address these 'building blocks' in more detail.

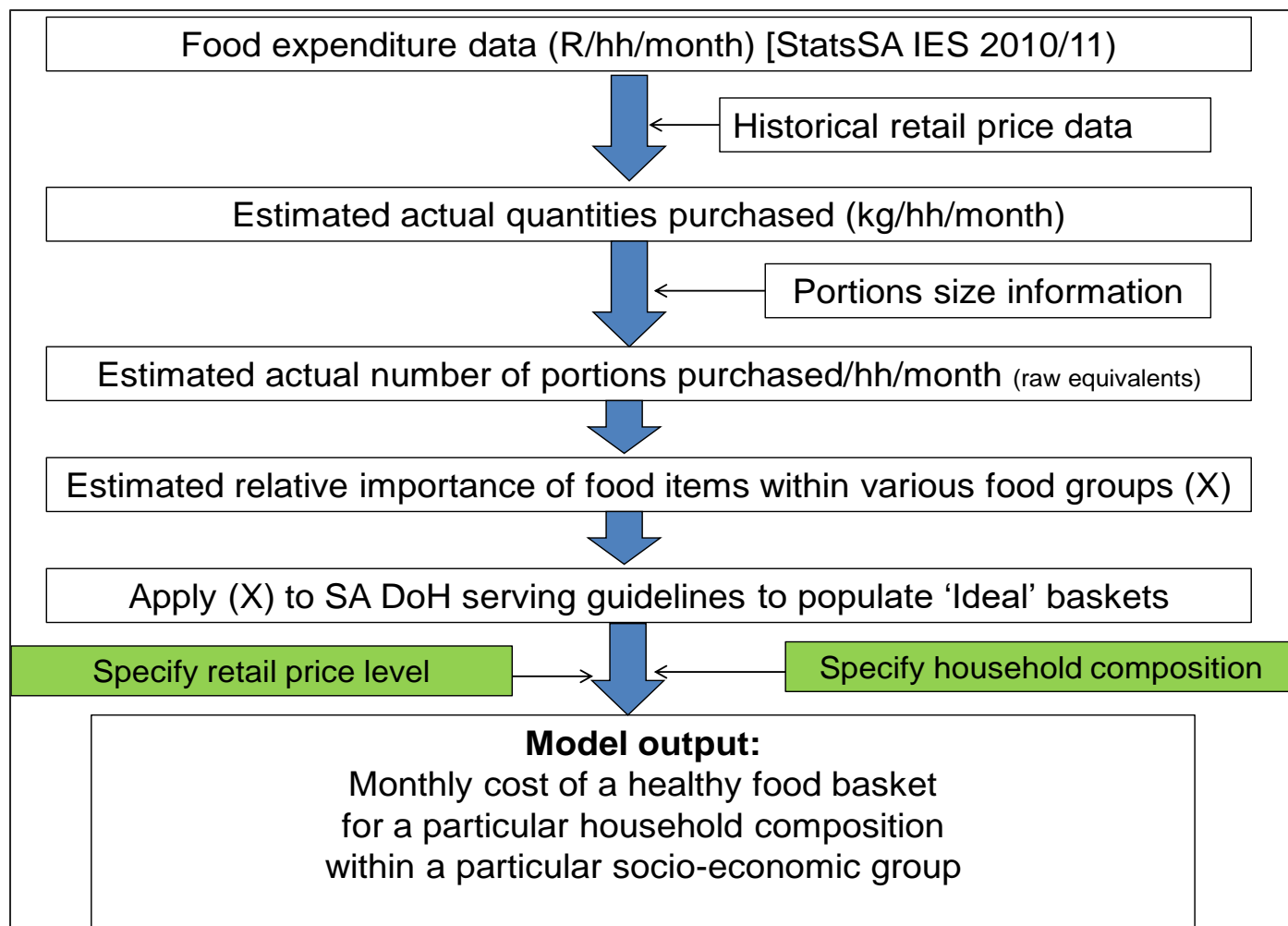


FIGURE 14: AN OVERVIEW OF THE METHODOLOGY APPLIED TO CONSTRUCT A BASIC 'THRIFTY' BALANCED FOOD BASKET

### 2.3.2 Typical composition of agricultural worker households

According to Census 2011 (StatsSA, 2013) the age distribution of the population living in farm areas in South Africa were: Youth up to 19 years – 35.2%; Adults aged 20-65 - 60.1%; Pensioners aged 65 years and older – 4.7%.

The average size of households living in farm areas according to Census 2011 was 3.6 people.. In the absence of more detailed household-level age group composition data the decision was made to define the 'typical' agricultural worker household as a four person household consisting of 2 adults and 2 children (one younger child and one older child). In addition to the 'typical' four-person household two other household structure options were also included in the analyses in order to allow for a wider spectrum of possible realities: a single person household with one adult male and a six person household consisting of two adults, three children and one pensioner.

### 2.3.3 The recommended food intake for individuals within a household

Table 6 presents a summary of the South African Food-Based Dietary Guidelines (FBDG) published in 2013<sup>3</sup> pertaining to the various food groups, in addition to the following more general guidelines:

- "Enjoy a variety of foods"
- "Be active!"
- "Drink lots of clean, safe water"
- "Use salt and foods high in salt sparingly"

**TABLE 6: A SUMMARY OF THE SOUTH AFRICAN FOOD-BASED DIETARY GUIDELINES (FBDG) (2013 )**

Food group:	FBDG summary:
<b>Starchy foods</b>	The general guideline is to eat 10 food guide units daily (e.g. porridge, whole grain breakfast cereal, rice, pasta, potatoes and bread). The focus should be on whole-grain options. One food guide unit is defined as one slice of bread (35-40 g).
<b>Fish, chicken, lean meat and eggs</b>	The recommendation in the 2013 FBDG's is based on the previous FBDG (2001) on animal sources of food recommending 2 to 3 portions of fish per week (80-90g/portion), 3 to 4 eggs per week and 7 portions of red meat per week (80 to 90g/portion).
<b>Dairy (milk, maas, yoghurt)</b>	Have milk, maas or yoghurt every day.
<b>Fruit and vegetables:</b>	FBDG recommendations depend on age group: <ul style="list-style-type: none"> <li>• Older pre-school children: At least 320g of fruit and vegetables per day (i.e. 4 80g servings).</li> <li>• School children and adults: At least 400g of fruit and vegetables per day (i.e. 5 80g servings).</li> </ul> A serving is defined as half a cup fresh, frozen or tinned fruit / vegetables, one cup raw leafy vegetables, 1 medium or 2 small whole fresh fruit, 125ml 100% fruit / vegetable juice.
<b>Legumes</b>	Eat dry beans, split peas, lentils and soya regularly
<b>Fat</b>	Total fat intake should be equal to or less than 30% of total energy intake.
<b>Sugar</b>	Added sugar intake of 10% of dietary energy is an acceptable upper limit, but an intake of < 6% energy is preferable Use fats sparingly: choose vegetable oils, rather than hard fats", thus replacing saturated fatty acids with polyunsaturated fatty acids and monounsaturated fatty acids.

For the National Nutrition Week in 2012<sup>4</sup> the National Department of Health provided examples of two balanced eating patterns to South African consumers, where **both patterns contain all relevant food groups**. Eight food groups are included, namely starchy foods; meat, fish, eggs; vegetables; fruit; legumes; dairy; fat / oil; and sugar. 'Eating pattern A' was proposed as a more economic pattern with relatively more starchy food options and less animal food options (which we named the 'thrifty' option). The approach specified an ideal number of food guide units (FGU's) per food group, for consumer groups with different energy needs:

- 6 500kJ/day (applies to children from both genders aged 5 to 9 years old)
- 8 500kJ/day (applies to all children aged 10 to 13 years, girls aged 14 to 18 years and adult females)
- 10 500kJ/day (applies to boys 14 to 18 years and adult males).

<sup>3</sup> Food-Based Dietary Guidelines for South Africa 2013, *The South African Journal of Clinical Nutrition*, No 3 (Supplement). <http://sajcn.co.za/index.php/SAJCN/issue/view/67/showToc>

<sup>4</sup> <http://www.nutritionweek.co.za/NNW2012/24energy.html>



### 2.3.4 Taking typical food behaviour into consideration

Based on household-level food expenditure data from Statistics South African Living Conditions Survey (StatsSA LCS) 2014/2015 (Figure 15), the expenditure shares allocated to staples decrease as income rises, while the expenditure shares for animal protein foods, fresh produce and beverages increases as income levels increases. Among marginalised consumers, food expenditure is dominated by staples and meat, followed by fresh produce and dairy. The food expenditure of middle-income consumers is dominated by meat and staples, followed by fresh produce and dairy.

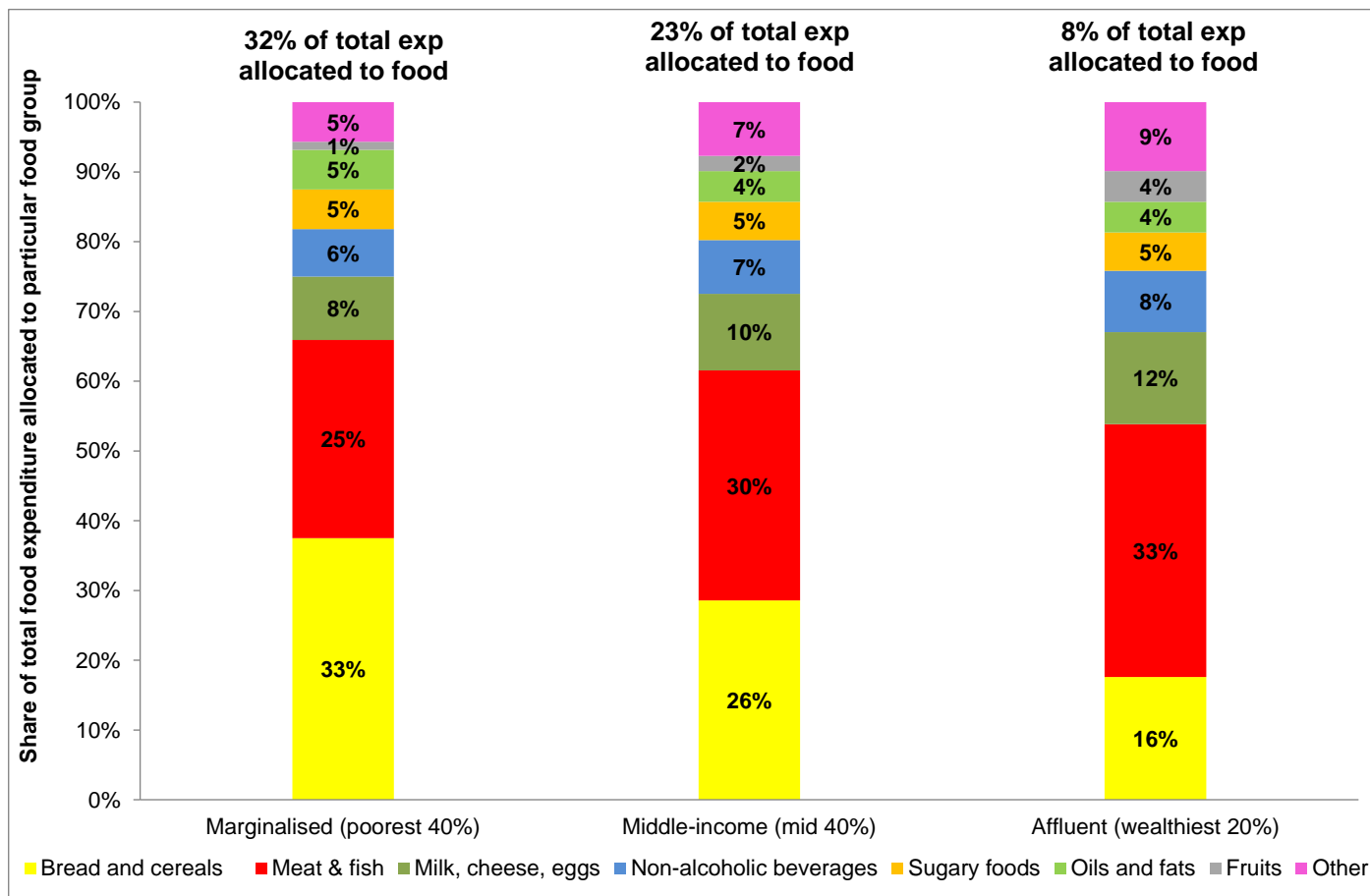


FIGURE 15: TYPICAL FOOD EXPENDITURE PATTERNS OF SOCIO-ECONOMIC SEGMENTS IN SOUTH AFRICA ON THE MAIN FOOD GROUPS ACCORDING TO STATS SA LCS 2014/2015

Considering more specific food items, Table 7 presents an overview of the dominant food items for marginalized- middle-income- and affluent consumers, from a food expenditure perspective based on data from StatsSA Income and Expenditure Survey (IES) 2010/2011.

**TABLE 7: OVERVIEW OF THE DOMINANT FOOD ITEMS WITHIN THE VARIOUS FOOD GROUPS FOR THE THREE MAIN SOCIO-ECONOMIC SUB-GROUPS IN SOUTH AFRICA BASED ON STATS SA IES 2010/2011**

Food group:	Dominant food items in various food groups based on food expenditure patterns:		
	Marginalised segment:	Middle class segment:	Affluent segment:
<b>Staples (starchy foods)</b>	Maize meal, Brown bread, Rice, White bread, Potatoes, Wheat flour	Maize meal, Brown bread, Rice, White bread, Wheat flour, Potatoes	Brown bread, White bread, Baked products, Processed breakfast cereals, Rice, Maize meal, Potatoes, Wheat flour, Pasta
<b>Meat, fish &amp; eggs</b>	Chicken, Beef, Eggs, Canned pilchards, Beef sausage, Polony	Chicken, Beef, Eggs, Beef sausage, Canned pilchards, Polony, Mutton/lamb	Chicken, Beef, Mutton/lamb, Beef sausage, Eggs, Pork, Fish, Processed meats, Canned fish
<b>Dairy</b>	Full cream milk, Sour milk/maas, Yoghurt	Full cream milk, Sour milk/maas, Cheese, Yoghurt	Full cream milk, Cheese, Yoghurt, Low fat milk, Sour milk/maas
<b>Fats, oils</b>	Edible oils (e.g. cooking oils), Margarine	Edible oils (e.g. cooking oils), Margarine, Peanut butter	Edible oils (e.g. cooking oils), Margarine, Peanut butter, Butter
<b>Fruit</b>	Apples, Bananas, Oranges	Apples, Bananas, Oranges, Pears	Apples, Bananas, Avodados, Grapes, Oranges, Pears
<b>Vegetables</b>	Tomato, Cabbage, Onions, Spinach	Tomato, Cabbage, Onions, Spinach	Tomato, Onions, Pumpkin, Carrots
<b>Beans</b>	Dried beans, Baked beans in tomato sauce	Dried beans, Baked beans in tomato sauce	Baked beans in tomato sauce, Dried beans

### 2.3.5 Food price data & purchasing considerations

The estimated cost of food quantities in this basket was calculated by multiplying the total food quantities by official retail-level food prices monitored by Statistics South Africa across South Africa. The most recent available data is for December 2017 and the decision was made to use average food prices in the StatsSA database for October 2017 to December 2017 in calculations. For all products the price was used for the packaging option with the lowest unit cost available. BFAP projects a food inflation rate of 5% towards 2019 and thus the calculated 2018 basket costs were inflated by 5% to obtain estimated 2019 costs.

### 2.3.6 Share of income allocated to food expenditure

A farm worker household earning two agricultural wages of R144 per person per work day in 2018 could be earning R6 257 per household per month, placing such a household in approximately expenditure decile (ED) 5 to 6 (thus between poorest 40% and wealthiest 30% of the socio-economic spectrum) - with food expenditure shares ranging from 21% to 26% (Figure 16). However, if one or both wage earning adults in the household is not employed full time for all months of the year the households' socio-economic status could be lower, with food expenditure shares of up to 35% for lower-income households according to StatsSA Income and Expenditure Survey 2010/2011. A recent consumer survey among a representative sample of low-, middle- and high-income consumers in the Western Cape in 2016/2017 (a project conducted for Red Meat Research and Development South Africa) found food expenditure shares of 37%, 24% and 16% for low-, middle- and high-income consumers in a time period characterised by very high inflation due to the severe drought in the summer rainfall areas of South Africa at that stage.

In the light of tough economic conditions, severe food price inflation in South African during 2016/2017 and the potential of seasonal or part-time employment, the decision was made to apply a 35% food expenditure share to calculations.

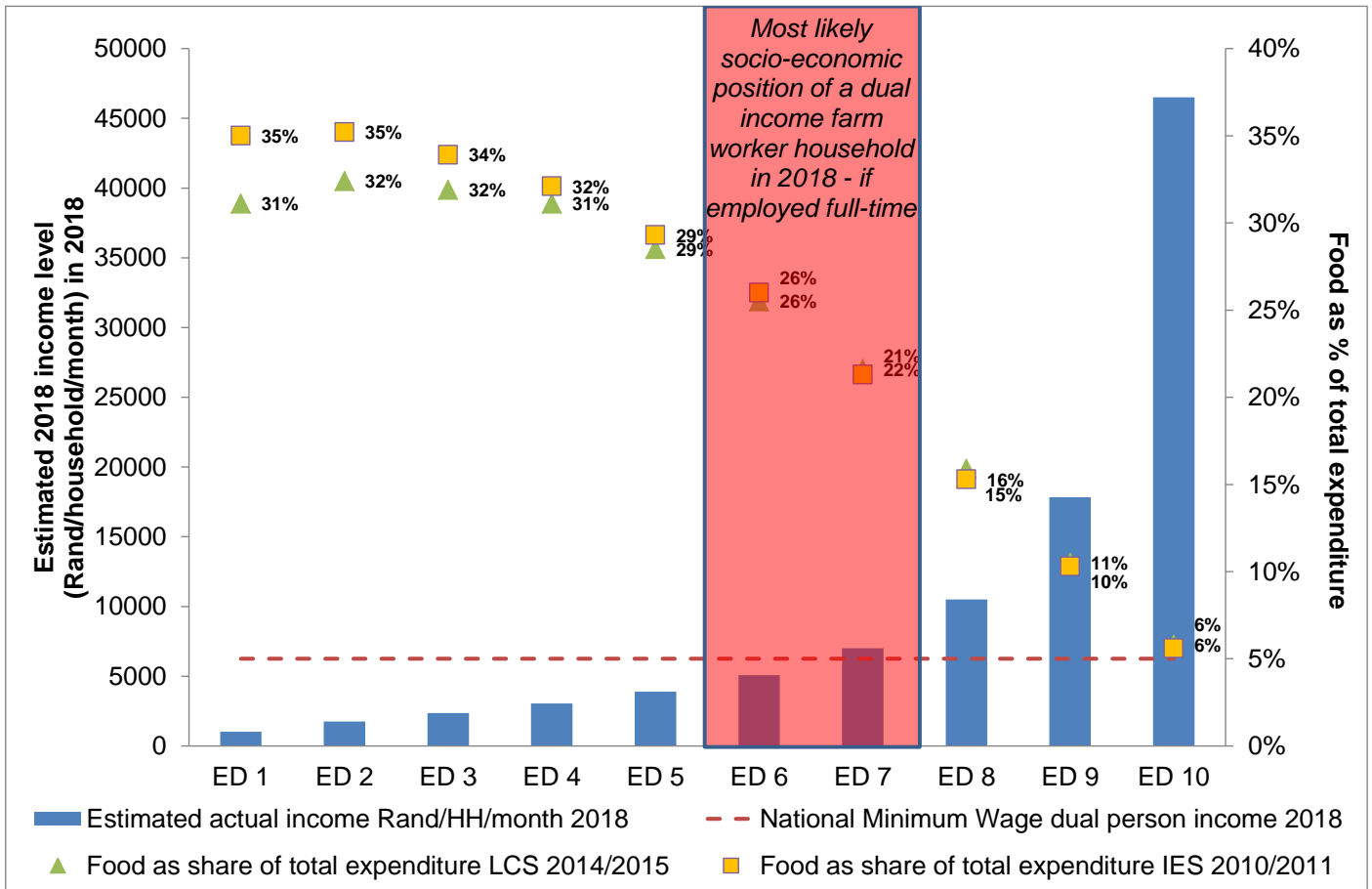


FIGURE 16: THE SOUTH AFRICAN SOCIO-ECONOMIC SPECTRUM EXPRESSED PER EXPENDITURE DECILE (ED) ACCORDING TO STATSSA IES 2014/2015 (ADJUSTED WITH 15% INFLATION FROM 2014 IN ORDER TO OBTAIN ESTIMATED 2018 INCOME LEVELS)

### 2.3.7 Child grants

At present, a South African child grant amounts to R380 per child per month, if the household earns less than R45 600 per annum (R3 800 per month) for a household with a single income source, or R91 200 per annum (R7 600 per month) for a household with income from two people<sup>5</sup>. An agricultural household with two adults earning the National Minimum Wage for 2018 of R144 per day could be earning a joint monthly income of R6 240 and thus qualifies for child support grant(s). The Western Cape Department of Agriculture Agri Worker Household Census (reporting date 31 March 2017)<sup>6</sup> indicated that 67.0% of agricultural worker households received child support. Thus, the inclusion of child support in the calculations is a realistic assumption.

### 2.3.8 Old age pension grant

The current South African old age pension grant amounts to R1 600 per month (ages 61 to 74 years) and R1 620 per month (ages 75 years and older)<sup>7</sup>. The Western Cape Department of Agriculture Agri Worker Household Census (reporting date 31 March 2017)<sup>8</sup> indicated that 14.0% of agricultural worker households benefit from old age pension grants. Thus, the inclusion of an old age pension in the calculations is applicable to some agricultural households, even though not 'typical' among agricultural worker households.

