AGRICULTURE IN SOUTH AFRICA IN THE DEMOCRATIC ERA, 1994-2024

A statistical compendium

Compiled by
Bureau for Food and Agricultural Policy (BFAP)

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Agriculture in South Africa in the democratic era: 1994-2024
A statistical compendium

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Executive Summary

This report has two main purposes. The first is to reflect on what has happened in South African agriculture over the past three decades, a period that started with the new democracy in South Africa, a time when sweeping changes were possible, and which were actually effected in South African agriculture. The second is to identify the most useful (and accurate) data sources required for such an exercise and make them available on request for further research.

The report is divided into four main sections. The first explains the macroeconomic context within which agricultural policy was carried out. Here, the defining feature is an economy that grew rapidly in the earlier part of the period under review but has been stagnant for long periods, which has constrained the markets into which the sector sells its unprocessed and processed products. This lack of growth in domestic expenditure has meant that the agricultural sector had to look abroad for markets, which it has done quite successfully.

The second part of our report tells the story of agricultural production, consumption, and trade, covering all the major commodities. Here, we see how the sector's profitability has been threatened by rapidly rising input costs of labour, chemicals in the form of animal and plant health remedies and fertilisers, etc., fuel prices and machines. Most of these are imported from elsewhere, constraining the sector's net foreign exchange earnings. We also see the results of policy failure in almost all of the resource sectors have placed additional burdens on commercial farming while at the same time failing to address the dualism in the sector, and note how the value chains that take products from the farm gate to the consumer have deepened and become more knowledge and energy-intensive.

Agricultural production consists of livestock field crops and horticultural products. We show how livestock production, traditionally the largest subsector in our semi-arid country, has shifted from extensive (beef and mutton/lamb on rangeland) to intensive (poultry, dairy, pigs) commodities as shifts in consumer preferences were followed by farmers. This has been enabled by the successes in the field crop subsector. Maize yields have been on their way to quadrupling since the early 1990s, and the country has become self-sufficient in soybeans to the benefit of intensive livestock production, while improvements in white maize production, the country's staple crop, have benefited lower-income consumers.
Finally, the horticulture subsector has shown the importance of access to irrigation water and infrastructure to output, but also to the stabilisation of output. South African producers of fresh produce benefit from our zero-tariff access to the UK and EU markets, from our counter-seasonal

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access to markets to the fact that we are largely in the same time zones as our traditional markets. It is fair to say that fruit growers across the entire spectrum of fruit represent the most successful subsector in South African agriculture. This achievement has been supported by a rapidly growing tree nut sector, as well as a range of speciality berry crops.

The third part of the report addresses the policies (macroeconomic as well as sector policies) that have been formulated to address the many dichotomies between the prospects of white and black farmers, as well as the instruments (laws, institutions, etc.) used to implement these policies. This story regarding agricultural policy implementation is largely bleak and reflects the general consensus that, while we as a country are adept at policy formulation, we fail at implementation.

In the final section, we briefly look at the outcomes of the changes that have occurred over these past three decades. The rationale behind the removal of support to commercial farmers always had two imperatives in mind: it would free markets, and it would lower land prices to make access to farming more affordable to black farmers, but only if they were simultaneously supported by the state. The first of these was done to the benefit of commercial farmers, farm workers and the economy as a whole. The second was not done properly. A wide range of plans and programmes were thought out and, even where it was obvious that the problems lay with implementation, were replaced by more plans and programmes. These have invariably been ex-post, piecemeal and unsuccessful. While commercial farming has become more sustainable, agile and resilient over time, this may turn out to be short-lived unless the state succeeds in addressing the dualism that plagues the sector due to the heavy hand of past ideologies, policies, and practices.

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Introduction

South Africa's agricultural sector was exposed to heavy government intervention in the period leading up to the first democratic elections in 1994, mainly in the form of statutory market interventions and direct and indirect support to producers. These measures were removed in a process that started in the 1980s, but that accelerated after the elections and was completed by the late 1990s. This process of deregulation and liberalisation resulted in a sector that was exposed to global market forces for the first time in decades.

Now, 30 years later, we would like to know how these momentous changes affected the agricultural landscape within which farmers, processors, traders, etc., make decisions. What were the main trends in the sector? What has changed? What were the key drivers of change? How did the composition of agricultural output and input use, as well as exports and imports, change over the 30-year period? Do we see more capital deployed in agriculture and less labour employed? Is the sector now more efficient than before 1994?

To answer these questions, we use official data sources from the Department of Agriculture and related state institutions, as well as long-term time series of data collected by BFAP and the BER in the course of their work over many decades. We present the facts about the agricultural industry in what we hope is an easily understandable format. We also make the data that we used freely available for the use of our readers. This is critically important to ensure that the debate about the future direction of the sector is well-informed.

In the next section, we describe the macroeconomic context within which the sector operated over the three decades under review. The main conclusion is that the South African economy performed sub-optimally for a significant part of the period, with stagnant or declining per capita income placing a constraint on purchasing power and, hence, food affordability. This is followed by an analysis of the performance of the sector as well as its component subsectors and then a discussion of the main macroeconomic and sector policies that influenced these outcomes. We end this document with a brief discussion of the outcomes of these changes.

The Macroeconomic Context

South Africa's economy was in trouble in the lead-up to the democratic elections of 1994. Per capita GDP declined throughout the 1980s (Figure 1), inflation was still in double digits in 1992, and the debt to GDP ratio had reached 44% in 1994 (Figure 2) and the stock of debt as a share of government expenditure increased from 130% in 1990 to 183% in 1994 (Figure 3). As background, four events between 1973 and 1976 created a security crisis in South Africa: the strikes by black trade unions in the Durban region in 1973; the OPEC oil crisis of 1973 which was accompanied by the Yom Kippur war; the coup d'etat in Lisbon in April 1974 followed by independence for Angola and Mozambique in 1975, and accompanied by South Africa's invasion of Angola during 1975; and the Soweto unrest of June 1976. The South African government of the time reacted by ushering in the "security state", which resulted in a doubling of the Defence budget from 2.4% of GDP in 1971/2 to 4.8% in 1977/78 while the budget of the Department of Agriculture went from 1.5% to only 0.6% of GDP over the same period.

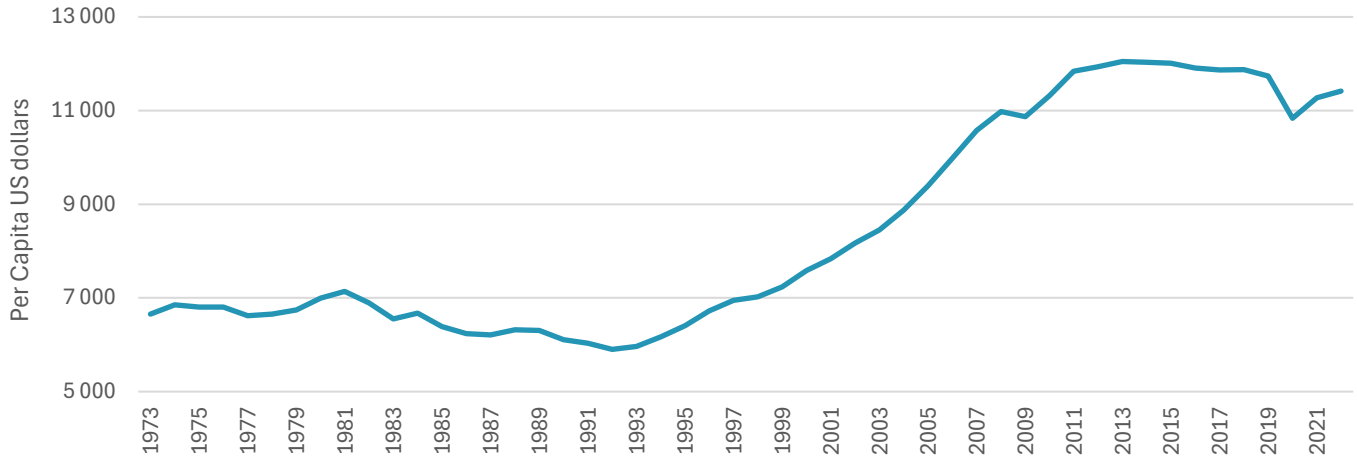

FIGURE 1: SOUTH AFRICAN GDP PER CAPITA IN US 2011 DOLLARS[3], 1973 - 2022

Source: Bolt and Van Zanden, 2023

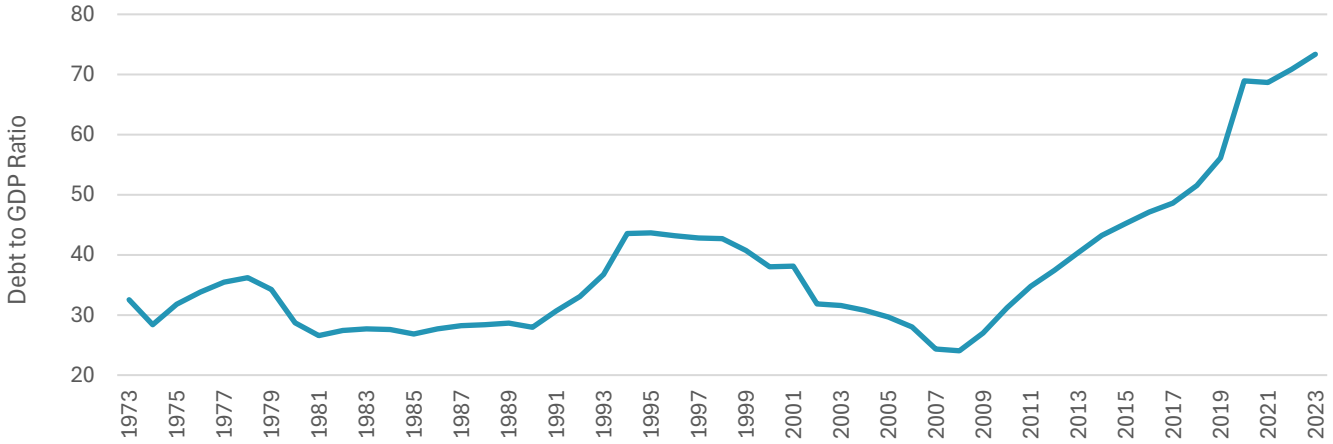

FIGURE 2: THE DEBT TO GDP RATIO, 1973-2023

Source: SARB, 2024 & BER, 2024

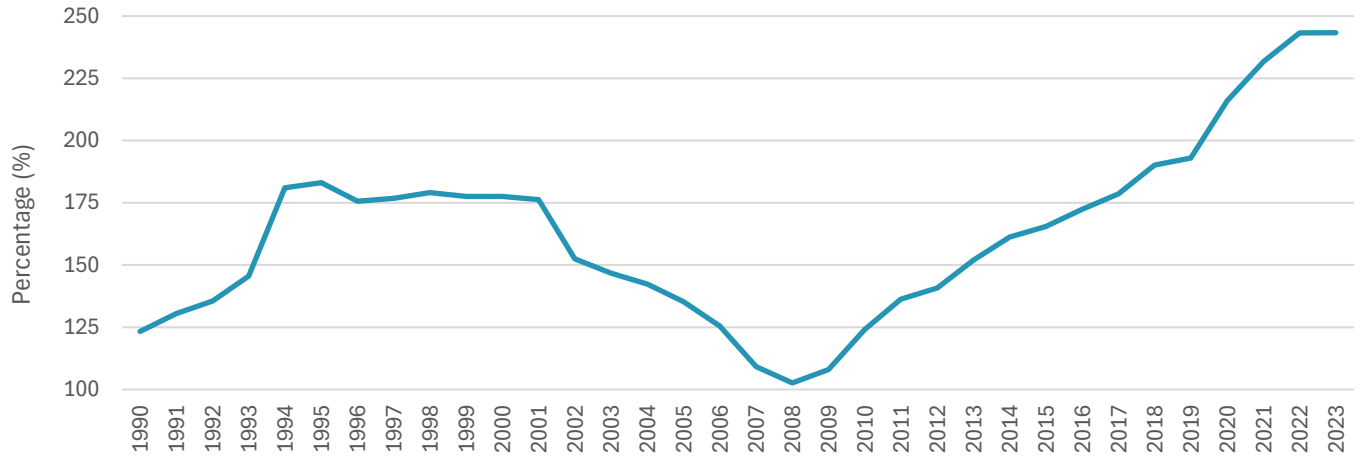

FIGURE 3: DEBT AS A SHARE OF GOVERNMENT EXPENDITURE, 1990-2023

Source: SARB, 2024

[3] *Expressed in international $ at 2011 prices, at purchasing power parity*

After 1992, South Africa's GDP per capita more than doubled to reach its highest point in 2013 (Figure 1), after which the full effects of state capture started to reflect in the macroeconomic statistics. While the debt to GDP ratio declined through the Mandela and Mbeki administrations, reaching 24% in 2008, it exploded to 73% in 2023, reflecting the long-term damage caused by state capture (Figure 2). During this time, total government debt increased from 103% of government expenditure to 243% in 2023.

Growth in the South African agricultural sector post-1994 was largely shaped by the democratically elected government with its new fiscal, monetary, trade and development priorities. A range of more sector-specific policies and programmes also provided further direction to the agricultural growth trajectory and structural change in the sector. These macroeconomic and sector policies are discussed in a later section of this document: here, we turn to the performance of the agricultural sector during this period.

Agriculture's Performance

Production Performance

The simplest and most widely available production performance metric is looking at the Gross Value Added (GVA) of the agricultural sector. Figure 4 shows the contribution of the agricultural, forestry and fisheries sectors[4] to the economy in real terms since 1993. Agriculture's total output more than doubled over the period, but its share declined from above 2.5% in 1993 to well below 2% in the late 2000s in a relatively rapidly growing economy before returning to 2.7% in 2023. That the sectoral contribution of agriculture ended roughly at the same share compared to 1993 presents an interesting dilemma. In an economy undergoing industrialisation, one would typically expect agriculture's share to decline over time as other sectors grow faster and resources are pulled off the farm, where new (mainly urban) economic opportunities emerge in a process referred to as agricultural transformation. Therefore, the South African agricultural sector seems to have reversed this trend over the past decade, a reflection of the resilience of the sector in the face of the many challenges it faces, combined with a generally stagnant economy, as is illustrated in Table 1, which provides the annual real GVA growth rates of agriculture in 5-year periods from 1993 to 2023. Initially, the South African economy's growth outperformed agriculture by growing consistently faster than agriculture until 2013, after which agricultural growth was higher, and by some margin. Agriculture's strong performance in the past decade also meant that, on average, it outperformed all other non-agricultural sectors combined in the democratic era.