<sup>5</sup> <https://www.gov.za/services/child-care-social-benefits/child-support-grant>

<sup>6</sup> Western Cape Department of Agriculture. 2017. Agri Worker Household Census. 31 March 2017.

[https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/provincial\\_agri\\_household\\_census\\_2017\\_1.pdf](https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/provincial_agri_household_census_2017_1.pdf)

<sup>7</sup> <https://www.gov.za/services/social-benefits-retirement-and-old-age/old-age-pension>

<sup>8</sup> Western Cape Department of Agriculture. 2017. Agri Worker Household Census. 31 March 2017.

[https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/provincial\\_agri\\_household\\_census\\_2017\\_1.pdf](https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/provincial_agri_household_census_2017_1.pdf)

### 2.3.9 Worker deductions or “in-kind” payments at farm-level

According to Revision 149 (2006) of the “Basic Conditions of Employment Act of 1997” an agricultural employer can deduct a maximum of 10% for food supplied to the worker [clause 8(1)(a)] and a maximum of 10% for accommodation in which the worker normally resides [clause 8(1)(a)], provided that the criteria stipulated in sub-clause 8(2) are met. Accordingly, three deduction scenarios were tested: 0%, 10% and 20% ‘in-kind’ payment levels.

### 2.3.10 School feeding

The National School Nutrition Programme (NSNP) provides daily meals to about 12 million children in over 20 000 public schools across South Africa<sup>9</sup>. It was assumed that if a child receives a nutritionally balanced lunch 5 days a week, it implies about a 30% reduction in the home-based food needs of that child, translating into about a 20% reduction when weekends without school food provision are considered.

## 2.4 Results

### 2.4.1 Will a wage of R18 per hour allow for households to afford healthy eating in 2018?

The results are presented in Table 8 and can be summarized as follow:

- Options 1 and 2: A household consisting of one adult male or two adults (one male and one female) will be able to afford the ‘thrifty’ balanced food basket with 24% or 23% of total income spent on food – which is ‘typical’ for households in the middle-income brackets.
- Option 3: When a family of four is considered consisting of 2 wage-earning adults and two children (who benefit from a school feeding program at their public school), they will have to spend 35% of their total household income (i.e. the combined income from wages and two child grants per month) on food in order to be able to afford the ‘thrifty’ balanced food basket. It is important to keep in mind that this is the most ‘typical’ farm worker household structure.
- Option 4: A family of six people (2 wage-earning adults, three children (who benefit from a school feeding program at their public school) and one pensioner liable for an old age pension) will have to spend 40% of their total household income (i.e. the combined income from wages and two child grants per month) on food in order to be able to afford the ‘thrifty’ balanced food basket.
- The potential food expenditure shares calculated in options 3 and 4 are higher than the typical expenditure shares observed for middle-income households (usually in the range of 25%), and is more typical of the food expenditure shares of the lower-income consumer segment.

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<sup>9</sup> <http://www.foodsecurity.ac.za/NewsItem/1772>

**TABLE 8: RESULTS SUMMARY FOR 2018 WAGE (WHERE AGRICULTURAL IS EXEMPTED FROM THE NATIONAL MINIMUM WAGE) OF R18 PER HOUR**

Option:	Household size:	Household structure:	'Thrifty' balanced basket cost Rand/month (A):	(A) as share of total wage income at R144/person per work day*:	(A) as share of total household income from wages and social grants**:
1	1	1 Adult male	R 745	24%	N/A
2	2	1 Adult male 1 Adult female	R1 419	23%	N/A
3	4	1 Adult male 1 Adult female 2 Children	R2 704	43%	35%
4	6	1 Adult male 1 Adult female 3 Children 1 Pensioner	R3 990	58%	40%

\* Assuming all adults 19-65 earn NMW

\*\* Child grants (R380/child/month) for all children and an old age grant (R1 600/pensioner/month) in the household

NOTE: Most likely options are marked in grey for the various household structure options

## 2.4.2 Will a wage of R20 per hour allow for households to afford healthy eating in 2019?

The results are presented in Table 9 and can be summarized as follow:

- Options 1 and 2: A household consisting of one adult male or two adults (one male and one female) will be able to afford the 'thrifty' balanced food basket with 23% or 22% of total income spent on food – which is 'typical' for households in the middle-income brackets.
- Option 3: When a family of four is considered consisting of 2 wage-earning adults and two children (who benefit from a school feeding program at their public school) will have to spend 33% of their total household income (i.e. the combined income from wages and two child grants per month) on food in order to be able to afford the 'thrifty' balanced food basket. It is important to keep in mind that this is the most 'typical' farm worker household structure.
- Option 4: A family of six people (2 wage-earning adults, three children (who benefit from a school feeding program at their public school) and one pensioner liable for an old age pension) will have to spend 39% of their total household income (i.e. the combined income from wages and two child grants per month) on food in order to be able to afford the 'thrifty' balanced food basket.
- As was the case for the 2018 calculations, the potential food expenditure shares calculated in options 3 and 4 is higher than the typical expenditure shares observed for middle-income households (usually in the range of 25%), and is more typical of the food expenditure shares of the lower-income consumer segment.

TABLE 9: RESULTS SUMMARY FOR 2019 NATIONAL MINIMUM WAGE OF R20 PER HOUR

Option:	Household size:	Household structure:	'Thrifty' balanced basket cost Rand/month (A):	(A) as share of total wage income at R144/person per work day*:	(A) as share of total household income from wages and social grants**:
1	1	1 Adult male	R 782	23%	N/A
2	2	1 Adult male 1 Adult female	R1 490	22%	N/A
3	4	1 Adult male 1 Adult female 2 Children	R2 839	41%	33%
4	6	1 Adult male 1 Adult female 3 Children 1 Pensioner	R4 190	55%	39%

\* Assuming all adults 19-65 earn the national minimum wage

\*\* Child grants (R380/child/month) for all children and an old age grant (R1 600/pensioner/moth) in the household

NOTE: Most likely options are marked in grey for the various household structure options

### 2.4.3 Income required per wage earner per day to afford a Thrifty Balanced Food Basket

The 2018 agricultural wage (exempted from the national minimum wage of R20 per hour) allows the following family composition options to afford the 'thrifty' balanced food basket with an assumed food expenditure share of 35% (Table 10):

- A one person household consisting of one adult male before 'in-kind' payments as well as with 10% and 20% 'in-kind' payments;
- A two person household consisting of one adult male and one adult female before 'in-kind' payments as well as with 10% and 20% 'in-kind' payments;
- A four person household consisting of one adult male, one adult female and two children receiving two child grants per month before 'in-kind' payments, as well as with 10% and 20% 'in-kind' payments;
- A six person household consisting of one adult male, one adult female, three children and one pensioner will only be able to afford the 'thrifty' balanced food basket with the 2018 NMW of R144 per day if they receive three child grants and one old age pension per month combined with 20% 'in-kind' payments.

**TABLE 10: INCOME REQUIRED PER WAGE EARNER PER DAY IN 2018 TO AFFORD A 'THRIFTY' BALANCED FOOD BASKET WITH FOOD EXPENDITURE SHARE OF NO MORE THAN 35%**

<b>Option:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Household size:	1 person	2 people	4 people	6 people
Household structure:	1 Adult male	1 Adult male 1 Adult female	1 Adult male 1 Adult female 2 Children	1 Adult male 1 Adult female 3 Children 1 Pensioner
Income per person per day needed with NO social grants and NO 'in-kind' payments (A)	R98	R94	R161	R238
Income per person per day needed after accounting for relevant social grants (child grants & old age pension) (B)	N/A	N/A	R144	R175
Income per person per day needed after accounting for (B) as well as 10% 'in-kind' payments (C)	R88	R84	R128	R151
Income per person per day needed after accounting for (B) as well as 20% 'in-kind' payments (D)	R79	R75	R112	R127

NOTES: Calculated daily income needs up to the NMW of R144 for 2018 is shown in grey

#### 2.4.4 Considering the potential food affordability situation of farm worker households for the period 2013 to 2019: Moving towards improvement?

Considering a family of four (one adult male, one adult female and two children), for the period 2013 to 2019, Figure 17 presents an overview of the estimated cost of the thrifty balanced food basket, household income (from 2 wage earners and child grants), food expenditure shares, minimum wage rate increases and the CPI headline inflation rate.

Figure 17 shows that the cost of the 'thrifty' balanced food basket decreased from 41% to 39% from 2014 to 2015, but increased to 44% in 2016 (linked to the impact of the 2015/2016 severe drought in South Africa). From 2016 to 2019 this share should be decreasing to an acceptable level of about 30% food expenditure share (taking into account a projected 5% food inflation from 2018 to 2019). From 2013 to 2017 the increase in the minimum wage rate has consistently been larger than the increase in CPI headline inflation rates.

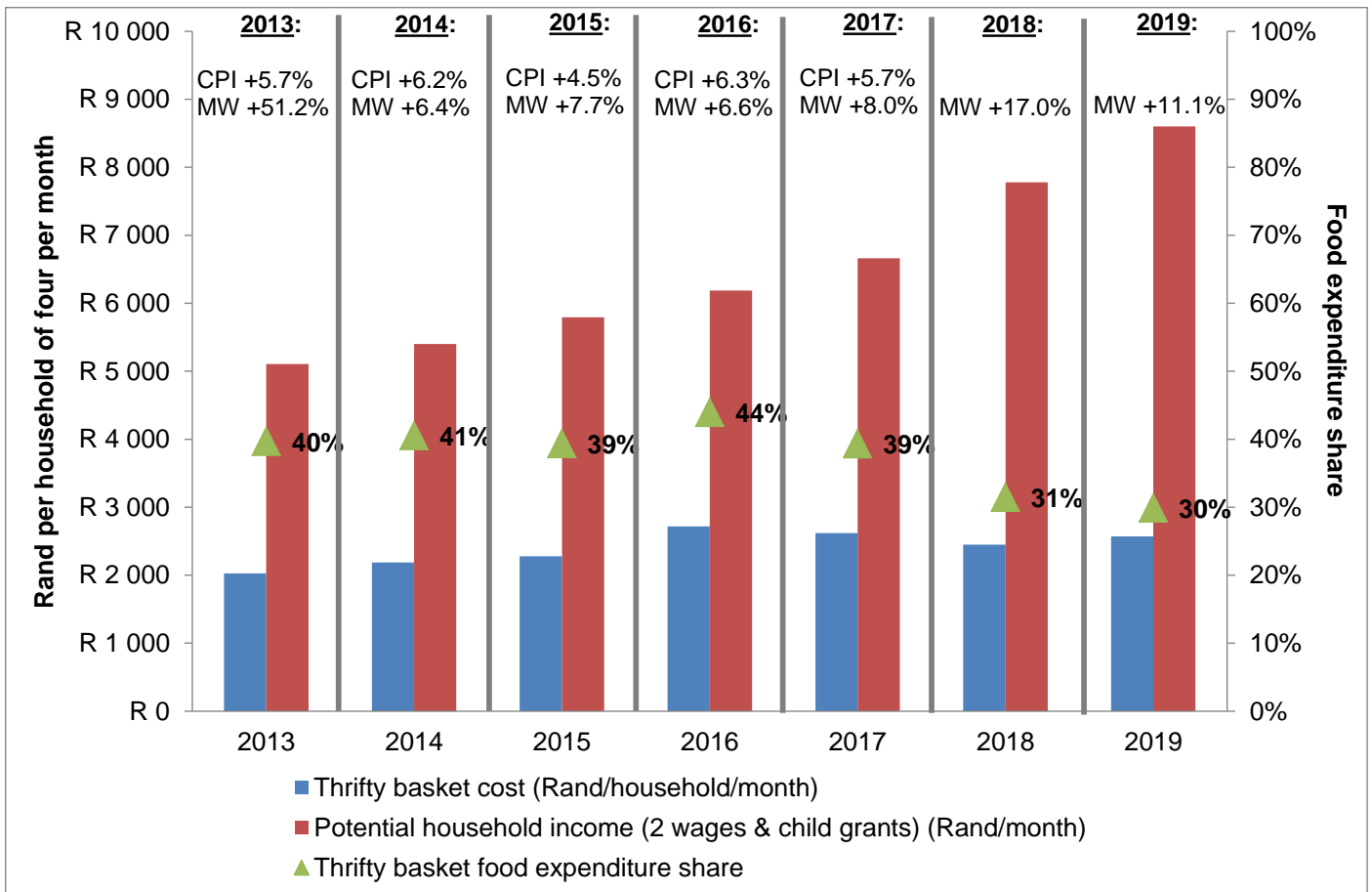


FIGURE 17: AN OVERVIEW OF THE AFFORDABILITY OF A 'THRIFTY' BALANCED FOOD BASKET FOR THE PERIOD 2013 TO 2019

## 2.5 Conclusions

From a household-level food affordability perspective the study aimed to investigate the required wage per wage earner to afford the BFAP Thrifty Balanced Food Basket, as well as to determine whether a minimum wage of R18/hour in 2018 and R20/hour in 2019 could allow households to afford healthy eating. The BFAP Thrifty Balanced Food Basket is built on the following foundations: ideal food intake (Guidelines for Healthy Eating by the Department of Health (DoH)), actual food preferences of lower-income consumers in South Africa (derived from nationally representative household-level expenditure data from StatsSA), StatsSA official monitored food prices and household composition data obtained from StatsSA Income and Expenditure Survey 2010/2011 and Living Conditions Survey 2014/2015. Four household composition scenarios were investigated: single male household, two person household with adult male and adult female, four person household with an adult male, an adult female and two children and a six person household with a pensioner and one additional child added to household option number 3. Option 3 is the most typical household composition option in South Africa. Social child grants, old age pensions, school feeding and remittances were also taken into consideration.

A household with two full-time employed wage earning adult could earn R6 257 per month placing such a household between the poorest 40% and the wealthiest 30% of households within the socio-economic spectrum. The results showed that the family of four could afford the BFAP Thrifty Food Basket if about a third of total household income is spent on food at wage levels of R18/hour in 2018 and R20/hour in 2019 – assuming children benefit from school feeding and child grants. A full-time employed single person household could afford the healthy food basket with 23% to 24% of total income spent on food. For seasonal workers these arguments only hold for the months when they actually have full-time employment. From 2013 to 2017 the increase in the minimum wage rate has consistently been larger than the increase in CPI headline inflation rates.



# 3 Producer Implications

The volatile nature of agriculture makes decision-making and more importantly, the ability to farm profitably and sustainably, exceptionally challenging. Small and commercial producers are continually facing new challenges, which require consistent adaptation in order to remain in business. A key aspect in primary agricultural production is the efficient management of input and output ratios. Over the past decades, the rise in the prices of agricultural inputs has redefined the cost-price squeeze effect on producers. For instance, although world fertiliser prices reported a decreasing trend since 2011, a weaker Rand exchange rate has caused the nominal price of certain fertilisers in South Africa to increase over the period. The same is true for plant protection chemicals, mechanisation, and equipment. Increased administered expenditure such as the cost of labour and tariff increases for electricity place further pressure on producers. From a risk perspective, the margin for error is becoming exceedingly small and competitiveness, not only in a domestic environment, but also globally, will remain vital to ensure long term sustainability and food security.

The purpose of the producer implication section is to determine the impact of the national minimum wage as it is to be implemented in 2018 and 2019 in the context of expected (modelled) simultaneous increases in the prices of other agricultural inputs such as fuel, fertilisers, seed, chemicals, mechanisation and equipment. It is essential to interpret these cost drivers in the context of declining real agricultural output prices and other realities faced by producers.

Throughout the agricultural sector, organisations, businesses and producers acknowledge the key role that farm workers are playing. This role is often characterised as unique in the sense that a farm is a place where farm owners, managers, permanent and seasonal workers and their families live and work together on the same property (Potatoes SA, 2016). The general consensus throughout the industry is that producers comply with the rules stipulated by the minimum wage and that skilled farm workers such as tractor drivers already receive well above the minimum wage. Many producers also acknowledge the importance of sound relationships with workers which ensure a harmonious and productive workforce. More importantly, the industry supports the goals of the National Development Plan (NDP) to create a million jobs in the agricultural sector by 2030. Figure 8 however shows a decline in the South African farm workforce after the implementation of the minimum wage in 2013. Hence, the proposed implementation of the 2018 and 2019 minimum wage could result in further job shedding, mainly due to existing challenges at farm level and the ability to afford the increase in not only wages, but all agricultural inputs.

The potato industry can be used as an example where a decline was observed in the workforce since 2011. Roughly 18 000 jobs were shed since 2011 (Potatoes SA, 2017). From the 45 000 workers employed by the industry, 40 000 are seasonal workers and the majority are woman. Seasonal workers are mainly employed during planting, lifting or in the pack-houses for a number of weeks during the production and harvesting season, which can last between one month (small producer) to 10 months (large producer) per year. This, in many potato production regions, is the only income for many of these seasonal workers. During 2016 an estimated R409 million (40 000 seasonal labourers x R128 minimum wage per day x 80 work days) was paid to seasonal workers alone which was predominantly redirected to their local communities. If for example 10% of these seasonal workers lose their jobs as a result of mechanisation, less money will flow back to mostly poor local communities. Such loss will be equal to R40.9 million in wages. The same scenario is true for many other labour-intensive industries, which highlights the importance of unintended consequences through policy decisions which is mostly experienced in rural communities.

In order to understand the quantitative nature surrounding the minimum wage debate, BFAP has consulted with various industry stakeholders, ranging from producers to industry bodies, to inform the quantitative results as outlined in this section. The general consensus that flowed out of these discussion platforms was that producers acknowledged the importance of social responsibility and rural upliftment. Several case studies were reported where producers were already making a significant contribution to their immediate environment through education, skills development, rural upliftment and community support. It is however fair to note that the South African farming community cannot be solely responsible for socio-economic challenges that the rural economy is experiencing. Many producers indicated that despite their willingness to promote rural development and job creation, the existing market situation and farm finances simply cannot

afford simultaneous increases in the cost of production and that job shedding is likely to occur as producers adjust their strategies in order to remain in business. The outcome of the proposed policy on minimum wages is however still uncertain with specific reference to exemption criteria. To what extent allowance will be made for a producer who cannot afford the minimum wage is not clear. Producers have reported that in various scenarios the mechanisation threshold has been reached and is becoming more viable in the sense that it is often associated with enhancing economies of scale and efficiency. However, mechanisation is often extremely expensive, especially in an environment where these items need to be imported. Producers who cannot afford these capital items have limited options and as a result, the minimum wage policy directly affects their business viability.

Other challenges include further inequality in rural economies since in many instances the permanent workforce already earns above the prescribed national minimum wage. A key message from the discussion platforms was that the minimum wage should be linked to performance criteria to further promote education in rural areas. For example, the minimum wage should be linked to the qualification of an individual. Table 11 summarises a SWOT analysis formulated in the focus group discussions where the results refer to labour strengths, weaknesses, opportunities and threats. Labour productivity is often cited as a weakness in many sectors in South Africa. The discussion platforms indicated that improvements in labour productivity are key to remaining competitive and options should be explored to support this.

In this regard, a study conducted at the University of the Free State on livestock competitiveness showed the output of meat, as measured in the amount of live weight kilograms produced per hour of labour (UFS & agri benchmark, 2015). South African beef farmers compared poorly against key global counterparts. For example, the average South African farmer could produce between 3 – 10 kilograms of live weight per hour of work, compared to his/her Australian counterpart, who produced between 60 – 110 kilograms per hour. In Argentina, up to 80 kilograms of live weight were produced per hour.

Similarly, in the production of coarse grains, South African producers spend about 31 hours to produce a hectare of maize (taking all activities, from land and seedbed preparation, to planting, spraying, fertiliser application, harvesting and transport into account) whereas countries such as Canada and Germany spend between 1.2 and 2.8 hours per hectare (own analysis using agri benchmark database, 2018) and countries such as Brazil and Russia spend between 5.6 and 15.5 hours per hectare. These inefficiencies are not necessarily as a result of inefficient labour utilisation, but rather due to the prevailing labour and mechanisation mixed allocated to production systems. For instance, in Germany and France, fewer and more skilled workers are deployed due to the high cost employment. Large agricultural machinery and implements will allow for quicker turnaround times on crops being cultivated, making labour units more efficient.

**TABLE 11: SWOT ANALYSIS: SUMMARY OF FOCUS GROUPS DISCUSSIONS**

<b>Strengths</b>	<b>Weaknesses</b>
Availability of labourers, however mostly unskilled	Motivation / engagement / reliability
In mining areas: Higher education levels	Union influence & misleading information
Skilled labourers – already earning well above NMW	Personal skills / social development problems
	Accountability / responsibilities
	Productivity / Efficiency
<b>Opportunities</b>	<b>Threats</b>
Education / skills: Opportunity to create skilled labourers	Reduce reliance on people: mechanisation / specialisation / integration / automation / bulk handling / facilities
Social development: Needs in worker's environment?	Linked to global market competition
Early childhood development	Quality of work
Rural footprint: contracting with BEE partners	Unrest: Misleading information
NMW: Increase disposable income / stimulate demand	Gap between skilled & unskilled labourers: Uneven adjustment
Labour productivity	
Linked NMW with skill level	
Social responsibility	

Whether a farm can afford the minimum wage will depend on many factors and will differ between the various industries and regions in South African agriculture. The reality is that production costs will increase (substantially for labour-intensive producers) and ultimately a decision will need to be taken whether a farm can afford the increase in wages, whether the mechanisation threshold has been reached and the quantity of seasonal labourers to be employed during key operations. Competitiveness, which is the result of productivity and efficiency, will remain a key driver in farm decision-making. For various agricultural industries, declining real prices are also a reality. Some of these are shown in Figure 18. Many agricultural sectors are under immense pressure as a result of low domestic and international prices, recent droughts (2015/16 drought throughout the summer rainfall producing region and the 2017/18 drought in the Western Cape) and simultaneous increases in the cost of agricultural inputs. The combination of these factors in concurrence with additional increase in the minimum wage entails that further job shedding in the industry is inevitable.