TABLE 1: REAL ANNUAL GDP GROWTH RATES

Sector	1993-1998	1998-2003	2003-2008	2008-2013	2013-2018	2018-2023	30-Year average
Agriculture	0.5	2.9	3.8	1.2	3.9	2.4	2.44
Rest of the economy excluding agriculture	2.7	3.4	4.8	1.9	1.3	0.3	2.36

Source: StatsSA (2024)

[4] *Agriculture makes up more than 90% of this total. Due to the nature of available data coverage, this document uses commercial agricultural enterprises that are VAT-registered and operate in the formal economy as basis.*

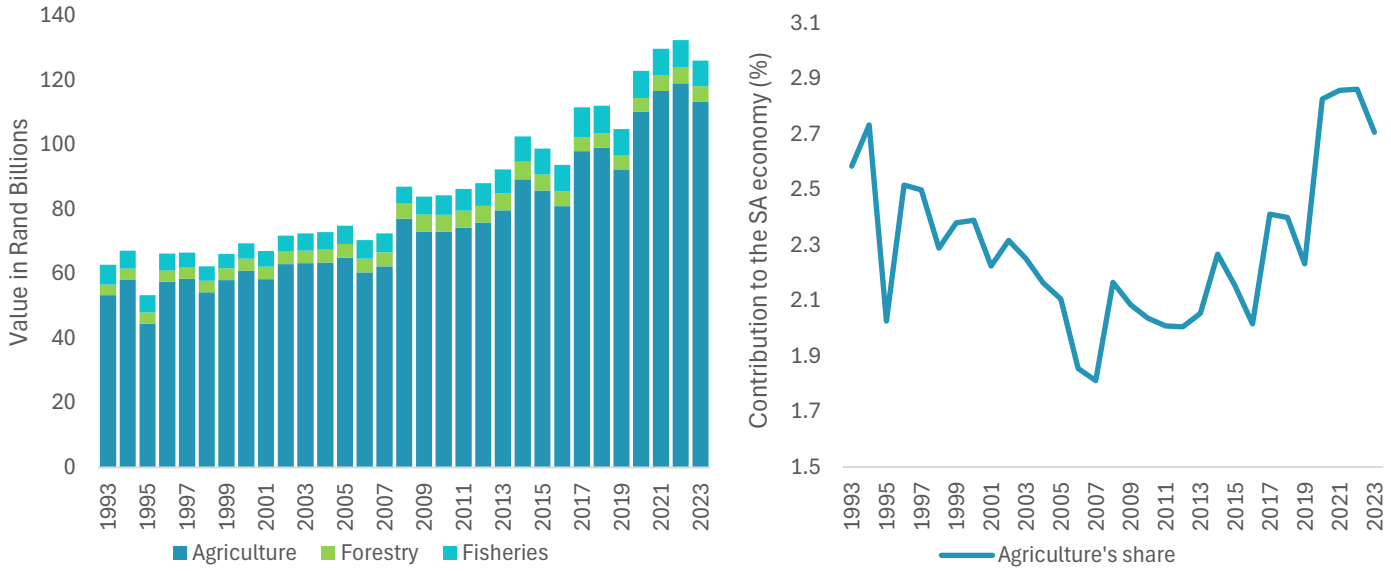

FIGURE 4: AGRICULTURE'S GROSS VALUE ADDED AND CONTRIBUTION TO THE ECONOMY

Source: StatsSA (2024)

Unpacking agriculture's economic performance over the past 30 years requires detailed analytics, which is not the aim of this document. Rather, by considering macro trends and the major factors impacting agriculture and its sub-sectors over the past 30-year journey, we highlight only a few key drivers of change. Figure 5 provides a representation of the complexity and dynamism at play when analysing agricultural industries and the various indicators involved in shaping value added over time, where value added is calculated by taking gross farm income minus the intermediate expenditure used as inputs in the production process. This seems fairly simple, yet agriculture has more than 32 different industries within the wider subsector split of field crops, horticulture and livestock, each having individual drivers of change that impact either income (price x quantity of output) and the intensity of use of inputs (price x quantity of inputs).

Figure 5 shows the major drivers of change. For instance, the quantity of a particular field crop supplied depends on several dynamic factors, such as the decision by farmers on how much area to plant and the yield realised once plantings have been made. The decision on area planted is driven by incentives such as access to credit, expectations of the future (including past and future weather conditions), general economic conditions, and policy decisions affecting farmers' investment strategies. Yields are also a function of the actual weather, climate changes over time, technological advances, access to inputs, and farm management. If all these conditions are favourable, agriculture will produce more quantities of products over time.

Farm income is also impacted by the prevailing market prices. This depends on a combination of local and international supply and demand conditions and policy decisions. Gross farm income can grow in real terms without any increases in the quantities produced if prices increase, or it can grow faster if prices and quantities increase simultaneously. The last ingredient to sustain value-added growth means the inputs used by farmers must translate into sufficient income growth above the input cost. Again, there are a host of somewhat unrelated market dynamics that affect both the quantities and prices of intermediate goods. Therein lies the main synthesis of this review of agriculture in the past three decades; to perform well, the preconditions are continued productivity gains, a supportive demand base (whether local or international) and an enabling policy and infrastructure environment.

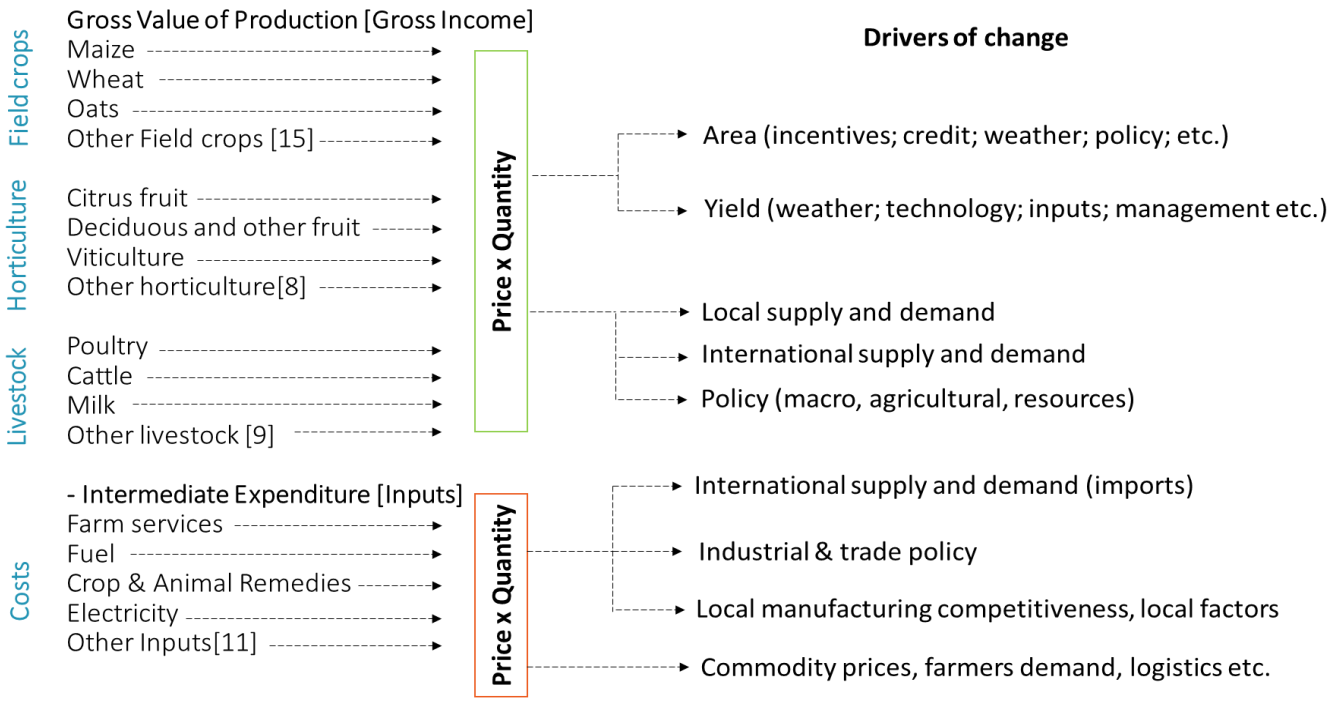

FIGURE 5: FACTORS AFFECTING THE AGGREGATE PERFORMANCE OF AGRICULTURE
Source: Own Compilation (2024)