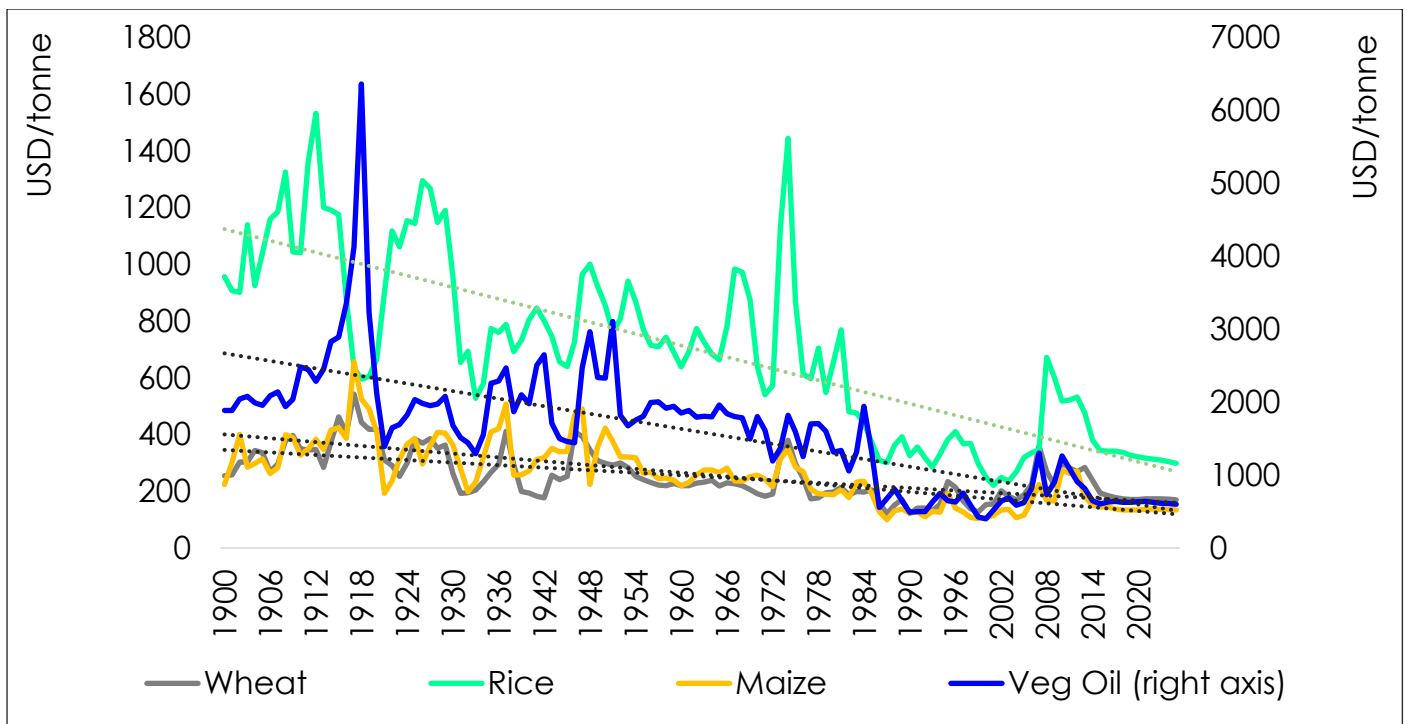


FIGURE 18: DECLINING REAL AGRICULTURAL OUTPUT PRICES

Source: OECD/FAO, 2017

### 3.1 Overview on agricultural input cost trends

Agricultural producers are currently facing an increasing trend in real production prices, and these prices are increasing at a faster rate than annual CPI inflation. South Africa is reliant on imports of several key inputs such as fertilisers, chemicals, machines and equipment. According to Grain SA (2014) South Africa is becoming more dependent on imports to meet domestic and regional demand. In 1990, less than 20% of fertiliser needs were imported. In 1999, 40% of the demand was imported, and it is estimated that it is currently close to 80%. This implies that local prices are subjected to the same supply and demand drivers as in the international industry. In this deregulated market environment, fertiliser prices are strongly influenced by international prices, currency exchange rates (R/US\$) and shipping costs. The farm gate price of fertiliser evidently includes the cost of distribution, intermediate storage and packaging (Grain SA, 2016). The cost of transportation, which is mainly done by road, is a concern. Nationwide, the lack of an efficient rail transport system is also impacting negatively on the transport of inputs. This dependence on fertiliser imports is therefore a concern, especially during times when the Rand is depreciating against key currencies.

Figure 19 illustrates key cost indices for agricultural inputs in South Africa. Over the period under consideration, the Rand has depreciated from R6.94 to the US dollar in 2000 to R13.56 in 2017, a depreciation of nearly 100%. Since 2000, the price of fertiliser and fuel has increased by 359% and 305% respectively, while the price of farming requisites has increased by 285%. Although international fertiliser prices reported a decline since 2011, domestic prices have moved sideways as a result of a weaker Rand (Figure 20). The price of nitrogen (Urea) increased by 2% from 2011 to 2017, phosphate (MAP) by 17% and potassium (potassium chloride) by 6%. Over the same period the price of fuel (bulk diesel) increased by 27%. Although data on the prices of chemicals are limited, farm-level information for field crops suggests a substantial increase in plant protection expenditure with the potential for further increases going forward as a result of new regulations in Chinese chemical manufacturing plants. It is estimated that over the period 2015-2017, seed price inflation amounted to 21.2% and for certain maize varieties, increases of nearly 16% were reported from 2016 to 2017.

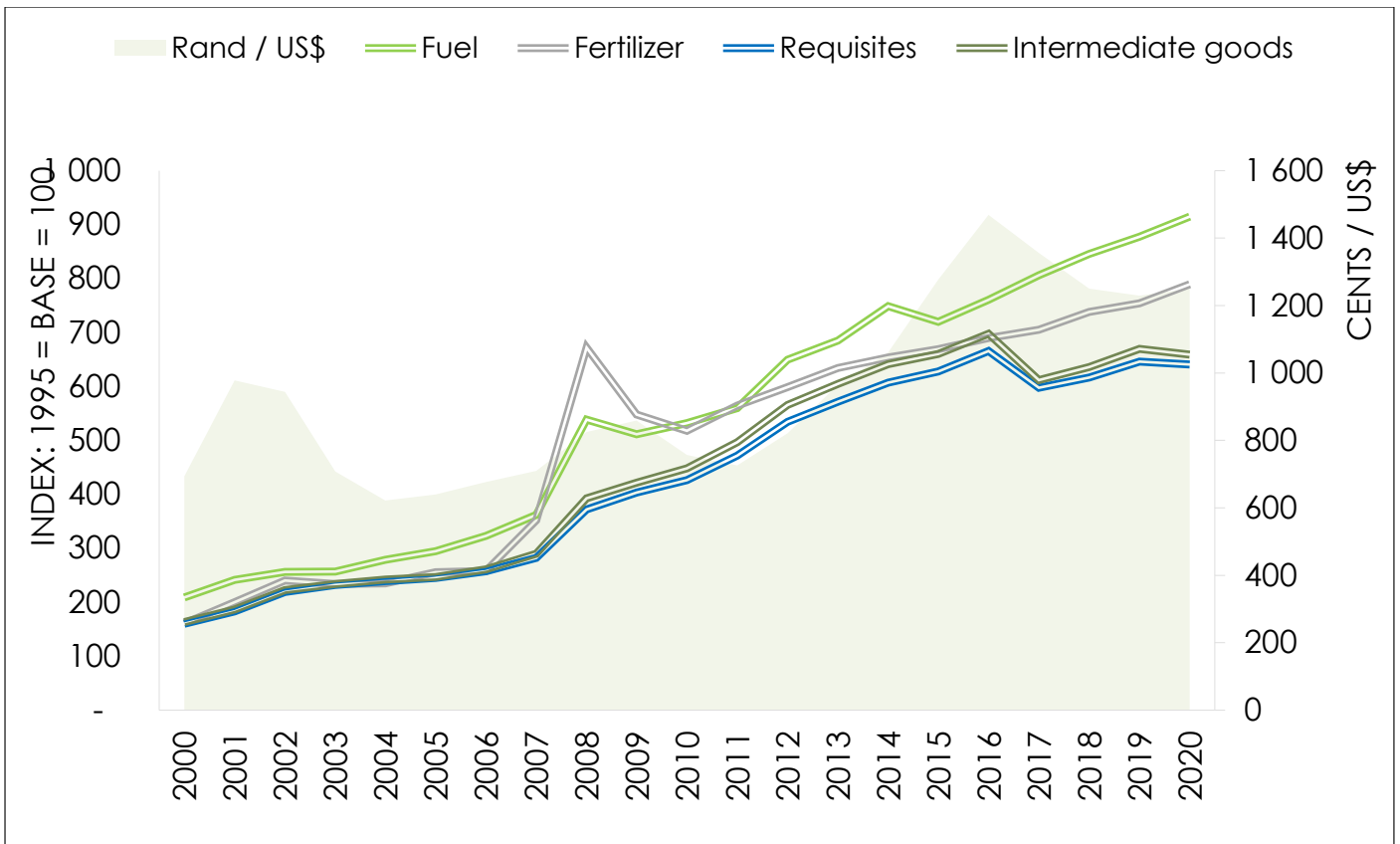


FIGURE 19: INPUT COST INDEX FOR FUEL, FERTILISERS, FARMING REQUISITES & INTERMEDIATE GOODS (2000-2020)

Source: BFAP & Grain SA, 2018

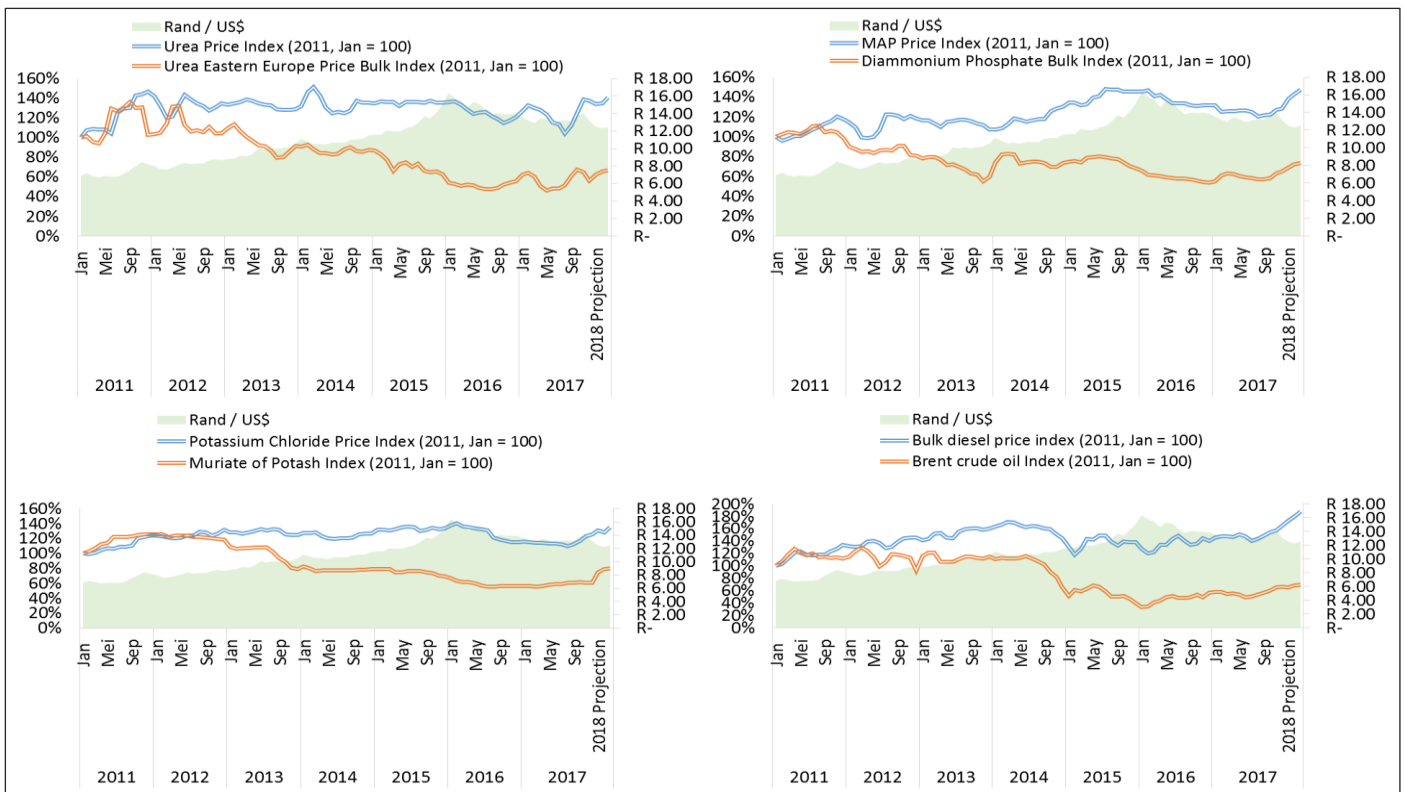


FIGURE 20: COST COMPARISONS FOR DOMESTIC & INTERNATIONAL FERTILISERS & FUEL

Source: Grain SA, 2017

It is evident from the above that producers are continually facing upward pressure when prices are considered. Administered prices such as tariffs for electricity and the minimum wage further contribute to the consolidated cost pressures at farm-level. The previous realities at farm-level suggest that the implementation of the national minimum wage should not be observed in isolation, but should be considered with other price inflation trends. Figure 21 illustrates the wage rate trend since 2003 where the hourly rate is denoted by the blue bars and the monthly wage by the red line. The introduction and phasing of the new legislated national minimum wage in 2018 and 2019 will result in a wage (labour price) increase of nearly 400% since 2003 (CPI inflation over the same period totalled 180%). The average per annum labour price inflation over the period equals 10.9%, which is 4.7% per annum higher than CPI inflation.

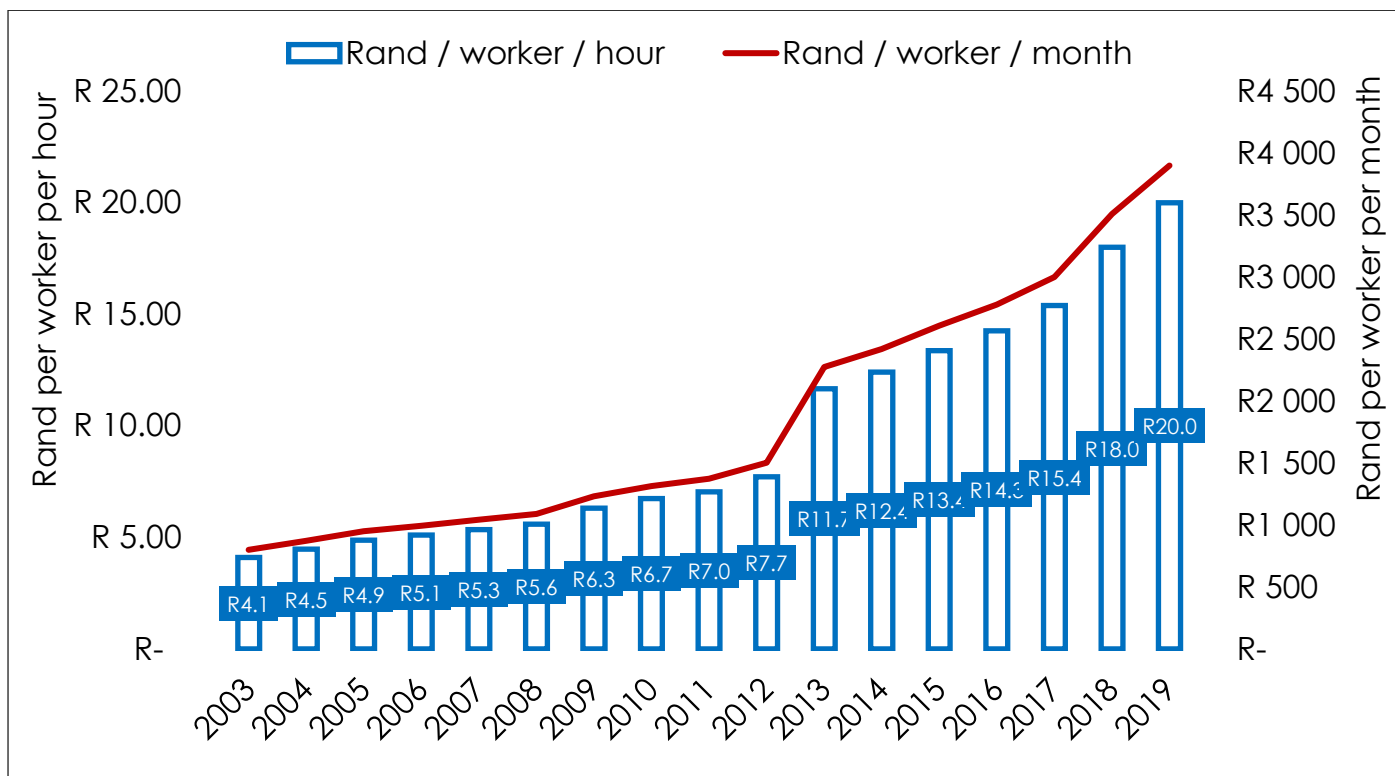


FIGURE 21: NOMINAL MINIMUM WAGE RATE PER AGRICULTURAL LABOURER (2003-2019)

The simultaneous increases in other administered prices such as electricity further raises concerns. Figure 22 illustrates the annual percentage increase in the cost of electricity. The results indicate that if Eskom is successful in their bid to increase the tariff by 34% in 2018/19, the total increase since 2004/05 amounts to 220.3% or 13.8% per annum. In order to put the increase into context, a potato farmer in Limpopo will experience an immediate loss in income amounting to nearly R400 000 in the 2018/19 production season if he/she maintains the same production practices.

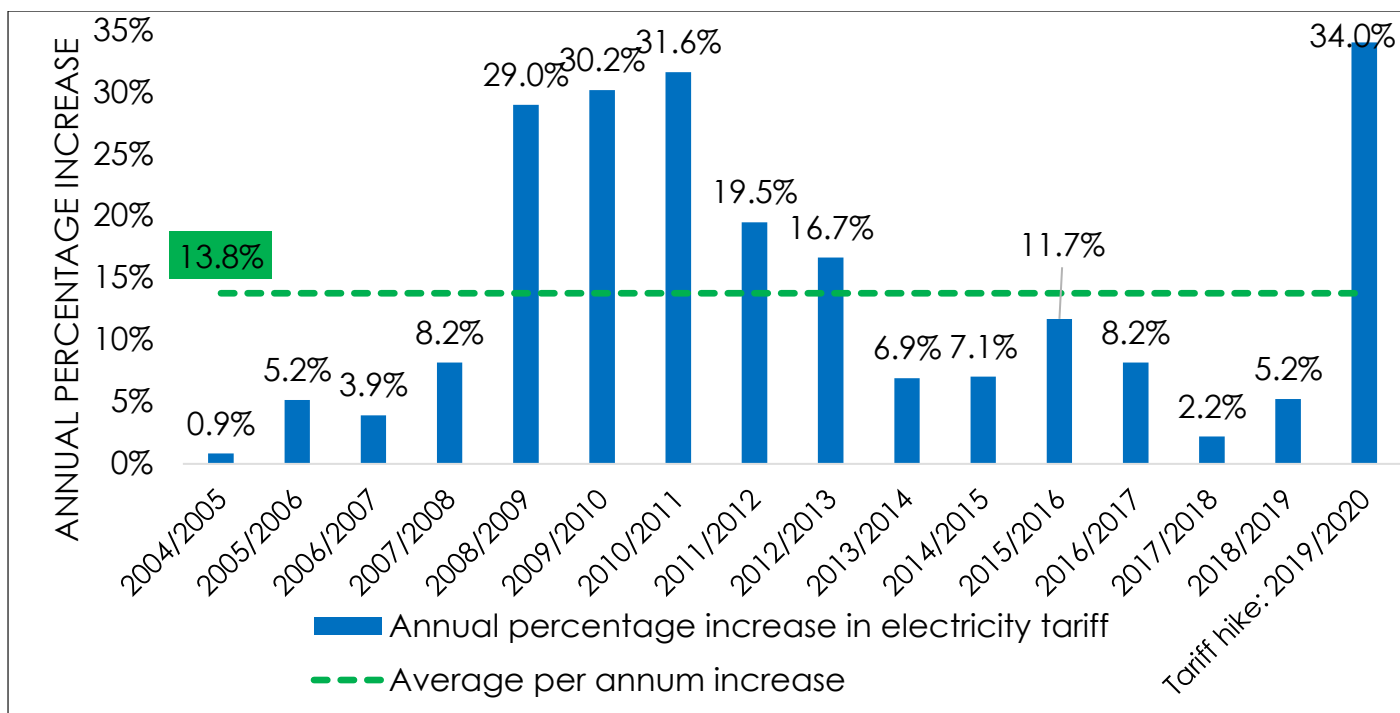


FIGURE 22: ANNUAL PERCENTAGE INCREASE IN THE COST OF ELECTRICITY (IRRIGATION FARMERS)

Source: Eskom, 2018

The preceding section illustrated that producers continuously experience a cost-price squeeze which is driven by several factors that are mostly often beyond the control of the producer. The reality is that output prices tend to decline over the long term, thus the cost-price squeeze is becoming even more relevant in modern agriculture. In any business, if expenses exceed revenue, the business will not be feasible and will thus not be sustainable in the long run unless the business model is changed.

In the next section of this report, the focus will shift to the implications of the national minimum wage on farm-level cost structures and income. The ultimate objective is to determine whether these industries can remain competitive in an environment of rising input prices and declining real output prices. For the purpose of this report, only a few industries are analysed, with the focus on labour-intensive industries where the implementation of the national minimum wage will have the largest effect. The results are limited based on available data for the respective industries.

## 3.2 Potatoes

Potato production constitutes the 5th largest crop in South Africa in terms of value (Potatoes SA, 2017). The gross value of potato production in the 2016/17 season was estimated at R9 billion and consumer spending on potato products R24 billion. The industry contributes 3% of total gross agricultural production and 58% of total vegetable production. The area under potato cultivation equals between 50 000 – 54 000 hectares and annual production amounts to 2.5 million tons. Key producing regions are located in Limpopo, Free State and the Western Cape which jointly account for 69% of total area and 65% of national production. It is estimated that between 2 000 – 3 000 small holder farmers also cultivate potatoes for own consumption. The number of commercial potato producers has declined from around 2 000 to fewer than 600 over the past 24 years. This decline can mainly be attributed to the intrinsic risk associated with potato production. The total cost of potato production, depending on the production region and yield, varies between R160 000 and R240 000 per hectare under irrigation, and R80 000 and R100 000 per hectare dryland. 80% of the crop is planted under irrigation. The real input costs for potato farming are increasing, meaning that the growth in input costs is higher than inflation.

From a consumption perspective, demand for potatoes has nearly doubled over the past decade, with the majority of the produce destined for the formal market (33%) and informal market (31%). Processing constitutes 20% of total production. The informal sector buys between 50% - 60% of all potatoes on the fresh produce markets. Thus, in total, informal traders purchase between 650 000 – 750 000 tons of potatoes with a value amounting to R3.0 to R3.5 billion (Potatoes SA, 2012). Most of the potatoes being marketed through this channel occurred in local communities which suggests that the industry has a large social footprint as well as informal labour multiplier in local communities.

The primary potato industry is characterised as labour-intensive and employs between 45 000 – 55 000 permanent and seasonal workers, down from an estimated 63 000 in 2011 (Potatoes SA, 2017). Roughly 40 000 of the total potato labour force are seasonal workers, mostly woman. Seasonal workers are mainly employed during the planting, harvesting and packing operations, which can range between 1 month for a small producer to 10 months for a large producer. For many potato production regions, seasonal worker incomes are the only source of income. In 2016, it was estimated that R409 million was paid to seasonal workers alone, therefore boosting rural economies and livelihoods substantially. As a result of substantial growth in the industry since the early 2000's, rural development multiplier effects remain significant due to high farm labour requirement. The industry is also growing throughout the value chain which is crucial for the introduction of smallholders to the industry. Hence, a conducive policy environment is fundamental to leverage the benefits that the potato value chain offers towards rural development, employment, food security and sustainable operations by stakeholders in the potato value chain.

Similarly, producers are experiencing an increase in real production costs with real output prices on a downward trajectory. The three largest input cost items, namely seed, chemicals and fertiliser can easily exceed R50 000 per hectare. Capital investment, in turn amounts to between R25 000 to R125 000 per hectare, depending on the size of operations and region (Potatoes SA, 2016). The high input expenditure and capital investment requirement makes the cultivation of potatoes a risky crop to produce, especially under dryland conditions. The existing drought in the Western Cape has forced producers there to cut back significantly on water use and therefore the benefits of economies of scale are being compromised. The Eastern Free State is a dryland production region. Here volatile weather conditions are making agricultural production in general, but specifically potato production with its high associated input costs, a risky venture. According to Potatoes SA (2016), more than 100 commercial potato growers have suspended operations since 2011. This was mainly as a result of the cost-price squeeze, which has influenced the financial viability of the farm.

In order to illustrate the cost implications of the new national minimum wage in 2018 and 2019, four prototype potato farms, monitored since 2012, have been analysed to determine the additional cost per hectare and cost per farm specifically considering labour. The prototype farms in Limpopo and the Sandveld region in the Western Cape cultivates potatoes under irrigation. The Eastern Free State cultivates potatoes under rainfed conditions, whereas the KwaZulu-Natal seed potato farmers often make use of supplementary irrigation. Cost structures, yield, input application, level of mechanisation and labour utilisation between the regions therefore differ. Table 12 illustrates existing labour cost conditions and the implications of the new national minimum wage.

Labour cost varied between R8 548 to R20 475 per hectare in 2017. The respective increase, as a result of the national minimum wage, will lead to this range increasing by between R2 561 and R6 133 per hectare. For the total farm labour bill, the Eastern Free State will pay R471 134 more in 2019, KwaZulu-Natal R613 319 more, Limpopo an additional cost of R849 467 and the Sandveld region, R553 527. Reflecting back to 2012, the additional cost for labour for Limpopo totals nearly R2 000 000 (Figure 23). For the farm considered, labour cost will rank between the 2<sup>nd</sup> most expensive input for KwaZulu-Natal to the 5<sup>th</sup> most expensive for the Sandveld region. For the Eastern Free State region, labour will increase from 6<sup>th</sup> most expensive in 2012 to 3<sup>rd</sup> in 2019.



**TABLE 12: DESCRIPTIVE STATISTICS, COST STRUCTURES & IMPACT OF NATIONAL MINIMUM WAGE FOR POTATO FARMS IN KEY PRODUCING REGIONS**

	<b>Eastern Free State</b>	<b>KwaZulu-Natal</b>	<b>Limpopo</b>	<b>Sandveld</b>
<b>Per hectare</b>				
Labour cost / ha in 2012	R5 487	R11 750	R10 504	R5 818
Labour cost / ha in 2017	R8 548	R20 475	R17 187	R8 635
Labour cost / ha in 2018 (90% of NMW)	R9 998	R23 947	R20 102	R10 099
Labour cost / ha in 2019 (100% of NMW)	R11 109	R26 608	R22 335	R11 222
Difference in labour cost: 2017 – 2019	R2 561	R6 133	R5 148	R2 587
Labour contribution to direct cost: 2012	8%	11%	6%	4%
Labour contribution to direct cost: 2017	13%	17%	12%	6%
Labour contribution to direct cost: 2019	14%	19%	13%	7%
Ranking: Labour cost i.t.o single largest direct cost: 2012 vs. 2019	6 <sup>th</sup> / 3 <sup>rd</sup>	2 <sup>nd</sup> / 2 <sup>nd</sup>	5 <sup>th</sup> / 4 <sup>th</sup>	6 <sup>th</sup> / 5 <sup>th</sup>
<b>Per prototype farm</b>				
Total farm labour bill: 2012	R1 009 608	R1 175 000	R1 733 160	R1 245 052
Total farm labour bill: 2017	R1 572 832	R2 047 500	R2 835 855	R1 847 890
Total farm labour bill: 2018	R1 839 570	R2 394 737	R3 316 789	R2 161 275
Total farm labour bill: 2019	R2 043 966	R2 660 819	R3 685 322	R2 401 417
Difference in labour cost: 2012 – 2019 (p.a)	R1 034 358	R1 485 819	R1 952 162	R1 156 365
Difference in labour cost: 2017 – 2019 (p.a)	R471 134	R613 319	R849 467	R553 527
<b>Assumptions:</b>				
1.) Permanent & seasonal worker's rates have been adjusted according to percentage change in NMW in 2018 & 2019.				
2.) Farm managers remuneration not included in labour bill.				
3.) No job shedding and/or additional mechanisation have occurred on farms and therefore the assumption is made that producers kept the same amount of workers and maintained the same level of mechanisation.				
4.) Area per farm remained constant over the period from 2012 to 2019.				
5.) Annual production cost inflation for other inputs have been accounted for.				

Under normal conditions, a potato producer will employ between 20 to 50 seasonal workers during planting (this is in addition to the permanent labour force). Should such a producer decide to fully mechanise his planting operation, only permanent workers will be required. An average size planter, which costs R150 000 to R200 000 can easily replace 20 to 30 seasonal workers. The payback period is 2 seasons, meaning the savings in labour cost will then be larger than the initial outlay. A fully mechanical potato harvester can potentially replace 40 to 80 seasonal labourers during the lifting of potatoes (only 5 to 7 seasonal workers will then be needed). A mechanical harvester costs anything between R1.8 million and R2.8 million, but can easily replace 40 to 80 seasonal labourers. The payback period is 2 to 4 seasons. Expanding the level of mechanisation in a potato pack-house can result in 30 to 40 seasonal workers losing employment as opposed to the typical 80 to 100 seasonal workers usually required. There are currently examples of where producers have decided to “fully” mechanise their pack-houses, and consequently they now employ fewer than 20 seasonal workers. Through such extreme mechanisation between 50 and 70 workers can be replaced. The payback period, depending on the level of mechanisation, is 2 to 6 seasons.

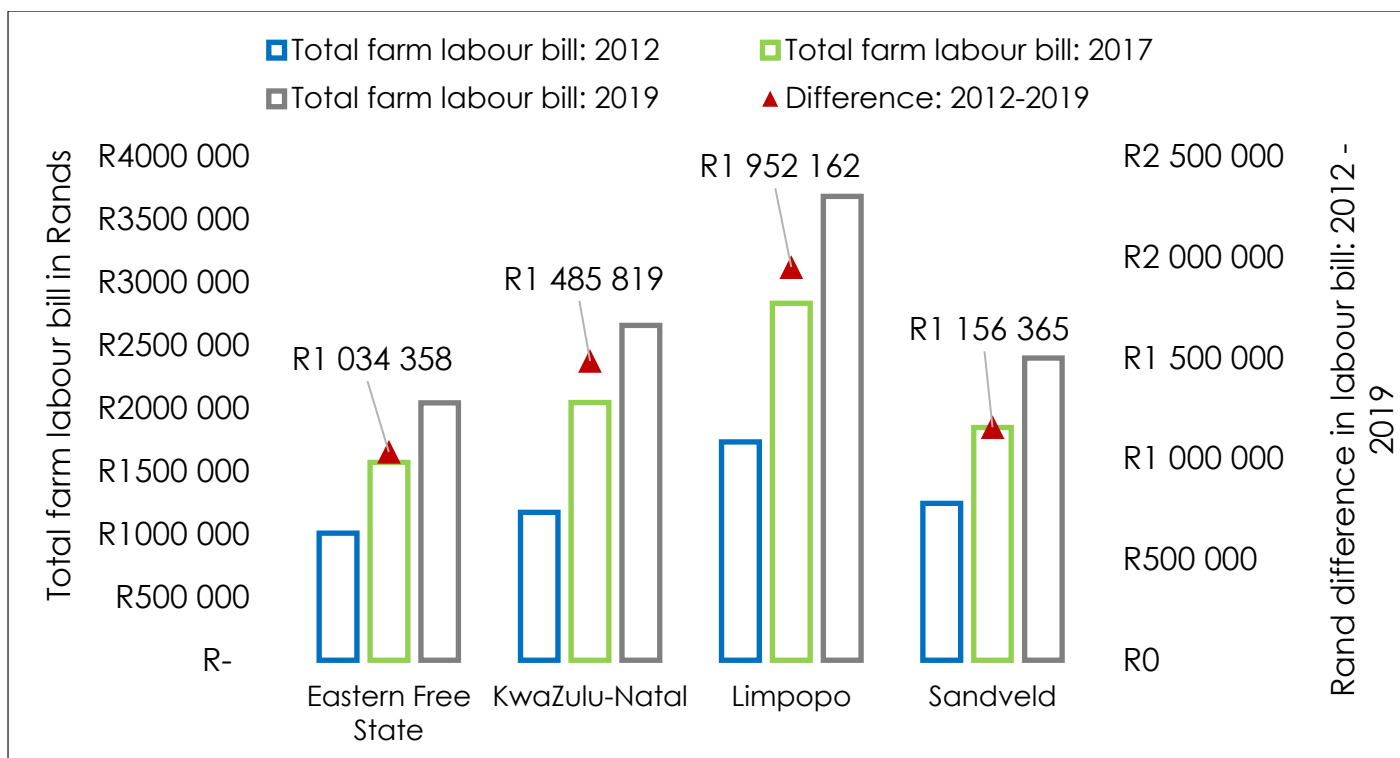


FIGURE 23: SUMMARY OF COST IMPLICATION AS A RESULT OF NEW MINIMUM WAGE ON POTATO FARMS ACROSS SOUTH AFRICA

In order to illustrate simultaneous input cost related shocks at farm-level, Figure 24 shows the cost implication as a result of the existing drought in the Western Cape in a scenario where water allocation is reduced and the producer is forced to reduced total area under potato production. Two scenarios were tested where area is reduced by 20% and 40% respectively. In the event that a producer has to reduce area by 20%, net farm income will decline by R1.12 million in 2018. Similarly, a 40% reduction in area will reduce farm income by R2.23 million in 2018. The net farm income index indicates that irrespective of area under production, the baseline outlook as a result of low existing market prices will decrease significantly in 2018 and 2019 (base year = 2015 = 100). The baseline outlook suggests that income in 2018 will decrease by 34% from 2015, by 54% in a 20% reduced area scenario and by 74% as a result of a 40% reduction in area.

An additional scenario was created to test various input cost related shocks on the Sandveld producing region. The scenarios include the wage increase as a result of the legislated national minimum wage. An electricity tariff scenario where the tariff increases by 34% in 2019, a scenario where the cost of plant protection increases by 30% and the combined effect in concurrence with an area reduction scenario where water allocation decreases by 60% as a result of the drought in the Western Cape. Figure 25 illustrates these effects through a net farm income index where the base year = 2016. As a result of the market outlook in 2018 and 2019, the baseline projection already reflects a substantial decrease since 2016. However, in all scenarios, net farm income will decrease between 88% and 100% from 2016 levels. It should be acknowledged that 2016 reflected a good production season with favourable prices and yields.

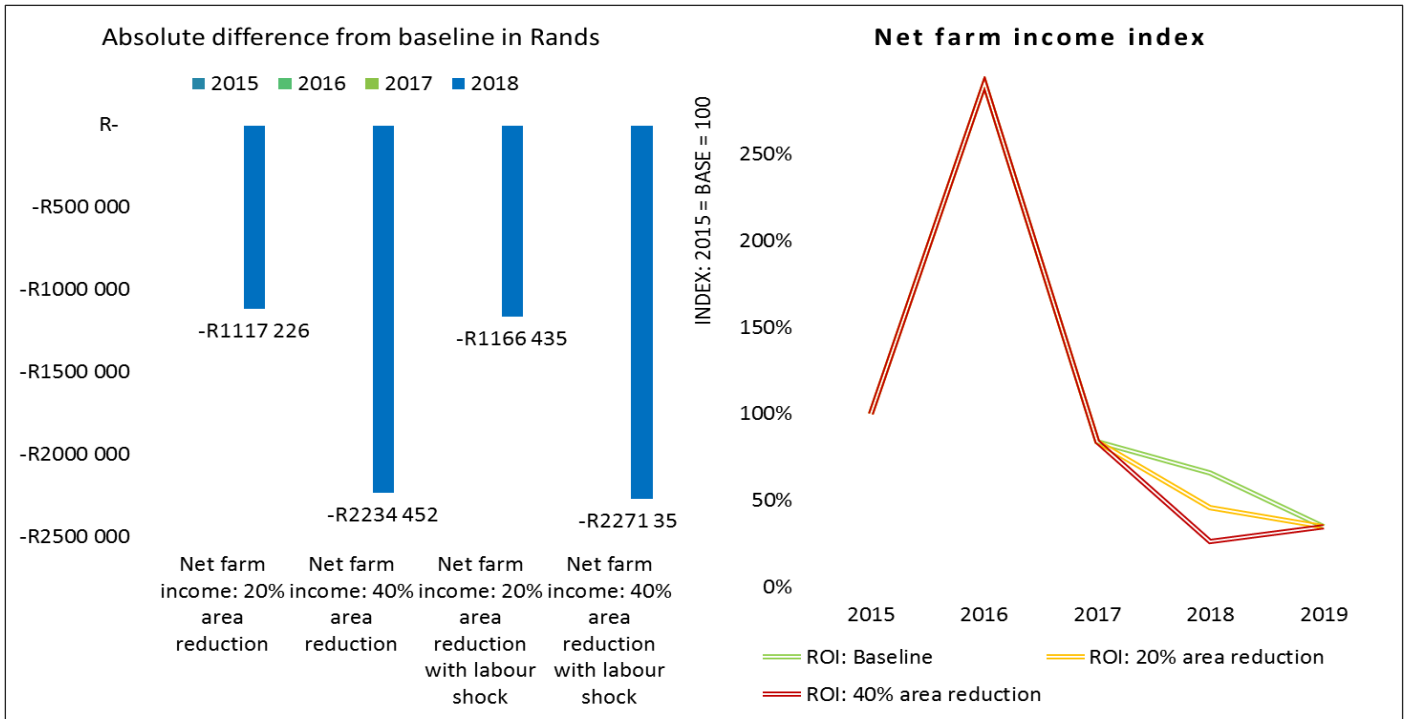


FIGURE 24: THE IMPACT OF REDUCED WATER ALLOCATION IN THE SANDVELD POTATO PRODUCING REGION ON FARM INCOME

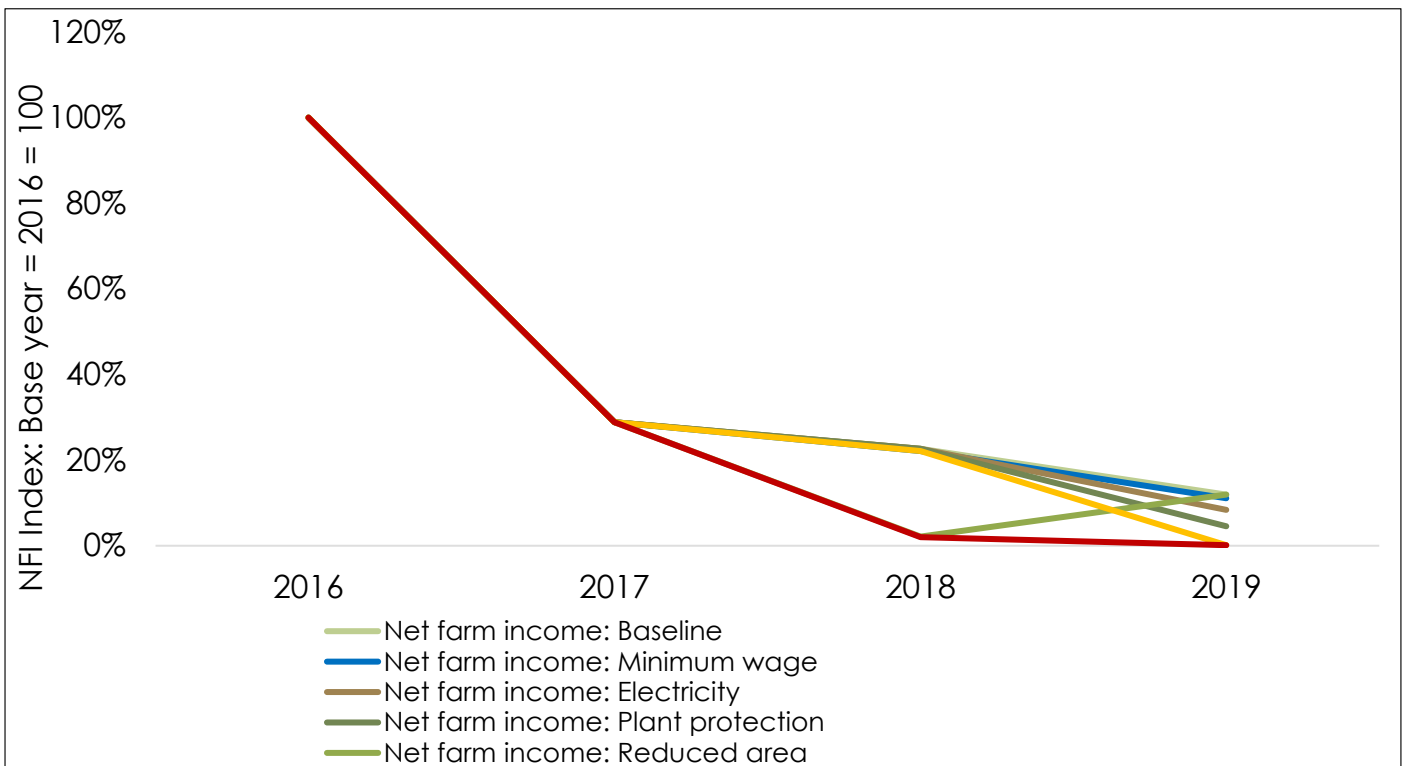


FIGURE 25: THE IMPACT OF VARIOUS PRODUCTION & INPUT COST RELATED SHOCKS ON THE SANDVELD PRODUCING REGION

### 3.3 Sugarcane

According to SASA (2017), the South African sugar industry is cost-competitive, consistently ranking in the top 15 out of approximately 120 sugar producing countries worldwide. Stretching across two provinces of South Africa, namely Mpumalanga and KwaZulu-Natal, the sugar industry makes a positive difference to the lives of more than a million people and is a catalyst to economic growth and development. The sugar industry provides employment in job starved regions often in deep rural areas where there is little other economic activity or employment opportunity. From a land reform perspective, the South African sugar industry has transferred 21% of freehold land under cane from white to black owners since 1994 off a base of 5% (SASA, 2017).

Based on revenue generated through sugar sales in the SACU region as well as world market exports, the South African sugar industry generates an annual estimated average direct income of over R12 billion (SASA, 2017). The industry's contribution to the economy is underpinned by agricultural and industrial investments, foreign exchange earnings, labour intensity, and linkages with major suppliers, support industries and customers.