Figure 6 depicts the different components referred to in the previous figure in actual values and compares agriculture value added between 1993 and 2023 adjusted for inflation. Over the past 30 years, gross farm income increased by a factor of 2.6 through a combination of increased quantities produced and producing higher value products. Farm costs over the same period increased at a faster pace, by 3.3 times from 1993. This clearly illustrates what is often referred to as the cost-price squeeze in which farm income typically grows slower than the spending on inputs, eroding farmer's margins without counteractive productivity increases. The result was an increase of 2.1-fold in the value added. Over time, the aggregate levers of growth in agriculture continue to be a combination of boosting income (price and/or quantity) and managing the use of inputs to the lowest possible level without jeopardising the growth in output volumes.

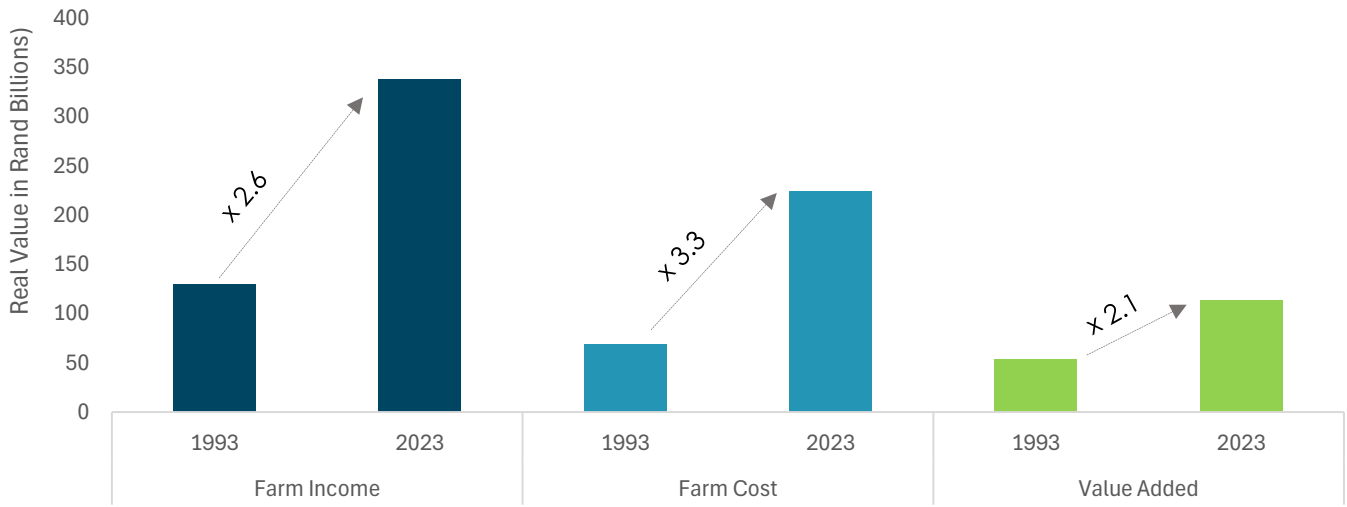

FIGURE 6: REAL VALUE OF THE DIFFERENT AGRICULTURAL GVA COMPONENTS
Source: Own Compilation (2024)

Sluggish domestic market growth, especially over the past decade, has left producers of tradable commodities inordinately dependent on foreign markets, i.e., the exchange rate. A return to higher and more evenly distributed disposable incomes in South Africa will bring about a reorientation back to the domestic market for many commodities. This is discussed in the next section.

Demand and Consumption

The strength of the market that buys agricultural produce, be it the final consumer in the retail store, the processing firm procuring raw materials, exports to the international market or other final uses, is a critically needed component that ensures sustainable growth in value-added on the farm. Strong demand for products ensures that prices remain supportive of continued investment in productive capacity in the supply of goods. Building a resilient and competitive agri-food system has as much to do with providing food and products at competitive and low prices for consumers as it does with ensuring businesses within the chain remain financially sustainable and competitive in an ever-changing global market. This seemingly incongruent tension between the producer and consumer within the country is not only necessary, but it drives innovation, investment and growth of the economy.

The demand pull for agricultural production can come either from the domestic South African market or from exports. Figure 7 shows to what extent agriculture and agro-processing products are used in the country or exported. The local market is the dominant buyer of agricultural-derived products, with around 87% of the total supply used in the country, whilst only 12% is exported. There are naturally large differences between commodities: for instance, horticulture had a 42% share of products going into the international market. There are also large differences within the group. Although it seems as if the local market completely dominates the market share for field crops, approximately 25% of the maize and soybean value was generated from exports in 2023, but 100% of rice and 40% of wheat were imported, which reduces the value of exports generated by maize and soybeans. This highlights an important nuance that is often misperceived in policy discussions: Agricultural growth is highly dependent on the strength of the South African economy, and indeed if this is not forthcoming, an export-led growth strategy is the only other alternative to unlock greater economic progress for the sector.