As mentioned above, an important feature of the industry is that there is employment in rural and deep rural areas where there is often little other economic opportunity (SASA, 2017). Direct employment occurs in both the sugar cane fields and the sugar mills and cuts across a diverse array of skills from farm worker to agricultural scientist. There is also direct and indirect employment through numerous support industries in the provinces where sugarcane is grown and processed. The sugar industry creates approximately 79 000 direct jobs, which represents over 11% of the total agricultural workforce in South Africa. In addition, there are the registered cane growers supplying cane for processing to sugar mills. Indirect employment is estimated at 350 000 jobs. Approximately one million people or 2% of South Africa's population depend on the sugar industry for a living.

Sugarcane is grown by approximately 21 512 registered sugarcane growers and sugar is manufactured by six milling companies at 14 sugar mills operating in the cane-growing regions of KwaZulu-Natal and Mpumalanga. The industry produces an average of 2.2 million tons of sugar per season which 76% is marketed in the Southern African Customs Union (SACU) and the balance exported to markets in Africa, Asia, Europe and the USA (South African Sugar Association, 2017).

Sugarcane is a strategic crop for Kwazulu-Natal and Mpumalanga, where sugarcane production is located, comprising nearly 50% of field crop gross farming income across the two provinces.

In recent years, the industry has faced a number of challenges which led to a decrease in area. Over the past 17 years the total area under sugarcane in South Africa has decreased by nearly 67 thousand hectares or 15.6%. Over the same period, cane production has decreased by more than 8.8 million tonnes. Going forward, certain challenges will persist. These include water availability in irrigated regions, low world prices stagnant demand for ethanol underpinned by low oil prices, increased sugar production in Africa, increased labour costs and disease challenges. In addition to this, the effect of the newly proposed sugar tax and limited investment in planting and replanting of sugarcane as a result of land claims are policy issues that could affect growth and development of the local sugar industry

As a result of high labour requirements in sugarcane production, especially in the coastal regions of KwaZulu-Natal, the minimum wage increases in 2018 and 2019 will impact profitability significantly. In an environment associated with a number of challenges, as mentioned above, the timing of the minimum wage implementation is not favourable since the industry has experienced a number of droughts in recent years. For coastal producers, alternative crop options are, however limited as a result of the topography of the area.

The establishment cost of sugarcane can vary between R24 000 to R27 000 per hectare. Ratoon maintenance costs vary between R5 200 and R7 000 per hectare. As a result of the milling season lasting up to 8 months, the labour requirement to cut sugarcane is extensive. The re-establishment of sugarcane on the majority of farms is conducted with manual labour. Field workers are required for seeding, spraying, clearing, weeding, cutting and stacking of sugarcane. The farm further requires heavy-vehicle drivers, managers and supervisors. Figure 26 illustrates that in 1985/86, farm staff (excluding farm management) accounted for 43% of total production costs followed by fertiliser (15%) and transport of sugarcane to mills (15%). The increase in the cost of wages in 2018 and 2019 will increase farm staff's share to 53% of total production costs.

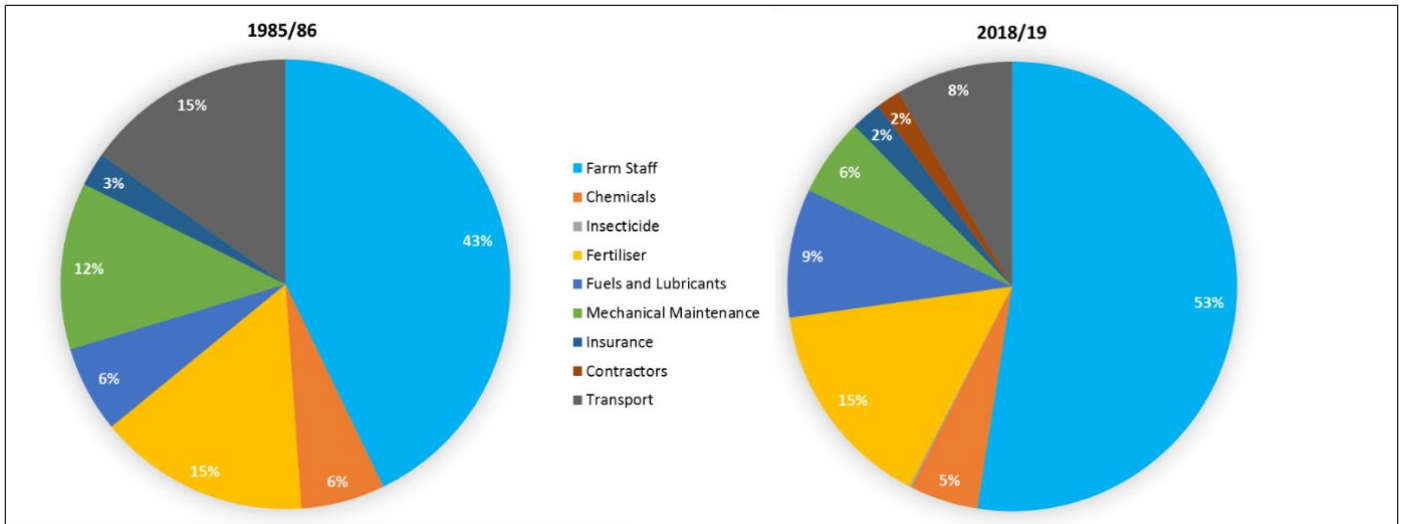


FIGURE 26: COASTAL DRYLAND SUGARCANE FARM: COST CONTRIBUTION: 1985/86 – 2018/19

Source: SA Canegrowers & BFAP, 2018

Figure 27 illustrates the cost of farm staff over the period from 1985/86 to 2018/19 for the coastal dryland regions and the Midlands. The increase in agricultural wages will inflate total farm staff cost by R465 283 for coastal regions and R276 280 for the Midlands. Total farm labour cost, in turn, will exceed R2 million for coastal regions in 2018/19 and R1.2 million for the Midlands. The results further indicate that for coastal regions, the cost of labour has increased by R1.1 million (123%) since 2011/12, an average of nearly R160 000 per annum. When farm staff is compared with other input price inflation such as fertiliser and transport of sugarcane to mills, the cost of farm staff in recent years reflected a much higher inflation rate. Figure 28 represents the polynomial trend lines for the cost of farm staff, fertiliser and transportation<sup>10</sup> over the period from 1985/86 to 2018/19 (projection). As mentioned earlier in the report, fertiliser, in recent years, experienced significant cost inflation as a result of the weakening of the exchange rate against the US dollar which has inflated the import parity price for key nutrients. Since 2011/12, the cost of agricultural wages has increased at an accelerated pace. Since 2014/15, wages have outpaced the cost inflation for fertilisers and transportation.

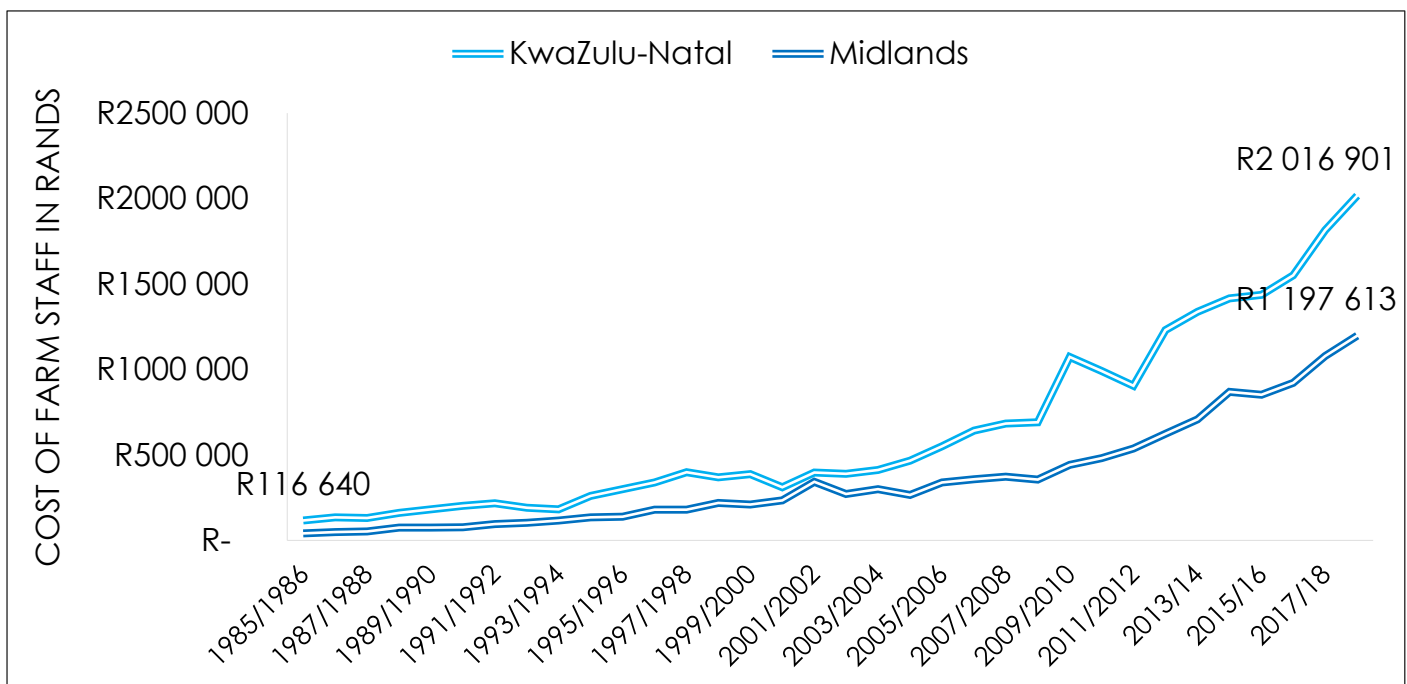
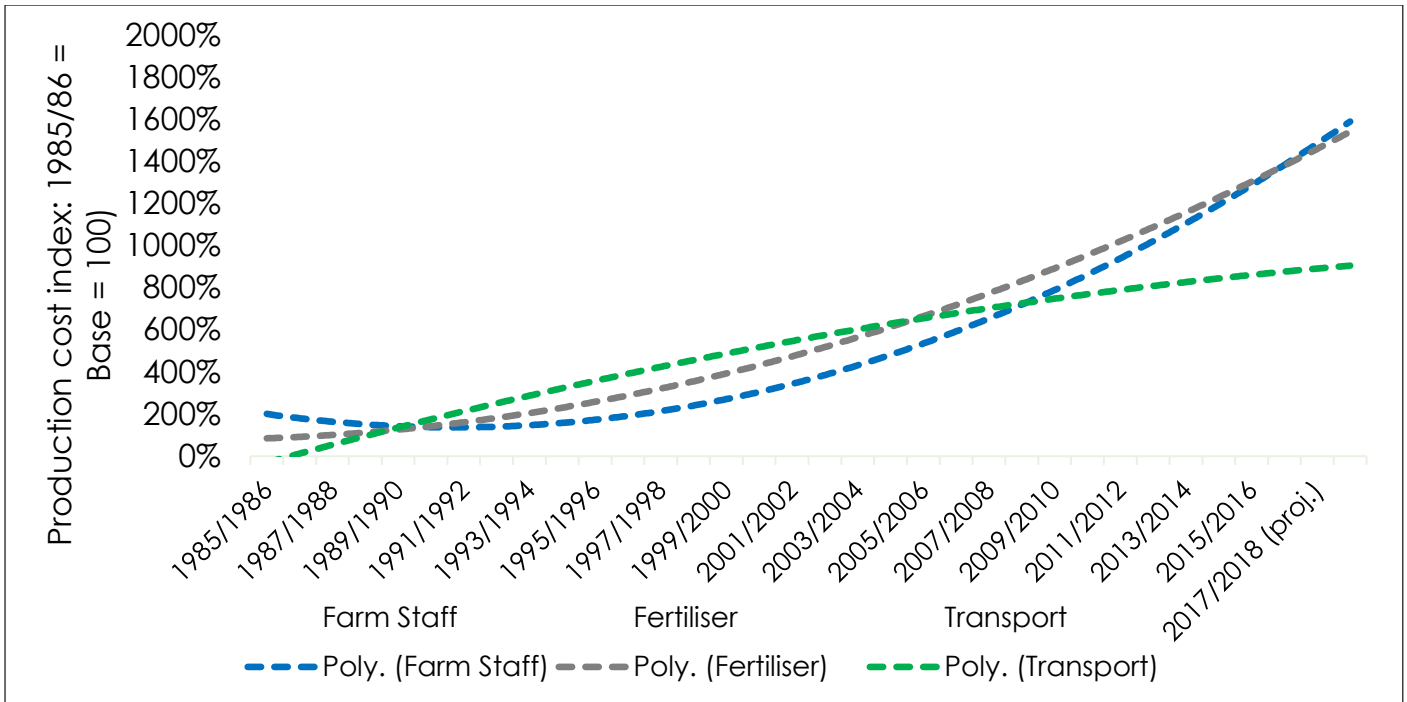


FIGURE 27: ANNUAL COST OF FARM STAFF ON A COASTAL DRYLAND & MIDLANDS SUGARCANE FARM: 1985/86 – 2017/18

Source: SA Canegrowers & BFAP, 2018

<sup>10</sup> Index format with base = 1985/86



**FIGURE 28: COASTAL DRYLAND SUGARCANE FARM: PRODUCTION COST INDEX: BASE = 1985/86 = 100: COMPARISON BETWEEN INPUT COST INFLATION FOR FARM STAFF, FERTILISER & TRANSPORT**

Source: SA Canegrowers & BFAP, 2018

Ultimately the question arises whether a producer, for instance, located in the coastal dryland region of South Africa, would be able to absorb these substantial increases in labour cost whilst facing cost pressures from other inputs. In this regard, Figure 29 shows an index for farm revenue and total expenditure. Farm staff is included in order to compare the respective trends over time. The first conclusion is that expenditures (red line) is increasing faster opposed to revenue. This again affirms the typical cost-price squeeze. Based on the existing outlook for the sugarcane industry, farmers located in the coastal dryland production region will not be able to absorb the increase in input expenditure as is observed in the cost for farm staff. Net earnings before tax will drop below zero which will affect the financial sustainability of these producers. Re-investment in establishing new ratoons will be limited. Ultimately, this situation imposes a long(er) term risk to employment in the industry and further job shedding could follow.

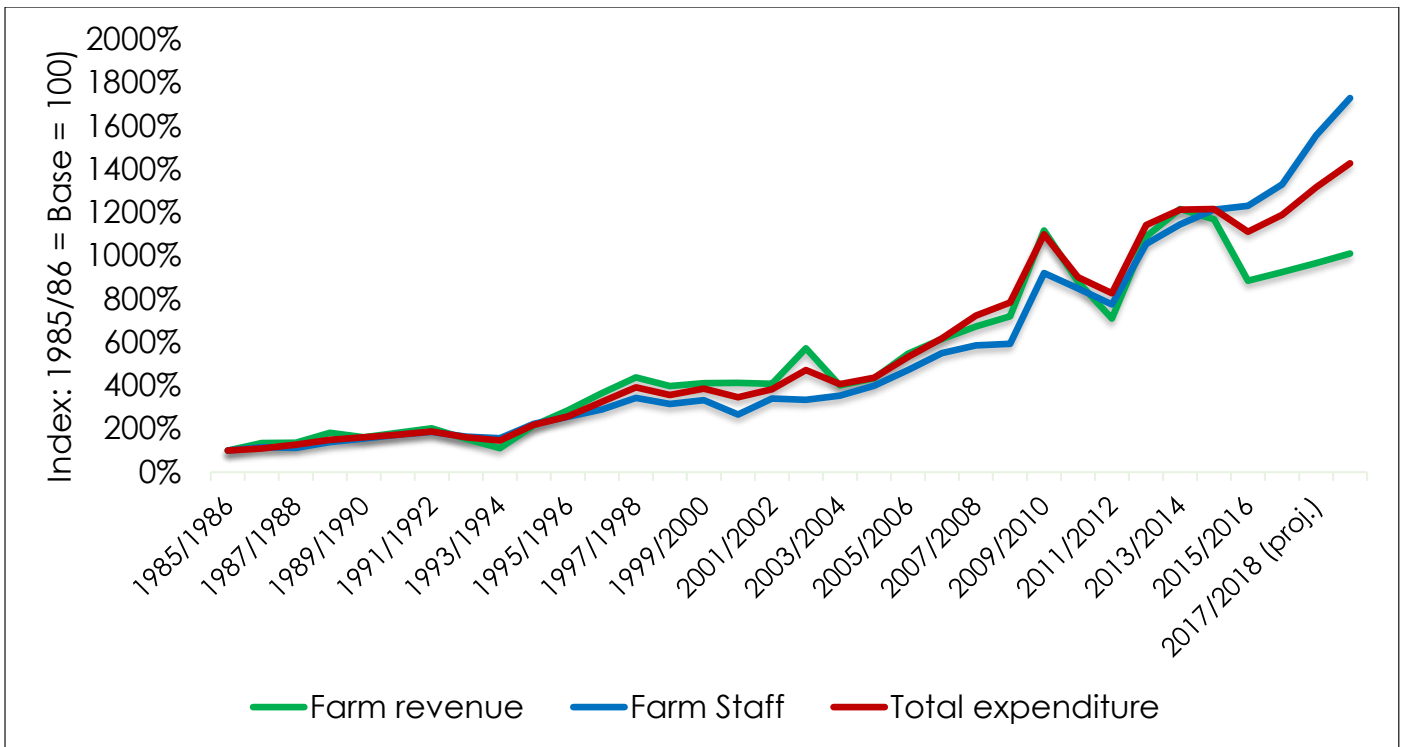


FIGURE 29: COASTAL DRYLAND SUGARCANE FARM: ILLUSTRATION OF THE COST-PRICE SQUEEZE: PRODUCTION COST INFLATION AT A FASTER RATE THAN REVENUE

Source: SA Canegrowers & BFAP, 2018

### 3.4 Valuable economic lessons learned from the grains & oilseeds sectors

Field crop sectors in South Africa have relatively low labour multipliers when compared to fruits, sugarcane and potatoes. In the broader economy, these sectors however still contribute significantly and as a result of scale associated in these industries, up- and downstream employment remain vital for rural development and upliftment. Figure 30 illustrates the performance of these sectors in recent years. As a result of the global commodity super cycle, agricultural in general was more profitable compared to previous decades. To understand agricultural cycles, one need to understand the different periods of growth and decline during the past three decades (BFAP Baseline, 2017). First, agricultural growth was ignited by strong growth in the South African economy and the increase in social grants in the early 2000's, boosting per capita disposable income and resulting in a sharp increase in the demand for higher valued products such as chicken meat. This trend was also coupled with the benefits of the liberalisation of agricultural markets that provided rapid access and growth in export markets for wine and fruits. In 2005 the commodity super cycle was kick-started with the introduction of the biofuels industry in the US as well as strong growth in the Chinese economy. Grain and oilseed prices spiked and extensive dryland farming of grains and oilseeds became highly profitable. It is important to note that while the global area under grain and oilseed production expanded to meet the growing demand, the area in South Africa consolidated as marginal land fell out of production and producers focused on driving productivity on their farms. The economic meltdown in 2009 introduced a cycle of slower economic growth rates and the South African economy did not escape this trend. In fact, after a short recovery, the South African economy has been following a declining trend and the first indications of a recession were confirmed recently with the release of the economic indicators for the first quarter of 2017.

While the world commodity markets were starting to build stocks from 2014 as supply had caught up with demand and surpluses were driving down prices, South Africa experienced one more exogenous shock in the form of two consecutive droughts, with the 2015/16 production season marking the worst drought in 112 years. For two years, South African agricultural commodity markets were out of sync with the global cycle,

but it was only a matter of time before local markets caught up with the global trend. This happened in the 2017 production season on the back of much improved weather conditions; South Africa harvested an all-time record maize harvest with record average yields. This will bring much relief to the staple maize meal prices, and lower feed costs will support intensive livestock operations such as the broiler, pork and dairy industries to be more competitive and resilient against cheaper imports.

The outlook for subsequent years represents a relatively sideways trend in real terms. Hence, as a result of a sufficient supply in grain- and oilseeds markets, domestic prices have caught up with what is observed globally.

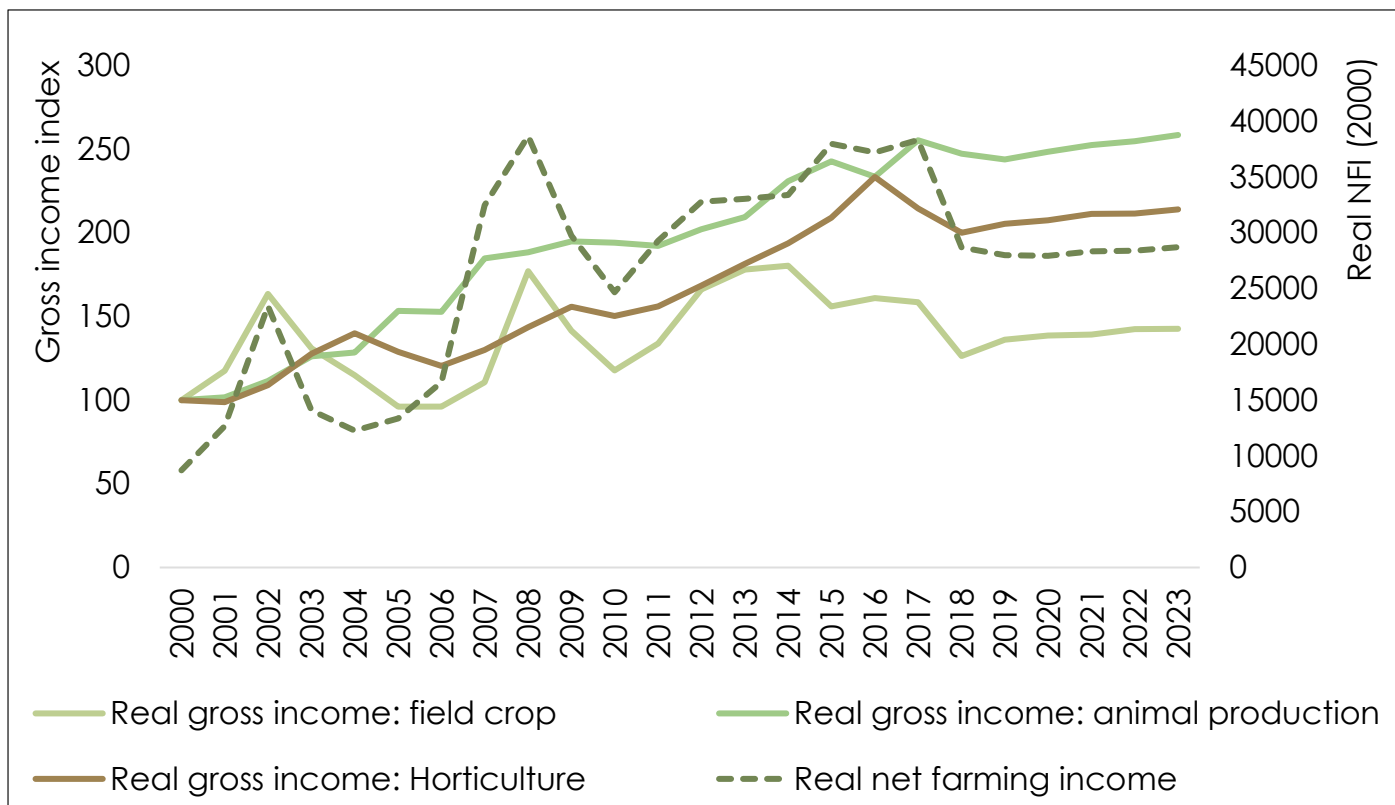


FIGURE 30: REAL GROSS INCOME COMPOSITION OF THE SOUTH AFRICAN AGRICULTURAL ECONOMY

Source: BFAP, 2018

Farm-level financial indicators for maize producers across key producing regions in South Africa suggests that for the 2017/18 production season, income will not be sufficient to cover overhead expenditure on the majority of farms. This is illustrated in Figure 31 which shows the projected gross margin levels for maize producers across the summer producing region. The red line provides an estimate on overhead expenditure which includes farm labour (overhead expenditure will vary from farm to farm). The green line represents a hypothetical investment benchmark which suggests a level where a producer is performing well and in a position to further invest in farming operations. The existing outlook suggests that investment will be limited in the 2017/18 production season as a result of low margins.

From a global perspective, South African maize producers have a disadvantage in the sense that yields remain lower compared to key global competitors. This is aggravated by higher input costs supported by a weak exchange rate. Figure 33 compares the direct cost of production across the globe which illustrates the cost to produce a ton of maize. It is evident from the graph that on average, South African producers pay more to produce a ton of maize compared to key global counterparts. The less competitive nature of South African farms are largely driven by the cost of fertilisers which is further supported by Figure 32 which shows the average cost of nitrogen per kilogram for key maize producing countries. On average, South Africa pay about 41% more per kilogram of nitrogen and is ranked 2<sup>nd</sup> in the sample.



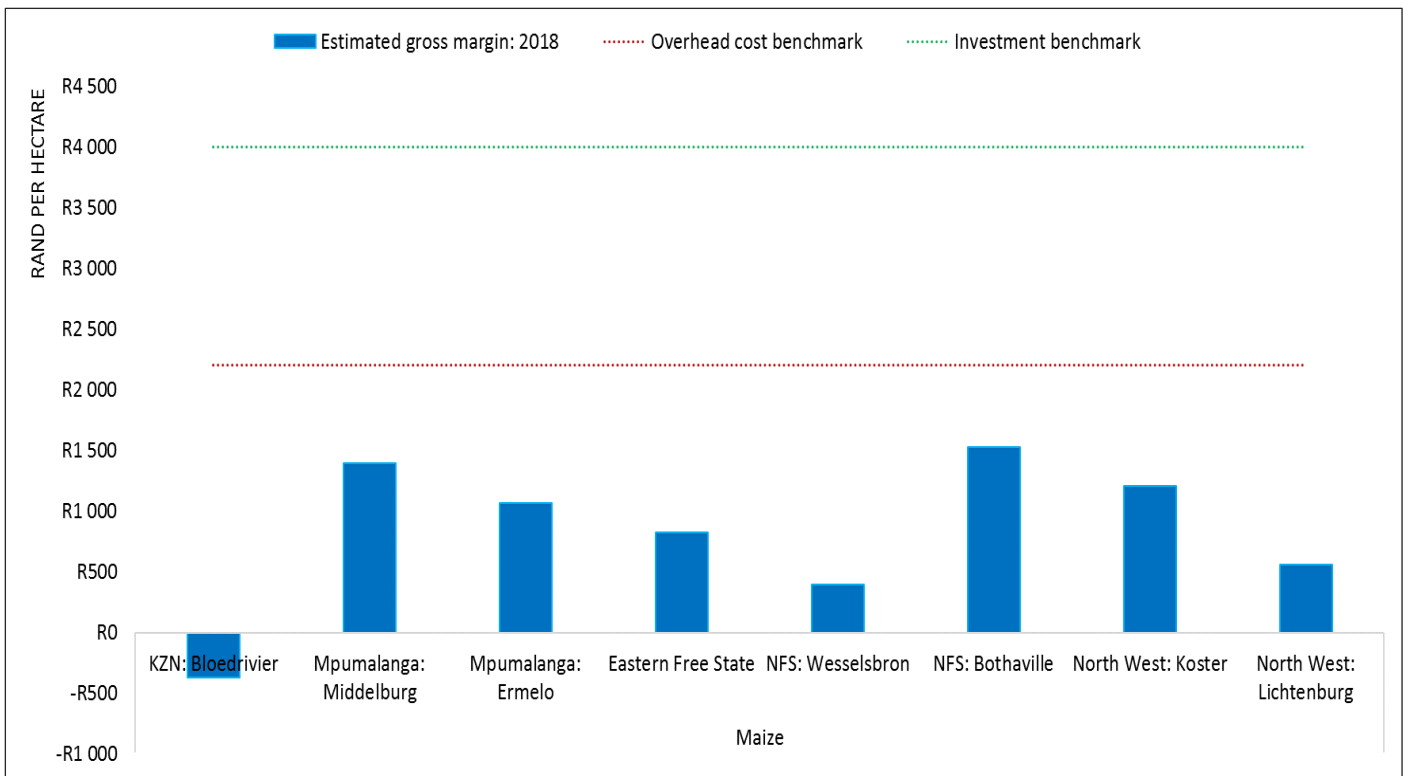


FIGURE 31: SOUTH AFRICAN MAIZE GROSS MARGIN OUTLOOK FOR 2017/2018 PRODUCTION SEASON

Source: BFAP, 2018

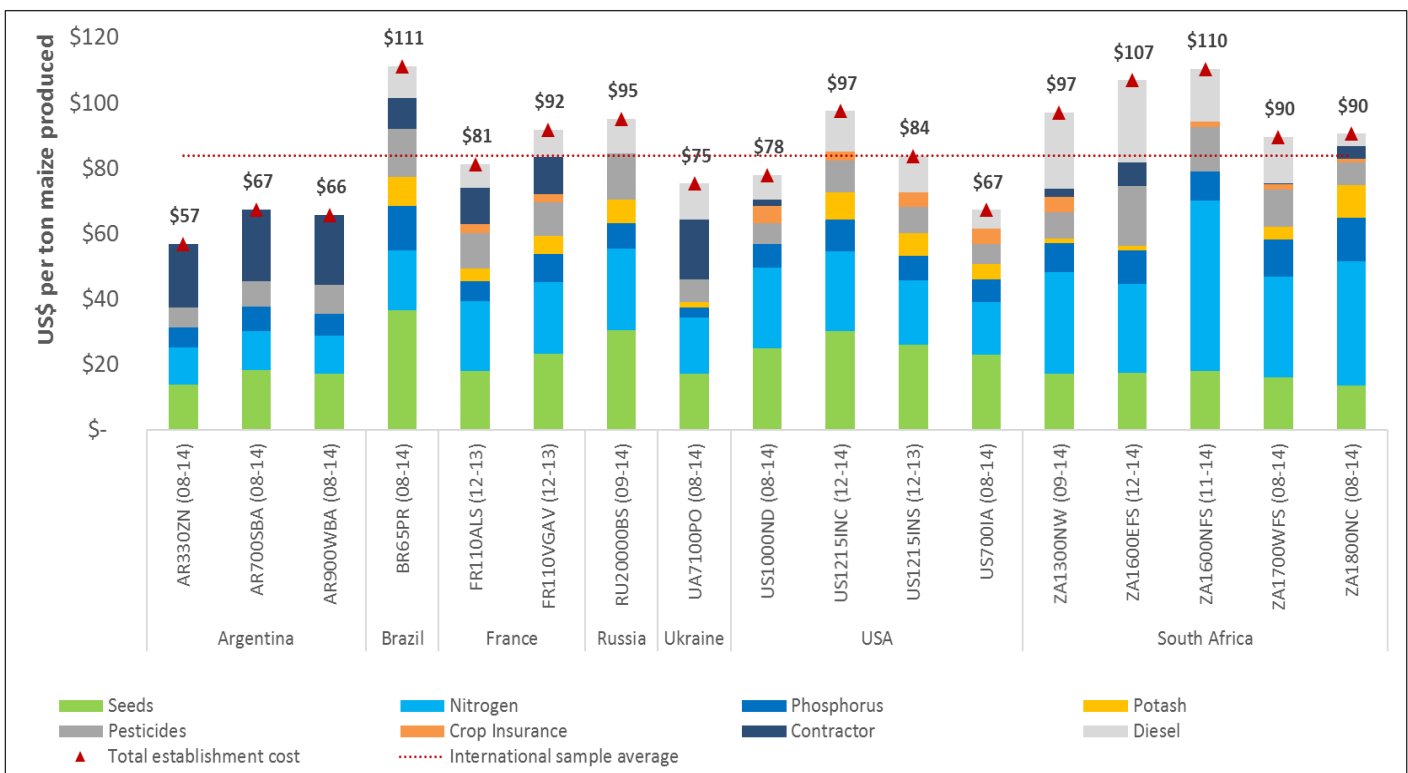
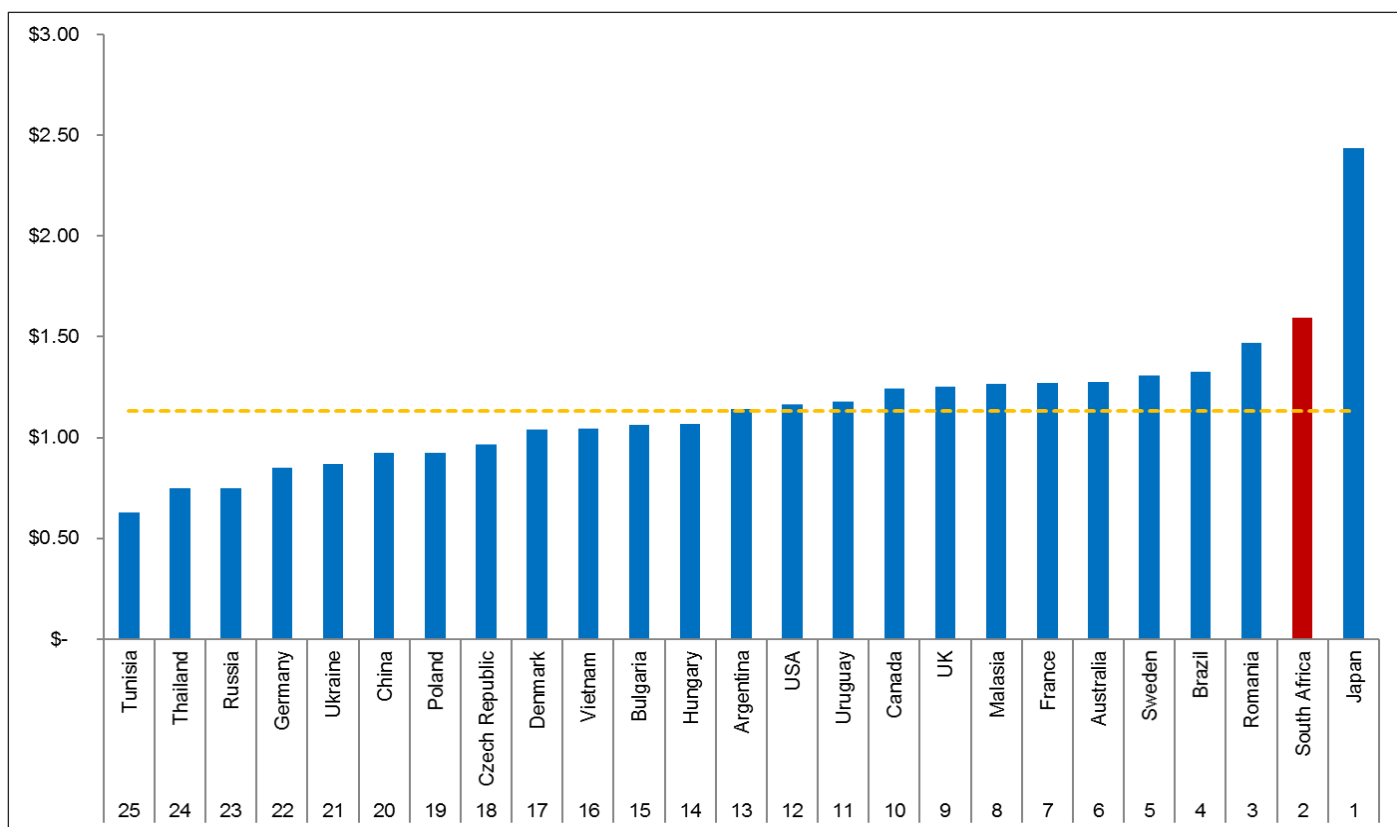


FIGURE 32: SOUTH AFRICAN MAIZE COST COMPARISON AGAINST KEY GLOBAL COMPETITORS

Source: agri benchmark & BFAP, 2018



**FIGURE 33: COST OF NITROGEN ACROSS THE GLOBE**

Source: agri benchmark & BFAP, 2018

Remaining competitive, not only in South Africa but in the global space is vital for the long term sustainability of an industry. A practical example to illustrate the implication on long term sustainability of an industry as a result of internal- and external factors affecting the competitiveness is the South African wheat industry. In the mid-1970s, South Africa produced nearly 20% more wheat than what the local market required (BFAP, 2015). Domestic consumption has since doubled while production has halved from its peak in the late eighties. Consequently, South Africa is currently importing about 50% of its domestic requirement.

South Africa's total wheat area reached a maximum of close to 2 million hectares in 1988, with dryland wheat in the Free State province making up close to half of the national area. Following a South African government programme that provided an incentive for farmers to convert wheat fields to grazing pasture and natural grazing, the first major drop in hectares occurred and was also exacerbated by the severe drought in 1992. The declining area in the Free State persisted long after government incentives disappeared, resulting in the fact that a mere 57 thousand hectares of wheat will be planted per annum in following years. This compared to more than 1 million hectares in 1988. In the North-western and Southern Free State, winter dryland wheat has to a large extent been replaced with summer maize and sunflower while the North-west has also seen a substantial increase in soybean plantings. The remainder of Free State dryland wheat area is planted in the Eastern Free State but a substantial share of the former wheat land was 'lost' to soybeans.

A combination of farm-level challenges including shifts in rainfall, competitiveness and stagnant yields have caused the area under wheat to decline. This changing environment has influenced farmers' willingness and ability to plant wheat. Rainfall in September and October can be considered as key months in dryland wheat cultivation, particularly in the Free State region. The declining trend in precipitation in these months caused wheat yield to come under immense pressure, ultimately affecting the profitability of producers which resulted in wheat becoming a risky crop to grow. When cost of wheat production is compared to international wheat producers such as Argentina, Australia, Germany, Russia and the United States, South African producers pay on average about US\$55 per ton wheat produced more than the international sample. This is caused by lower yield levels and higher fertilizer and other input related costs. Furthermore, due to better seed varieties & yields, gross margins for maize have increased at a faster rate than wheat. In recent years, soybeans, as part of a

maize rotation, reflected better returns resulting in a shift away from wheat production in the Free State. Direct input expenditures since 2004 have increased significantly due to new & more expensive technologies, the weakening of the Rand against the US\$ exchange rate & higher fuel & energy prices. If yields for a certain crop remained flat over a period together with increasing cost of inputs, in essence it entails that the financial position of the farm business is shifting in a negative direction which is not viable and sustainable in the long term.

The decline in area, stagnant yield and hence, production led to South Africa becoming more dependent on wheat imports, shifting the domestic price to import parity. To conclude, over the long run the relative competitiveness and productivity of an industry will be determined by a confluence of factors where competitiveness at farm-level, both from a technical and financial perspective, will remain essential.

### 3.5 Horticulture

The South African horticultural sector includes fruit, nut and vegetable value chains with many of the horticultural crops featuring in the second quadrant of the high growth potential and labour intensity matrix as illustrated in Figure 2. These industries are predominantly export orientated with the largest share of production earmarked for exports in lucrative international markets. Since deregulation of agricultural marketing boards in 1997 South Africa evolved into a more prominent role-player in the global market place. In recent years, increased international competition became a reality with Southern Hemisphere countries such as Argentina, Chile and Peru further expanding in former Eastern European countries and Russia. This also affected South African export markets. International comparisons indicated that South African farms are competitive when cost structures are considered (Figure 34 which illustrates establishment costs for pome fruits in South African vs. Germany), but are increasingly threatened by external factors such as unfavourable weather events and rising input costs.

South African fruit producers are continuously confronted by forces of change, whether it's less than favourable weather conditions, introduction of dynamic technological innovations, the dependence on sustainable and lucrative export markets and ever-changing national and international regulations and legislation. In light with the persistent drought in the Western Cape, it is estimated that the total gross value added from agriculture in the Western Cape totals R18.6 billion, 22% of South African agriculture's share (WCDoA & BFAP, 2017). Horticulture accounts for more than 50% of total crop production and generates export revenue exceeding R40 billion.

Within a changing environment, the competitiveness of fruit farming systems will henceforth be influenced by economically rational and strategically sound financial decision making. Anticipation of various scenarios is crucial to guide strategic decision making given the uncertainties of market forces, the desire for a more stable political climate and the recurring droughts.

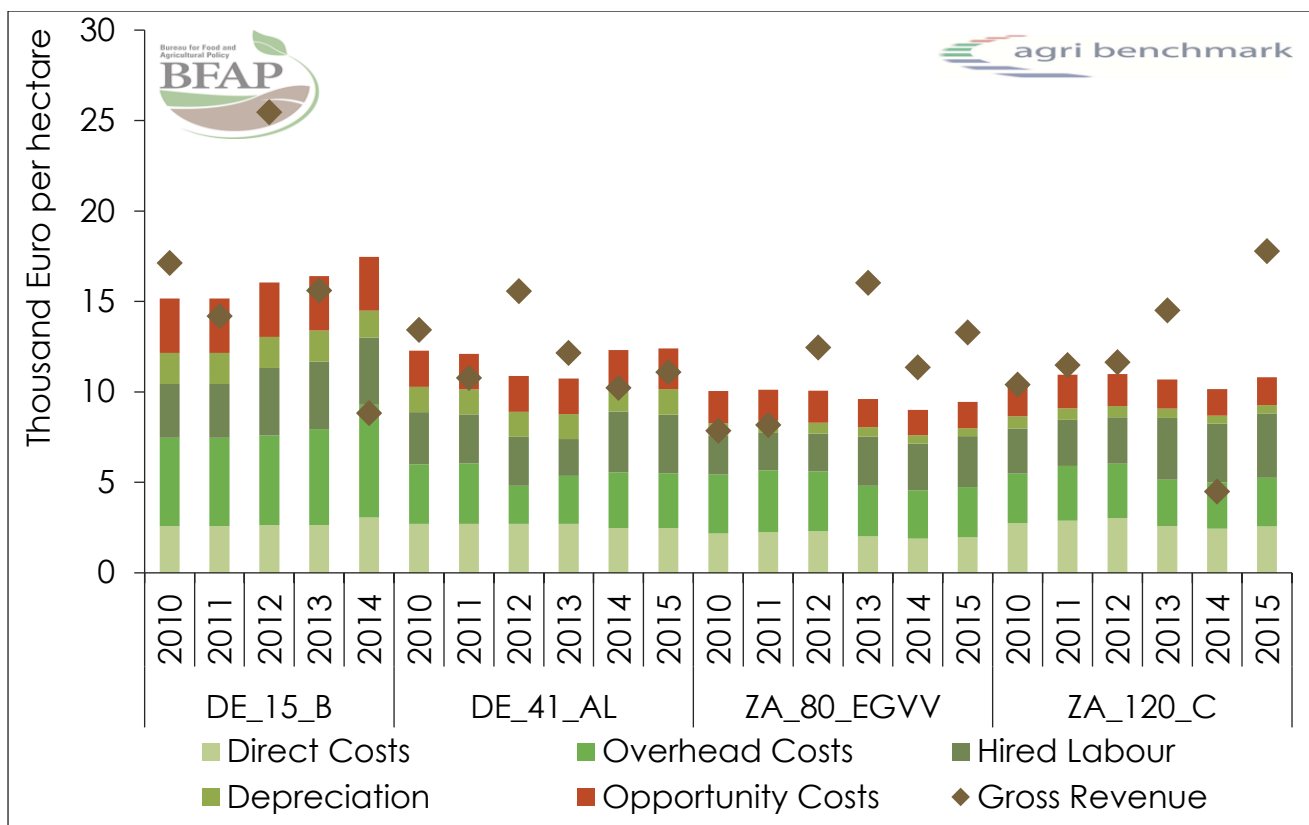


FIGURE 34: POME FRUIT: INTERNATIONAL COMPETITIVENESS

Source: BFAP & agri benchmark, 2017

Within the context of the document, the focus will assert to the following horticultural industries; wine, table grapes, citrus and pome fruit.