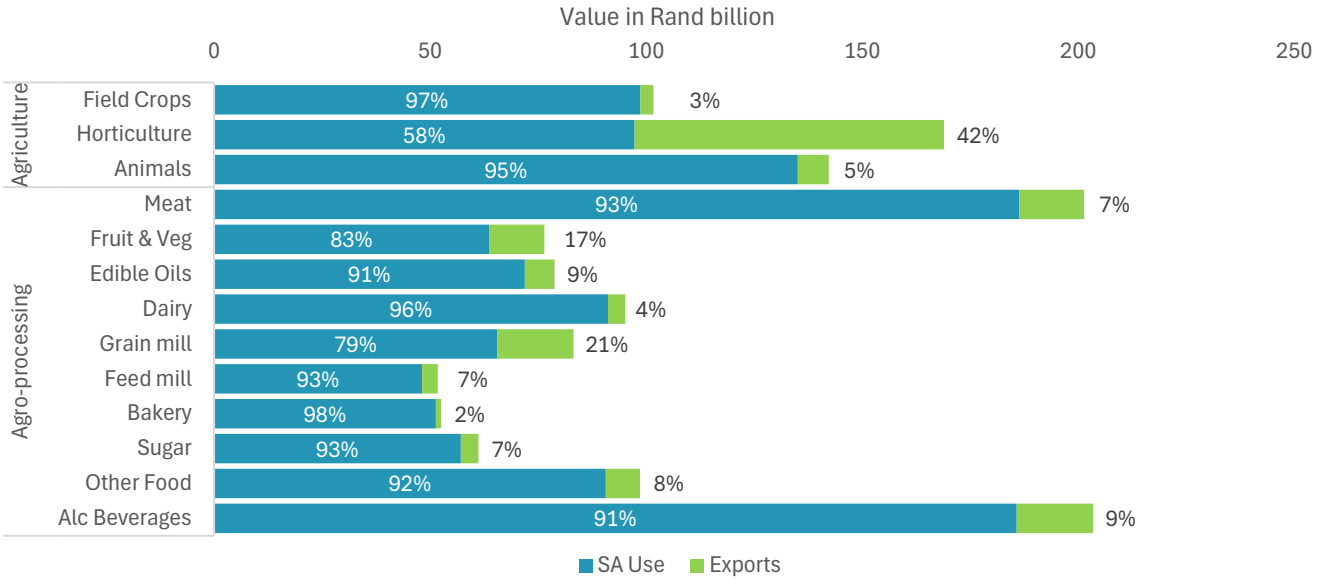

FIGURE 7: AGRICULTURE AND AGRO-PROCESSING PRODUCTS LOCAL VS EXPORT USE, 2021 VALUES

Source: StatsSA, 2024

The strength of the South African market is summarised in Figure 8. On the left, it shows the country's gross expenditure on final goods per capita in real terms during the democratic era. It is a good metric that indicates whether households are gaining purchasing power or not. During the 1990s, there was relatively strong growth in per capita spending, and the economy was growing at a decent rate, as previously mentioned. At the start of the millennium, there was a step change that resulted in an even faster growth in spending that was only interrupted by the 2009 financial crisis, which saw more than a decade of stagnation in expenditure, which was interrupted by the Covid-19-induced decline in 2020. The subsequent recovery has been to its former levels of stagnation.

One of the major drivers of spending can be seen on the right of Figure 8. During the early 2000s, the government launched an extensive social assistance programme designed to transfer conditional grants to households. This includes grants for old age pensions, child support, disability, foster care and care dependency grants. It is the scale and reach of this programme that has made it an influential contributor to boosting household incomes and, in turn, the spending power of millions of individuals. In 2002, around 5.8 million South Africans were beneficiaries; this ballooned to 18.8 million by 2023. By around 2013, it became apparent that the growth in such spending was unsustainable given slower economic growth and the growing fiscal deficit, which in turn meant ongoing acceleration in grants could not be maintained.

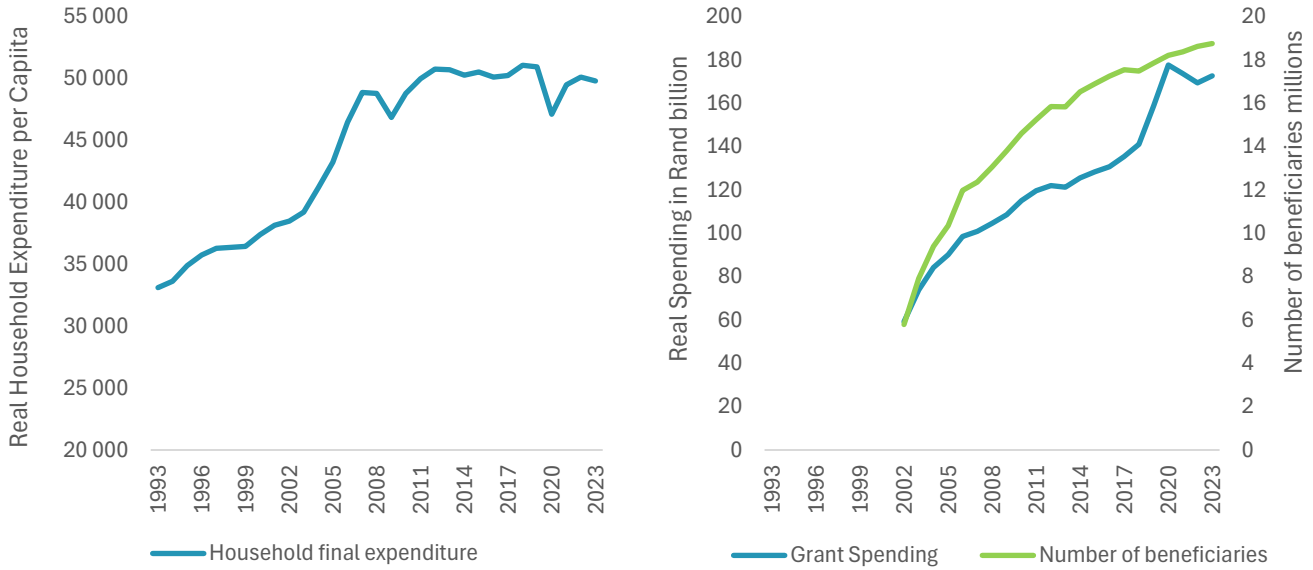

FIGURE 8: REAL PER CAPITA HOUSEHOLD EXPENDITURE AND SOCIAL GRANTS IN SOUTH AFRICA

Source: StatsSA, 2024; National Treasury, 2024

Figure 9 breaks down the average expenditure on food by the main categories. The country lacks updated data on the income and expenditure of households, but the difference between 1993 and 2018 provides some perspective on changes in food consumption patterns. The largest category (meat) increased from 32% to 35%, mainly in the form of poultry meat, whilst spending on grains remained the same at 23% because economic hardship mostly causes people to substitute out of preferred staples (e.g., bread) to cheaper alternatives (e.g., rice or maize meal). Growth in milk and eggs, and fruit and vegetables, indicates some changes in diets toward more healthy alternatives and higher spending on protein.

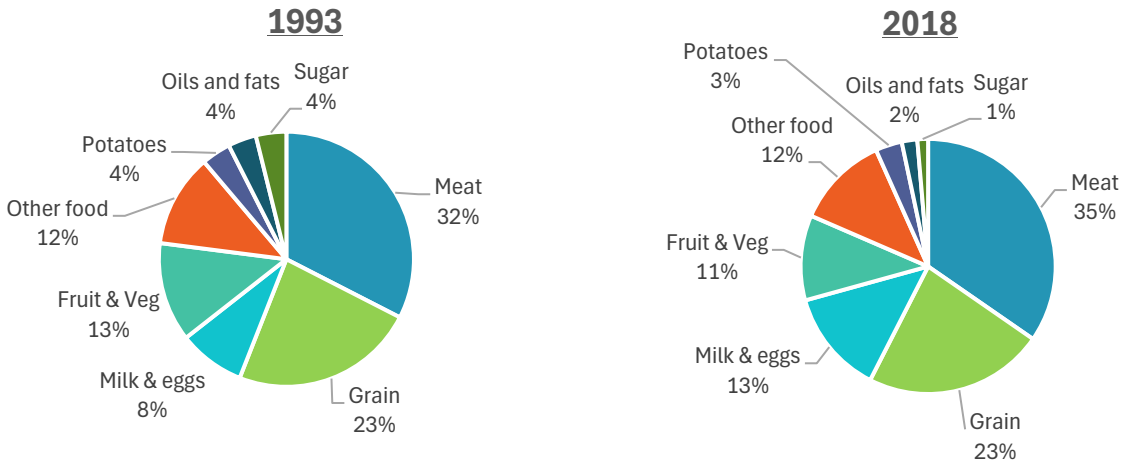

FIGURE 9: SHARE OF HOUSEHOLD SPENDING ON THE DIFFERENT FOOD GROUPS BETWEEN 1993 AND 2018

Source: DALRRD, 2024

Intermediate Inputs

Agriculture has strong linkages to the rest of the economy through the supply chains that take raw products downstream from the farm gate to the consumers' plate, but especially through its upstream purchases of farming requisites or inputs. As alluded to earlier, farmers' expenditure on inputs has increased faster than their income has grown. The changes in real spending shown in Figure 10 reflect different cycles in the prices of inputs. Two critical drivers are worth noting. First, South Africa is highly import-dependent when sourcing agricultural inputs such as fertiliser, agrochemicals, fuel, machinery and certain building materials and equipment. This implies that the country's exchange rate has a significant impact on the prices of these goods. Second, the integrated nature of value chains. The field crops and poultry industries are, in particular, linked through the provisioning and use of animal feed, which is by far the largest input used by agriculture. When the prices of agricultural commodities such as yellow maize and soybeans rise, the price of feed also rises because these are the raw materials used to create feed. This, in turn, puts pressure on intensive feed-use industries such as poultry, dairy, beef feedlots and piggeries.

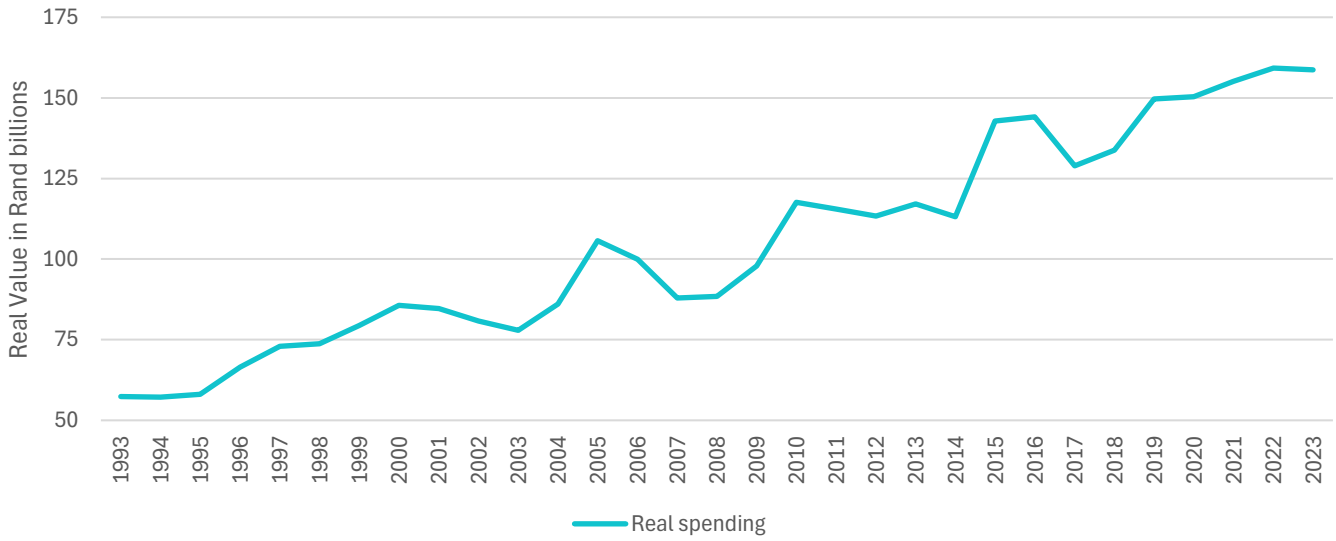

FIGURE 10: REAL EXPENDITURE ON INTERMEDIATE FARM INPUTS

Source: DALRRD, 2024

Yet the increase in actual expenditure on inputs is not only dependent on relative movements in the value of inputs but also the change in the quantum of inputs used over time. Part of this change will be explained later, where individual industry changes are discussed, but worth mentioning here is that feed expenditure has increased from 30% of total spending on inputs in 1993 to 37% in 2023 (see Figure 11). This is a significant increase, especially considering that it is the largest input item by volume. In 1993, South African formal sales of compound feed totalled 3.4 million tons, a number that increased to 6.5 million tons by 2021. This shows the value of expenditure was driven largely by more volumes consumed. However, the quantity used has not increased for all inputs. Fertiliser, the second biggest expenditure item, has seen actual spending increase from around R16.3 billion in 1993 to R30.6 billion in 2023, but data from Fertasa (2022) show that the actual volumes used have remained fairly stable (from 2.1 million tons to around 2.3 million tons) over the same period. The share of spending on services has also increased over the past three decades, whilst the other input items' share of total spending stayed relatively constant.

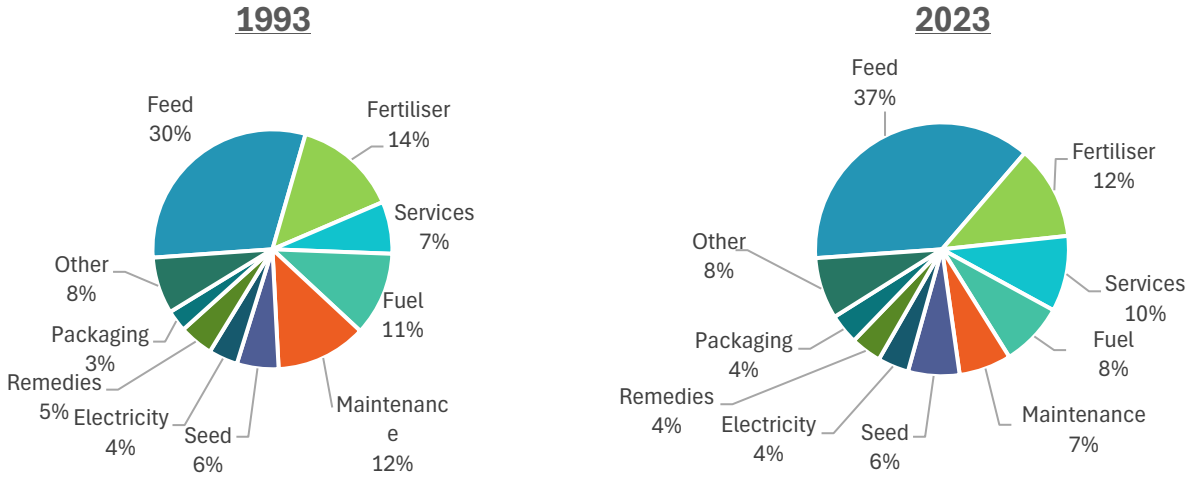

FIGURE 11: SHARE OF TOTAL FARM EXPENDITURE ON DIFFERENT INPUTS BETWEEN 1993 AND 2023

Source: DALRRD, 2024

Resources (land, labour & capital, water, energy, management)

The availability and use of resources, whether human, financial, or natural, remains one of the most important drivers of agriculture's economic growth in the past three decades. Here, we describe the land, labour, capital, energy and management resources available to the sector.

Land

The success of agriculture has come about despite South Africa being a semi-arid country with a weak natural resource base compared to other countries. The country's land capability is summarised in Figure 12 and can be defined as the most intensive long-term use of land for purposes of rainfed farming determined by the interaction of climate, soil and terrain (DALRRD, 2021). It reminds readers that the bulk of land available for farming is suited only to extensive grazing. Only some 15% of the available agricultural land is arable, and less than 2% is irrigable. It is no wonder, then, that the production of livestock products dominates agricultural output and that the industry has been so dependent on irrigation for its progress.