The Relative Trade Advantage (RTA<sup>11</sup>) is often applied as a proxy for competitive performance of agricultural industries, whilst profitability measures are applied as proxies for competitiveness of individual businesses and firms. Table 13 depicts the RTA ratings for South African horticultural industries from 2003 to 2016. The higher the RTA rating, the more competitive the industry is given this specific proxy. It is clear that 2007/08 economic stagnation impacted on the export performance of the listed industries, however from 2011 onwards the industries listed gained momentum. In particular, the citrus crops are prominent role-players, out-performing other horticultural export products.

TABLE 13 RELATIVE TRADE ADVANTAGE RATINGS FOR SA HORTICULTURAL INDUSTRIES (2003-2016)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Grapes	14.45	19.61	16.25	13.86	14.29	11.80	15.36	12.96	10.87	11.67	11.66	13.58	18.03	12.18
Avocado	7.84	12.84	8.75	7.64	8.26	4.67	4.18	4.86	3.46	5.23	2.30	5.67	6.05	6.10
Oranges	22.20	24.71	25.68	28.43	29.73	25.95	24.90	28.00	23.85	26.76	27.45	32.35	37.62	31.80
Apples	10.12	10.99	9.01	8.24	8.45	8.48	10.04	7.99	7.51	9.03	11.30	10.32	11.27	11.19
Pears	9.93	13.68	12.92	9.57	13.82	10.43	15.35	13.71	11.99	12.68	14.40	15.83	16.75	18.06
Soft Citrus	4.28	4.92	4.81	5.60	4.38	4.49	4.64	4.41	4.10	5.02	5.49	6.72	6.45	9.42
Grapefruit	23.66	36.09	42.43	26.83	29.04	24.22	26.12	23.75	26.79	22.89	32.20	27.79	24.06	30.35
Lemons & Limes	9.37	11.91	10.91	10.03	7.90	8.04	10.17	10.73	11.89	10.27	10.89	17.67	20.78	17.58
Bottled wine	6.51	6.89	7.22	5.77	5.79	5.77	6.50	5.36	3.81	3.77	4.12	4.34	4.46	4.15
Bulk wine	9.22	12.13	13.42	12.43	13.18	15.08	14.68	14.59	11.98	13.78	16.87	14.62	16.85	13.77

Source: Own calculation based on ITC (2018) data

<sup>11</sup> RTA is a measure of competitiveness: It calculates the ratio of a nation's export share of a commodity in the international market to the nation's export share of all other commodities.

These industries are stable, export orientated, net receivers of foreign currency, however primary producers are constantly faced with the price-cost-squeeze and unfavourable weather conditions as illustrated previously which impacts on the sustainability of sector as whole. Key to any agricultural industry is the stability of primary producers to maintain the functioning of the value chain.

### 3.5.1 Wine industry

The South African wine industry produced roughly 4% of global volumes in the previous season, with production volumes at 1.41 million ton which yielded 1.09 million litres of juice. The percentage earmarked for wine production is 83% of which 437 million litres is consumed locally and 429 million litres are exported. The wine grapes are produced on 95 775 ha, which is expected to decline in the 2018 season onwards as the impact of the drought and economic/financial position of real prices realised on farm are hindering the expansion/investment of new plantings.

According to wine industry stakeholders; VinPro and SAWIS, 289 151 employment opportunities are maintained by the industry. The Wine Industry Strategic Exercise envisages to expand the industry by focussing on increasing return on investment, establishing new markets, promoting wine tourism, increasing ethical accredited volumes, accelerate transformation, stimulating domestic market demand, decreasing the bulk relative to packaged wine ratio and maintaining favourable stock levels. The industry has shown good progress towards its strategic targets, however, continued collective focus is required to sustain the momentum to achieve the shift towards a market and value driven industry.

The remarkable year of 2013 was associated with record yields, exceptionally favourable climatic conditions, a relatively weak exchange rate (which supported exports), and less than average harvests from major European producers (BFAP Baseline, 2017). This resulted in an upsurge in exports to a record level of more than 500 million litres. The subsequent production seasons were associated with decreasing yields, a net loss in the replacement of vineyards which were aging, along with increasingly severe drought conditions. Going forward, stock levels are decreasing, virtually to a level equal to production, providing the opportunity to decrease the share of bulk exports to ensure increased value and appropriate market access to potential high value markets such as China and Africa. Given the ongoing drought conditions in the Western Cape and the tight water supplies for irrigation purposes, the competition for this scarce and critical resource among the wine industry and other horticultural industries will dominate the supply side going forward.

#### 3.5.1.1 Farm level situation: Production cost basis

The direct expenditure composition for wine grapes is illustrated in Figure 35 with the cost of permanent and seasonal labour denoted in Figure 36. Labour's contribution to total direct expenditure amounted 33% in 2012 and is projected to increase to 38% in 2019 as a result of the implementation of the minimum wage in 2018 and 2019. On a per hectare basis, it is projected that the cost of labour will increase by R9 280 per hectare from 2012 to 2019. If these figures are incorporated into a typical farm of 52 hectares, the annual farm labour bill will increase by nearly R500 000 (117%) from 2012 to 2019 (Table 14).

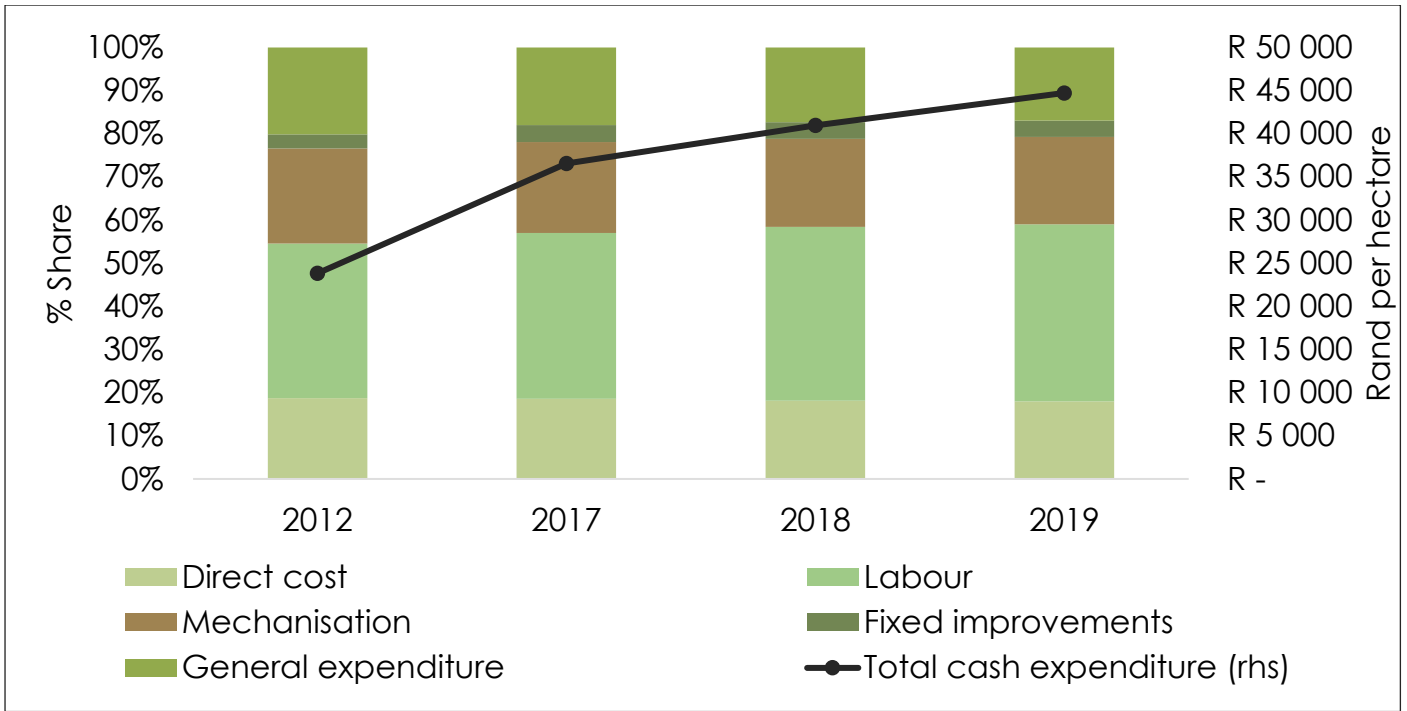


FIGURE 35: TOTAL CASH EXPENDITURE BREAKDOWN PER HA: WINE



FIGURE 36 LABOUR COST BREAKDOWN PER HA: WINE

**TABLE 14: TYPICAL WINE FARM CASH COST SETUP**

Typical farm: 52 ha	2012	2017	2018	2019
Labour	<b>R 412 932</b>	<b>R 689 083</b>	<b>R 805 945</b>	<b>R 895 495</b>
Increase from previous		<b>R 276 151</b>	<b>R 116 862</b>	<b>R 89 549</b>
<b>Permanent labour</b>	R 292 032	R 508 304	R 594 508	R 660 564
<b>Seasonal and contract labour</b>	R 120 900	R 180 779	R 211 437	R 234 931
Typical farm: 52 ha	2012	2017	2018	2019
<b>Direct cost</b>	R 215 800	R 332 822	R 363 050	R 392 374
Labour	<b>R 412 932</b>	<b>R 689 083</b>	<b>R 805 945</b>	<b>R 895 495</b>
<b>Mechanisation</b>	R 253 136	R 376 807	R 409 833	R 441 936
<b>Fixed improvements</b>	R 37 440	R 70 327	R 76 853	R 83 203
<b>General expenditure</b>	R 232 232	R 322 513	R 346 251	R 370 017
Total cash expenditure	<b>R 1 239 368</b>	<b>R 1 901 625</b>	<b>R 2 130 673</b>	<b>R 2 326 071</b>

### 3.5.1.2 Industry situation

If the figures of a typical wine farm are extrapolated to an industry average level, the increase in minimum wage translates to the fact that the wine industry (average hectares under production) has experienced an increase of R508.6 million from 2012 to 2017 in the cost of labour and that the industry is required to spend an additional R380 million over the next two seasons.

**TABLE 15 WINE INDUSTRY CASH COST SETUP**

Industry : 95 775 ha	2012	2017	2018	2019
Labour	<b>760 549 275</b>	<b>1 269 171 990</b>	<b>1 484 411 684</b>	<b>1 649 346 316</b>
Increase from previous		<b>508 622 715</b>	<b>215 239 694</b>	<b>164 934 632</b>
<b>Permanent labour</b>	537 872 400	936 208 287	1 094 980 453	1 216 644 947
<b>Seasonal and contract labour</b>	222 676 875	332 963 703	389 431 232	432 701 368
Industry : 95 775 ha	2012	2017	2018	2019
<b>Direct cost</b>	397 466 250	613 001 264	668 674 755	722 685 753
Labour	<b>760 549 275</b>	<b>1 269 171 990</b>	<b>1 484 411 684</b>	<b>1 649 346 316</b>
<b>Mechanisation</b>	466 232 700	694 012 507	754 841 810	813 969 305
<b>Fixed improvements</b>	68 958 000	129 529 308	141 549 219	153 246 184
<b>General expenditure</b>	427 731 150	594 012 375	637 734 462	681 507 799
Total cash expenditure	<b>2 120 937 375</b>	<b>3 299 727 445</b>	<b>3 687 211 930</b>	<b>4 020 755 356</b>

### 3.5.2 Table Grapes

The South African table grape industry has been steadily expanding hectares under production since 2008 from 14 011 in 2008 to 19 674 hectares in 2017. During the 2016/2017 production season more than 67.5 million 4.5kg equivalent cartons were exported, of which the majority is destined to European markets followed by the United Kingdom. The Far East, Middle East, Canada and Africa also showed an increase in demand for table grapes from South Africa. South Africa's global exports, based on 2016 figures is roughly 5.5%, indicating a 3% increase in value from 2012 to 2016.

Regarding overall employment in the industry, 8 339 permanent employment opportunities are maintained whilst during the peak, in produce preparation and harvesting, another 43 254 employees are employed on a seasonal basis (SATI, 2017).

### 3.5.2.1 Farm level situation: Production cost basis

Table grapes are regarded as a labour-intensive industry where the increase in the minimum wage in 2013 impacted heavily on the production costs as indicated in Figure 37. The implementation of the minimum wage in 2019 will entail that labour's contribution to direct expenditure will increase to 52%. The total labour cost per hectare is projected to increase from R83 716 to R189 422 per hectare from 2012 to 2019, an additional amount of R105 706 per hectare (Figure 38). In order to present the impact on a typical farm, Table 16 illustrates that the cost of labour will increase by R4.5 million over the period from 2012 to 2019. This translates to an increase of 126.3%. The associated increase in the cost of labour over the period from 2017 to 2018 and 2019 amounts to nearly R1.9 million.

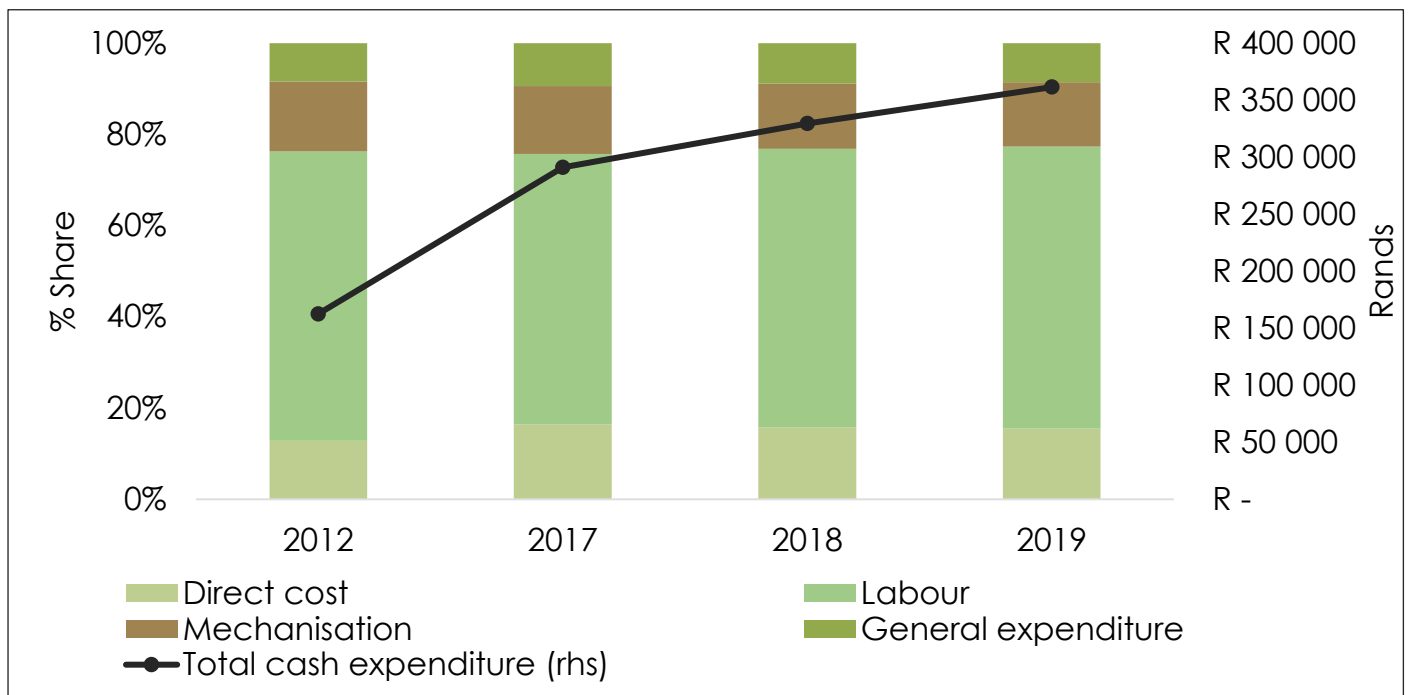


FIGURE 37 TOTAL CASH EXPENDITURE BREAKDOWN PER HA: TABLE GRAPES



FIGURE 38 LABOUR COST BREAKDOWN PER HA: TABLE GRAPES



**TABLE 16 TYPICAL TABLE GRAPE FARM CASH COST SETUP**

Typical farm: 43 ha	2012	2017	2018	2019
Labour	<b>R 3 599 790</b>	<b>R 6 267 680</b>	<b>R 7 330 620</b>	<b>R 8 145 133</b>
Increase from previous		<b>R 2 667 890</b>	<b>R 1 062 940</b>	<b>R 814 513</b>
<b>Permanent labour</b>	R 951 468	R 1 430 180	R 1 672 725	R 1 858 583
<b>Seasonal and contract labour</b>	R 2 648 322	R 4 837 500	R 5 657 895	R 6 286 550
Typical farm: 43 ha	2012	2017	2018	2019
<b>Direct cost</b>	R 729 452	R 1 735 136	R 1 891 793	R 2 043 770
Labour	<b>R 3 599 790</b>	<b>R 6 267 680</b>	<b>R 7 330 620</b>	<b>R 8 145 133</b>
<b>Mechanisation</b>	R 867 740	R 1 574 858	R 1 714 420	R 1 850 107
<b>General expenditure</b>	R 478 203	R 990 235	R 1 060 083	R 1 130 417
Total cash expenditure	<b>R 6 993 026</b>	<b>R 12 513 440</b>	<b>R 14 170 221</b>	<b>R 15 542 812</b>

### 3.5.2.2 Industry situation

The table grape industry, comprising of 19 674 ha will be required to absorb an additional R859 million for the cost of labour from 2017 to 2019 (Table 17). Total cash expenditure in 2017 for table grapes amounted R291 010 per hectare including labour, mechanisation and general expenditure. To put the increase in the cost of labour into perspective while considering total direct expenditure in 2017, an additional 2 952 hectares of table grapes could have been maintained in the industry.

**TABLE 17 TABLE GRAPE INDUSTRY CASH COST SETUP**

Industry : 19 674 ha	2012	2017	2018	2019
Labour	<b>1 647 029 417</b>	<b>2 867 682 240</b>	<b>3 354 014 316</b>	<b>3 726 682 573</b>
Increase from previous		<b>1 220 652 823</b>	<b>486 332 076</b>	<b>372 668 257</b>
<b>Permanent labour</b>	435 329 881	654 357 240	765 330 105	850 366 784
<b>Seasonal and contract labour</b>	1 211 699 536	2 213 325 000	2 588 684 211	2 876 315 789
Industry : 19 674 ha	2012	2017	2018	2019
<b>Direct cost</b>	333 749 736	793 885 248	865 561 170	935 096 122
Labour	<b>1 647 029 417</b>	<b>2 867 682 240</b>	<b>3 354 014 316</b>	<b>3 726 682 573</b>
<b>Mechanisation</b>	397 021 320	720 552 567	784 406 804	846 488 576
<b>General expenditure</b>	218 794 554	453 067 136	485 024 811	517 205 276
Total cash expenditure	<b>2 596 595 027</b>	<b>4 835 187 190</b>	<b>5 489 007 100</b>	<b>6 025 472 547</b>

### 3.5.3 Citrus

The South African Citrus industry consist of four broader categories, namely; oranges, soft citrus, lemons & limes and grapefruit. According to CGA (2017), 70 055 hectares are established throughout South Africa, of which the majority is established in Limpopo province (30 292 ha). Over the past few seasons focus shifted to expansions in soft citrus and lemons & limes as prices serve as proxies for investments. Most new plantings took place in the Eastern Cape, Western Cape and Limpopo. Note, that the Western Cape and some areas in the Eastern Cape is free of both Citrus greening disease and Citrus Blackspot.

Export volumes have doubled over the past 30 years from 38 million cartons to more than 98 million in 2016. This was driven by market development along with brand awareness and sustained levels of consistent quality products. Exports account for 76% of production which constitutes 1 412 981 pallets (estimated 1 238 kg fruit per pallet). Europe accounted for 35% of exports, followed by the Middle East (21%) and then South-East Asia (14%). South Africa is the 10<sup>th</sup> largest producer and the second largest exporter of citrus.

Prospects for growth and development in the citrus industry depend on availability of water and supplying market demand. Other challenges in the industry relates to rising cost of production, maintenance and

expansion of trade agreements, sanitary and phytosanitary issues in specific markets, legislative requirements such as labour, water and environmental laws and global standards of agricultural production requirements along with administrative burdens. Added cost as a result of these challenges often prevent smaller scale producers to enter the market.

### 3.5.3.1 Farm level situation: Production cost basis

When analysing Figure 39, along with Figure 40 it is evident that the citrus industry in general, shifted towards the utilisation of a greater share of seasonal labour from 2012 to 2017. Keep in mind that when citrus is produced on the same farm/production unit as table grapes, the opposite may be true, due to the fact that table grapes and citrus are counter seasonal supplementary to one another. On farm resources are utilised more even in this specific situation. The largest share of the citrus industry's labour force is used in the harvesting period, where the labour cost component, on average, accounts for 28% of the cash cost structure (30% estimated for 2019). Labour cost is projected to increase from R15 337 per hectare in 2012 to nearly R29 000 hectare in 2019 (Figure 40), an increase of 88.7%. For a typical farm producing 67 hectares of citrus, the increase in the total farm labour bill will amount to R253 022 in 2018 and an additional R193 886 in 2019 (Table 18).