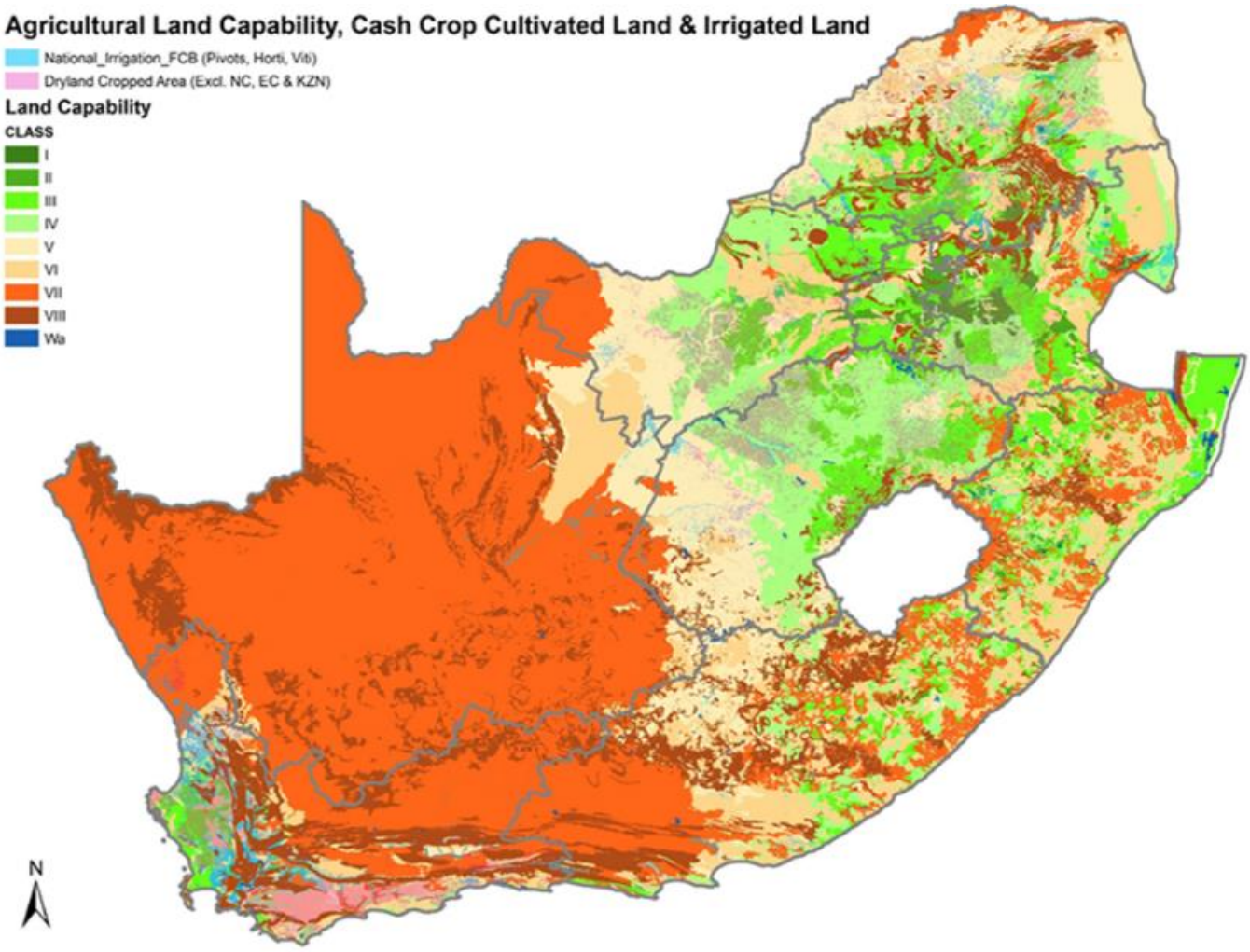

FIGURE 12: SOUTH AFRICA'S AGRICULTURAL LAND CAPABILITY CLASSES

Source: DAFF, 2019

The 1993 census estimated South Africa's total farmland to be 97 million hectares out of the total of 122 million hectares. Of this, only 77.5 million hectares were in agricultural use with registered title deeds after adjustments were made for farmland in the former homelands, forestry and nature conservation uses, and urban areas. Since then, there has been some progress with land reform (land restitution, land redistribution and land tenure reform), as follows:

- Land restored to previous owners: 4.46 million ha
- Restitution where the previous owners have chosen financial compensation: 2.97 million ha
- Government-assisted land redistribution via the SLAG and LRAD programs: 6.48 million ha
- Private transactions: 2.2 million ha
- Government acquisition via the PLAS program: 2.57 million ha
- Government acquisition for non-agricultural use: 0.55 million ha

Together, this adds to 19.2 million ha or 24.8% of the total of all freehold farmland in South Africa. Thus, almost a quarter of the farmland previously owned by white landowners under apartheid has been restored or redistributed to black South Africans or moved away to State ownership after 30 years.

Labour

The agricultural sector continues to be an invaluable employer, particularly strong in offering work opportunities to rural and unskilled labour. Assessing trends in the number of farm workers is made difficult due to the weakness of available data. In this regard, Figure 13 shows the trends in employment from the two major sources of data, namely Agricultural Surveys and Censuses and those published by StatsSA's Labour Force Surveys. The deviation between the two official sources is concerning, although they broadly tell the same story. Despite significant policy changes affecting the agricultural labour market during the democratic era, the sector has managed to halt the decline in the number of workers prevalent for most of the past 70 years. Fifteen years into the democratic era, the number of workers in agriculture bottomed out in 2007 at somewhere between 525 000 (Labour Force Survey) and 770 000 (Surveys/Census). Then, in the past decade or so, the agricultural workforce has remained at an average of 700 000 to 800 000, showing a slight increase in employment.