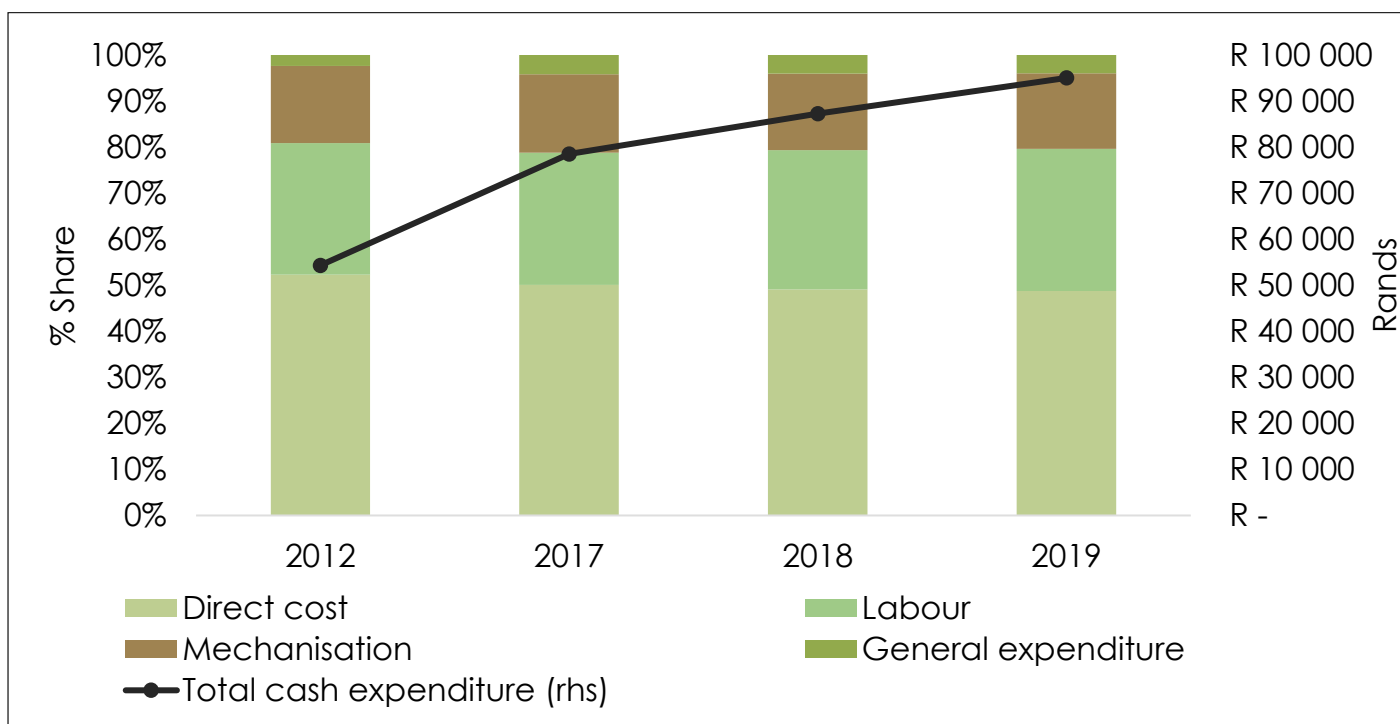


FIGURE 39 TOTAL CASH EXPENDITURE BREAKDOWN PER HA: CITRUS



FIGURE 40 LABOUR COST BREAKDOWN PER HA: CITRUS

TABLE 18 TYPICAL CITRUS FARM CASH COST SETUP

Typical farm: 67 ha	2012	2017	2018	2019
<b>Labour</b>	<b>R 1 027 579</b>	<b>R 1 491 956</b>	<b>R 1 744 978</b>	<b>R 1 938 864</b>
Increase from previous		<b>R 464 377</b>	<b>R 253 022</b>	<b>R 193 886</b>
<b>Permanent labour</b>	R 348 132	R 188 002	R 219 885	R 244 317
<b>Seasonal and contract labour</b>	R 679 447	R 1 303 954	R 1 525 092	R 1 694 547
Typical farm: 67 ha	2012	2017	2018	2019
<b>Direct cost</b>	R 1 878 761	R 2 599 734	R 2 836 191	R 3 065 588
<b>Labour</b>	<b>R 1 027 579</b>	<b>R 1 491 956</b>	<b>R 1 744 978</b>	<b>R 1 938 864</b>
<b>Mechanisation</b>	R 601 721	R 884 735	R 959 166	R 1 031 453
<b>General expenditure</b>	R 84 621	R 215 673	R 233 304	R 250 722
<b>Total cash expenditure</b>	<b>R 3 640 255</b>	<b>R 5 259 366</b>	<b>R 5 847 150</b>	<b>R 6 366 212</b>

### 3.5.3.2 Industry situation

Table 19 indicates the citrus industry situation, given the increase in the minimum wage. It is projected that the industry will have to absorb an additional labour cost of R467 million in 2018 and 2019, totalling R2.03 billion in 2019 for permanent and seasonal labourers.

**TABLE 19 CITRUS INDUSTRY CASH COST SETUP**

Industry : 70 055 ha	2012	2017	2018	2019
<b>Labour</b>	<b>1 074 433 535</b>	<b>1 559 984 740</b>	<b>1 824 543 556</b>	<b>2 027 270 617</b>
Increase from previous		<b>485 551 205</b>	<b>264 558 816</b>	<b>202 727 062</b>
<b>Permanent labour</b>	364 005 780	196 574 330	229 911 497	255 457 219
<b>Seasonal and contract labour</b>	710 427 755	1 363 410 410	1 594 632 058	1 771 813 398
Industry : 70 055 ha	2012	2017	2018	2019
<b>Direct cost</b>	1 964 426 449	2 718 274 110	2 965 512 956	3 205 369 416
<b>Labour</b>	<b>1 074 433 535</b>	<b>1 559 984 740</b>	<b>1 824 543 556</b>	<b>2 027 270 617</b>
<b>Mechanisation</b>	629 157 804	925 076 275	1 002 901 364	1 078 484 043
<b>General expenditure</b>	88 479 465	225 507 045	243 942 312	262 154 307
Total cash expenditure	<b>3 756 497 253</b>	<b>5 428 842 170</b>	<b>6 036 900 189</b>	<b>6 573 278 383</b>

### 3.5.4 Pome fruit

Pome fruit consist of three product types, namely apples, pears and quinces of which the latter is insignificant in the South African economy. From an employment perspective this industry employs roughly 40 809 (permanent equivalent) employees.

According to HORTGRO (2017) an annual turnover of R9.51 billion was realised for the 2016 season, of which 90% of the income is generated by fresh sales. The most prominent export markets for pears is Europe claiming 43% of exports followed by the Far East and Asia which imported 29% of South African apple exports. Regarding global apple production, South Africa ranks 16<sup>th</sup> and pears 7<sup>th</sup>. However, in terms of exports, the apple industry ranks 7<sup>th</sup> with 455 000 tons of produce exported in 2016. For pears the ranking is even higher, 4<sup>th</sup>, with 304 000 ton of produce being exported in 2016.

Following the exceptional 2013 pome fruit crop, weather conditions deteriorated. Hailstorms affected large parts of major production regions in 2014, affecting the yield and quality of fruit. Harvest bearing spores of the 2015 crop were also affected. Since then, prolonged periods with limited water for irrigation has been a common problem facing the industry (BFAP Baseline, 2017). The depreciation in the Rand against major currency in 2016 has favoured returns for farm business. However, numerous challenges threatens the competitiveness of the industry which is driven by water restrictions as a result of the prolonged drought in the Western Cape and high temperatures affecting production output and quality. Prices remain under pressure as a result of ample global supply and limited demand.

#### 3.5.4.1 Farm level situation: Production cost basis

The total cash expenditure for apple and pear production is provided in Figure 41 and Figure 43 while the labour cost composition is illustrated in Figure 42 and Figure 44. In 2012, permanent and seasonal labourers accounted for 39% of total direct expenditure for apples with a per hectare cost of R32 916. Towards 2019, it is projected that labour's share will increase to 48% of direct expenditure and could total R89 608 per hectare, an increase of R56 692 per hectare. Similarly for pears, labour's share in direct expenditure is projected to increase to 48% in 2019 (from 41% in 2012). Labour cost per hectare is projected to increase by R53 238 per hectare over the same period.

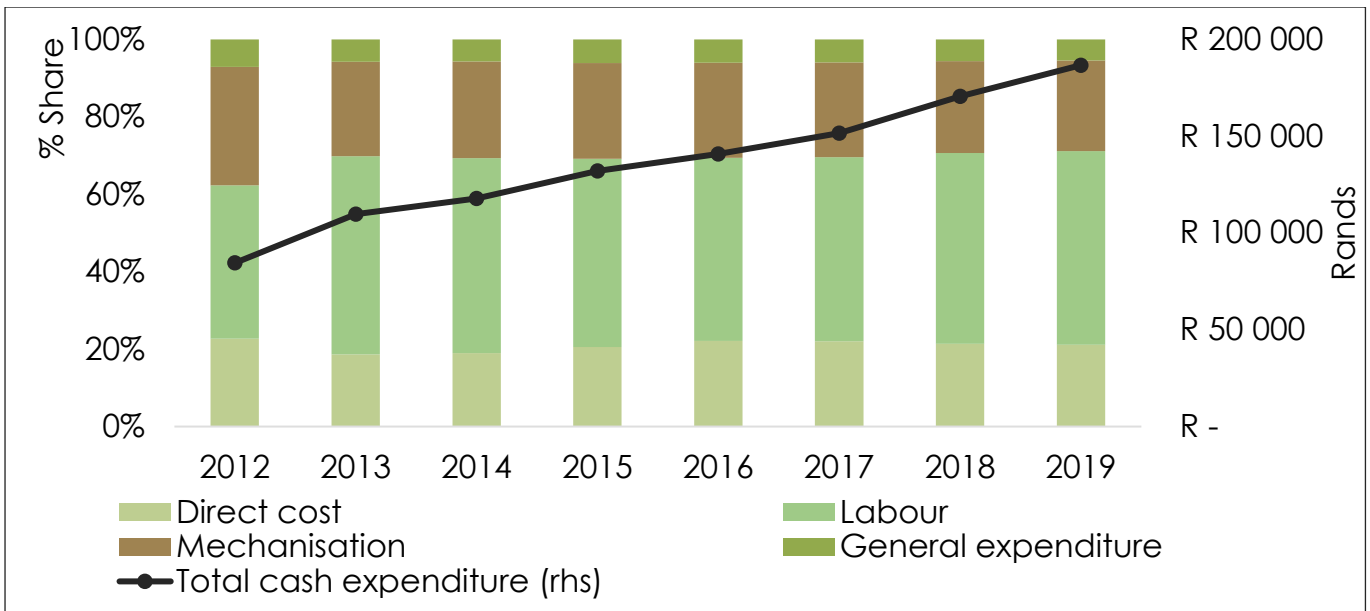


FIGURE 41 TOTAL CASH EXPENDITURE BREAKDOWN PER HA: APPLES



FIGURE 42 LABOUR COST PER HA: APPLES

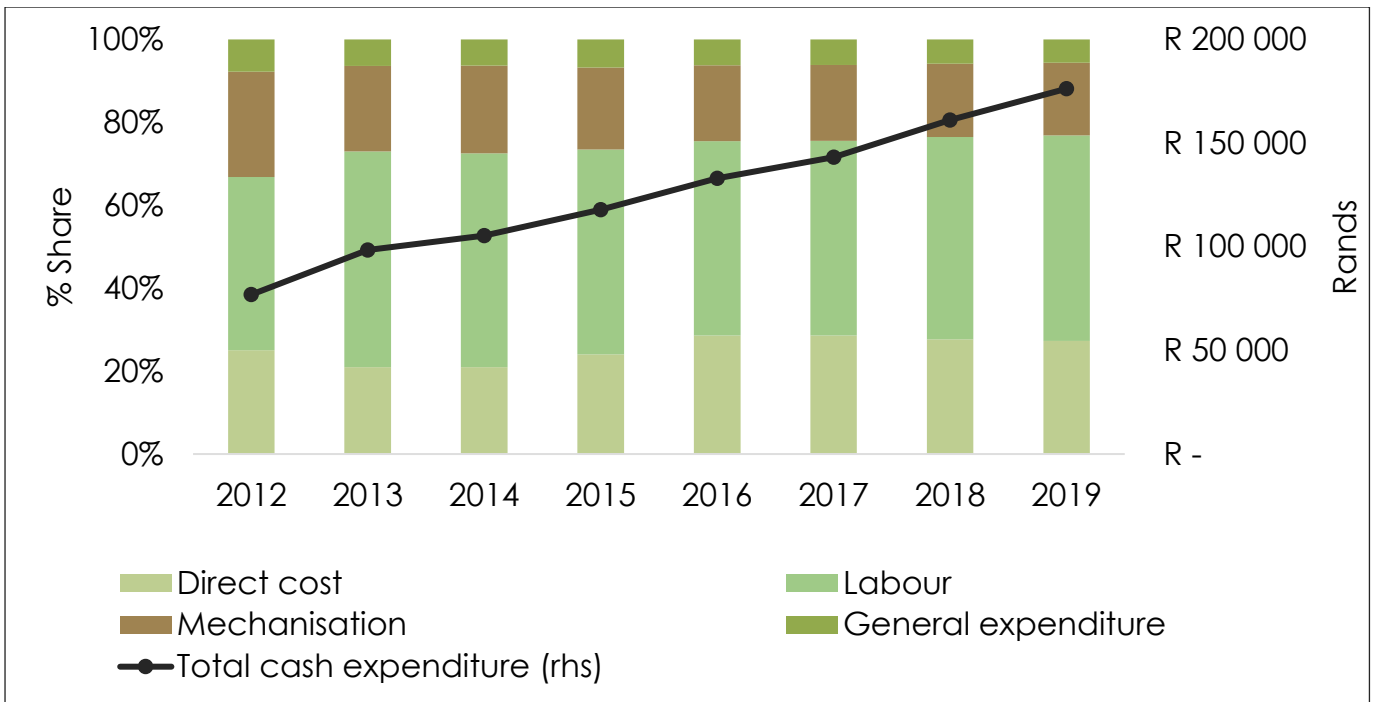


FIGURE 43 TOTAL CASH EXPENDITURE BREAKDOWN PER HA: PEARS

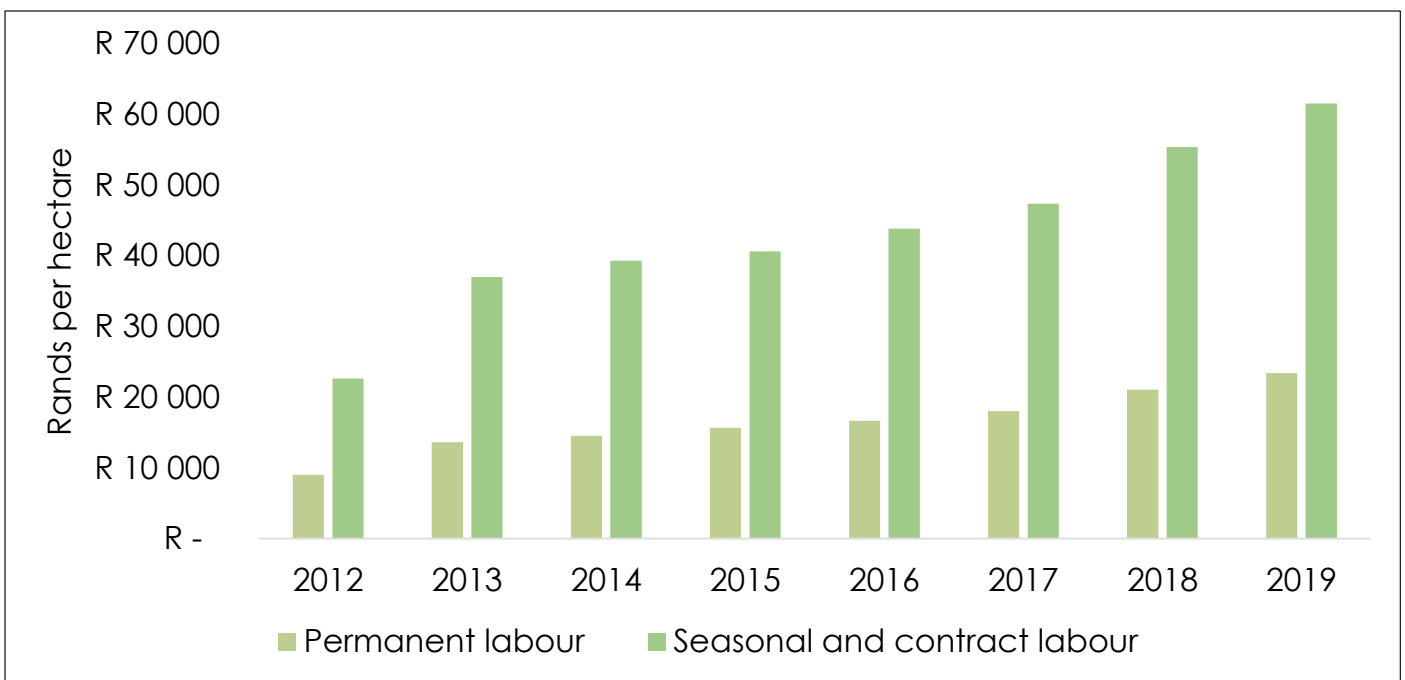


FIGURE 44 LABOUR COST PER HA: PEARS

The cash expenditure for the typical farm is summarised in Table 20. The total farm labour bill is projected to increase from R10.23 million in 2017 to R13.30 million in 2019.

**TABLE 20 TYPICAL POME FRUIT FARM (FINSIM) CASH COST SETUP**

Typical farm: 150 ha	2012	2017	2018	2019
Labour	<b>R 4 899 630</b>	<b>R 10 234 253</b>	<b>R 11 969 886</b>	<b>R 13 299 874</b>
Increase from previous		<b>R 5 334 623</b>	<b>R 1 735 634</b>	<b>R 1 329 987</b>
<b>Permanent labour</b>	R 1 353 150	R 2 701 026	R 3 159 095	R 3 510 105
<b>Seasonal and contract labour</b>	R 3 546 480	R 7 533 227	R 8 810 792	R 9 789 768
Typical farm: 150 ha	2012	2017	2018	2019
<b>Direct cost</b>	R 2 828 250	R 5 031 243	R 5 491 274	R 5 937 573
Labour	<b>R 4 899 630</b>	<b>R 10 234 253</b>	<b>R 11 969 886</b>	<b>R 13 299 874</b>
<b>Mechanisation</b>	R 3 625 230	R 5 033 373	R 5 488 236	R 5 930 648
<b>General expenditure</b>	R 885 000	R 1 284 852	R 1 367 833	R 1 452 456
Total cash expenditure	<b>R 12 450 480</b>	<b>R 22 489 850</b>	<b>R 25 307 446</b>	<b>R 27 692 594</b>

### 3.5.4.2 Industry situation

Table 21 provides a summary of the pome fruit industry implication as a result of the minimum wages to be implemented in 2018 and 2019. It is projected that the total cost of labour for the industry will increase by R740 million from 2017 to 2019. Total labour expenditure in this scenario will exceed R3.2 billion in 2019, approximately R2.03 billion more compared to the same figure in 2012.

**TABLE 21 POME FRUIT INDUSTRY CASH COST SETUP**

Industry: 36 491 ha	2012	2017	2018	2019
Labour	<b>1 185 678 495</b>	<b>2 471 657 224</b>	<b>2 890 827 163</b>	<b>3 212 030 181</b>
Increase from previous		<b>1 285 978 729</b>	<b>419 169 939</b>	<b>321 203 018</b>
<b>Permanent labour</b>	329 185 311	657 087 598	768 523 507	853 915 008
<b>Seasonal and contract labour</b>	856 493 184	1 814 569 626	2 122 303 656	2 358 115 173
Industry: 36 491 ha	2012	2017	2018	2019
<b>Direct cost</b>	688 959 253	1 262 359 976	1 377 545 814	1 489 292 817
Labour	<b>1 185 678 495</b>	<b>2 471 657 224</b>	<b>2 890 827 163</b>	<b>3 212 030 181</b>
<b>Mechanisation</b>	851 419 367	1 173 654 274	1 279 743 109	1 382 928 293
<b>General expenditure</b>	215 296 900	312 570 136	332 757 201	353 343 814
Total cash expenditure	<b>2 941 354 015</b>	<b>5 220 241 611</b>	<b>5 880 873 287</b>	<b>6 437 595 105</b>

## 3.6 Conclusions

In light of current realities, the decision-making environment of both small- and commercial producers becomes even more important in order to remain profitable and sustainable in the long term. Producers need to adapt on a continuous basis, allowing for volatility and external factors influencing their farming operations. Given the diversity of agriculture not only at national level, but also in various climatic regions, there does not exist a blue print or a one size fits all approach to define decision-making and more importantly, profitability and sustainability over the medium and long term. Strategies will depend on the location of farming operations as well as the climatic conditions and natural resource endowments in the respective areas. Furthermore, it will depend on the type of farming industry and producer activities, which is influenced by the type of enterprise, type of production system, type of labour and management organisation and capital approach. These are only a few that can be mentioned, but the reality is that the interrelationship between all these factors cause a challenging environment to compete in with little room for error.

Thus, it is important to not consider an input cost shock, such as the minimum wage and electricity tariff increases, in isolation, but as part of a system of events that influences the decision-making, the profitability and sustainability of an industry. Whether a farming business will be capable of absorbing the increase in the cost of wages will vary across industries, however, the magnitude of the increase simultaneously with a subdued outlook on commodity prices for various industries will affect the financial sustainability of various

producers severely. Several scenarios could prevail following the implementation of the minimum wage. Given the financial position of the farm, a producer could decide to cut back on production, shift towards alternative crops, mechanise certain labour-intensive operations, invest in labour-savings technology that could improve efficiency or absorb the cost. In many of these scenarios, labour shedding will occur which will have a negative effect in particularly rural areas and will most likely impact seasonal labourers the most. The results indicated that irrespective of the industry covered in this report, the impact of the legislative minimum wage will result in production cost to increase significantly, for many cases shifting the net farm income to a deficit.



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