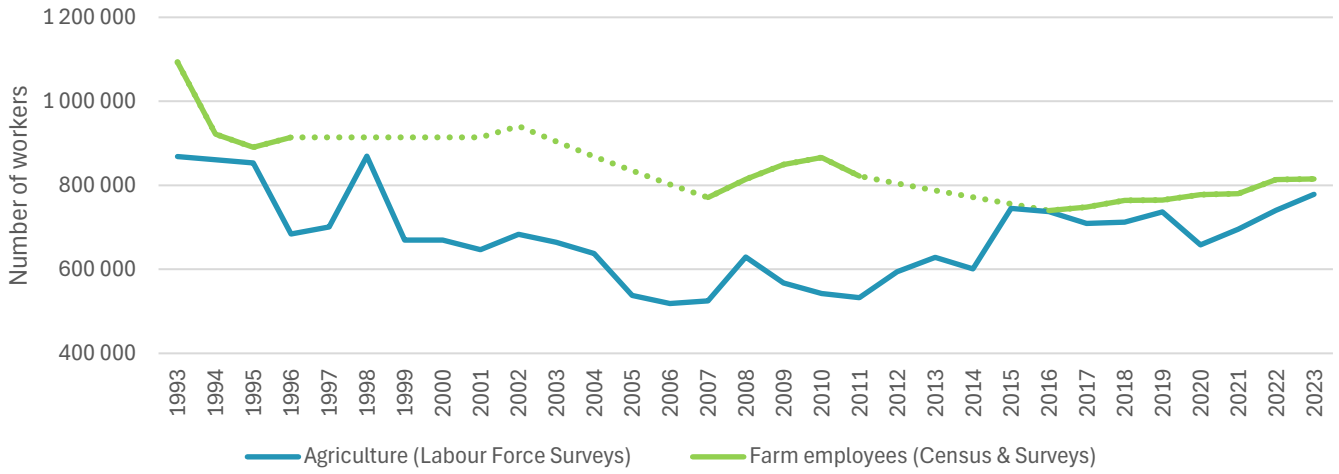

FIGURE 13: EMPLOYMENT IN COMMERCIAL AGRICULTURE

Source: StatsSA, 2024a; 2024b

Farm workers were brought under the effective protection of labour legislation for the first time in the mid-1990s when the four main labour laws (the Labour Relations Act, the Basic Conditions of Employment Act, the Skills Development Act, and the Employment Equity Act), were promulgated. The Basic Conditions of Employment Act had the biggest impact on the agricultural sector. On the one hand, it provided greater protection for workers (through the requirement for written employment contracts and mandatory leave arrangements, etc.) and through the establishment of minimum wages. On the other hand, these arrangements increased the labour cost for employers with predictable consequences, as seen in Figure 13. The minimum wage and other employment conditions were first introduced in agriculture in 2003. This was followed by a steep increase of more than 50% in 2013 in the wake of farm worker unrest, principally in the Western Cape, and then the phasing in of the National Minimum wage in 2018.

Figure 14 shows the legislated minimum wage for agricultural workers since 2003. The growth in the wage over this period averaged 9.6% per annum to R25.42 per hour, which is far in excess of general consumer price inflation of 5.4%. Despite these above-inflation increases over the past two decades, the number of agricultural workers has remained stable, yet agricultural production has increased substantially, which indicates an improvement in labour productivity. As will be seen later in this report, this is likely due to the rapid expansion of labour-intensive irrigated agriculture.

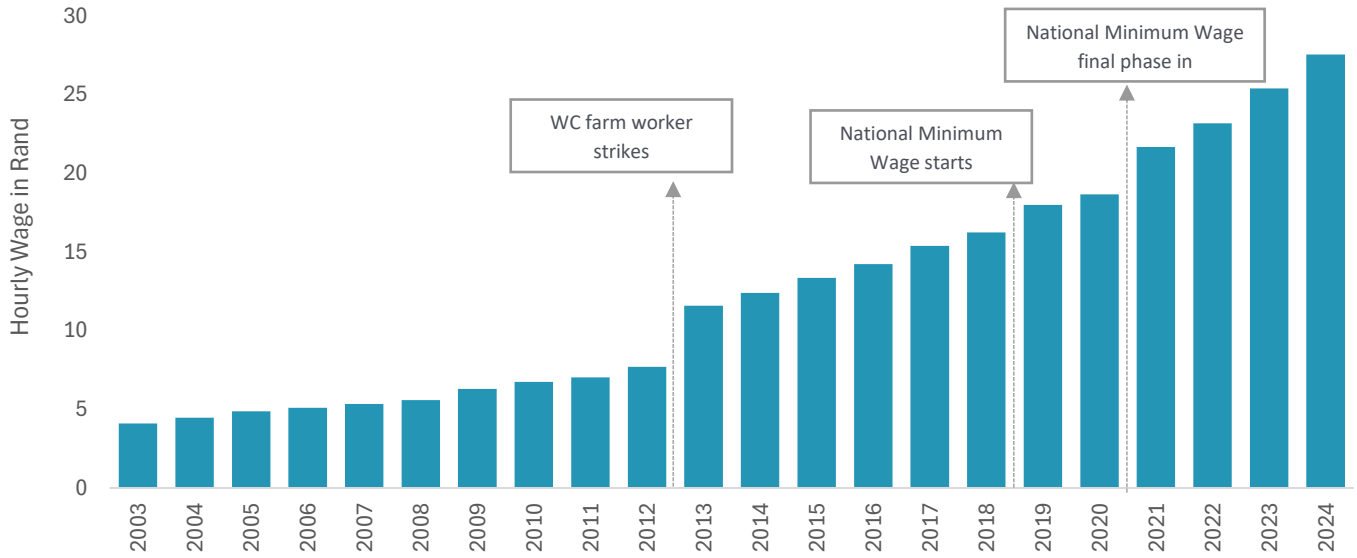

FIGURE 14: MINIMUM WAGE LEVELS FOR FARM WORKERS

Source: Own compilation DoL, 2024

Capital

Figure 15 shows the real value of agriculture's capital stock in the form of asset values. All classes of assets saw increases during the past three decades, with investments in agricultural machinery, implements, and equipment growing the fastest.

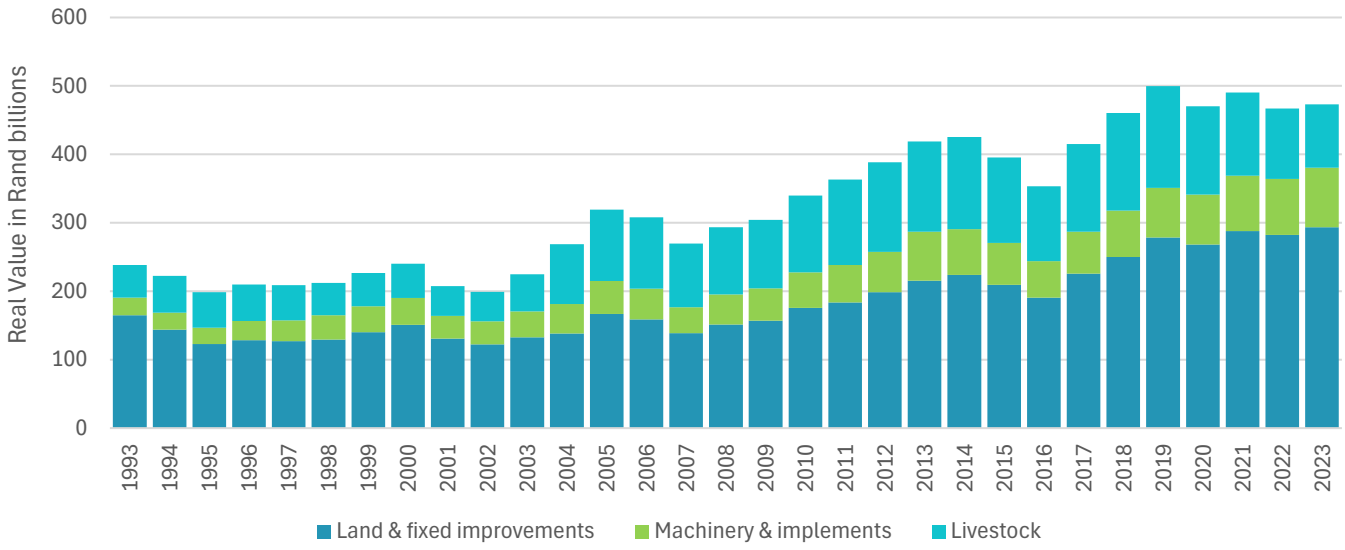

FIGURE 15: REAL VALUE OF ASSETS ON FARMS (2015=100)

Source: DALRRD, 2024

How did farmers finance this expansion in their asset base? Figure 16 shows total farm debt in real terms, with a peak in 2019 followed by a subsequent decline, likely due to the COVID-19-induced interest rate increases. The growth in the loan book of the Land Bank from R10 billion in 2009/10 to more than R40 billion in 2019/20 provides further evidence of the growing farm debt. These changes are mirrored in the two measures of income and value-added to debt, which were on a healthy increasing path until the Covid-19 pandemic but seem to be increasing once again.

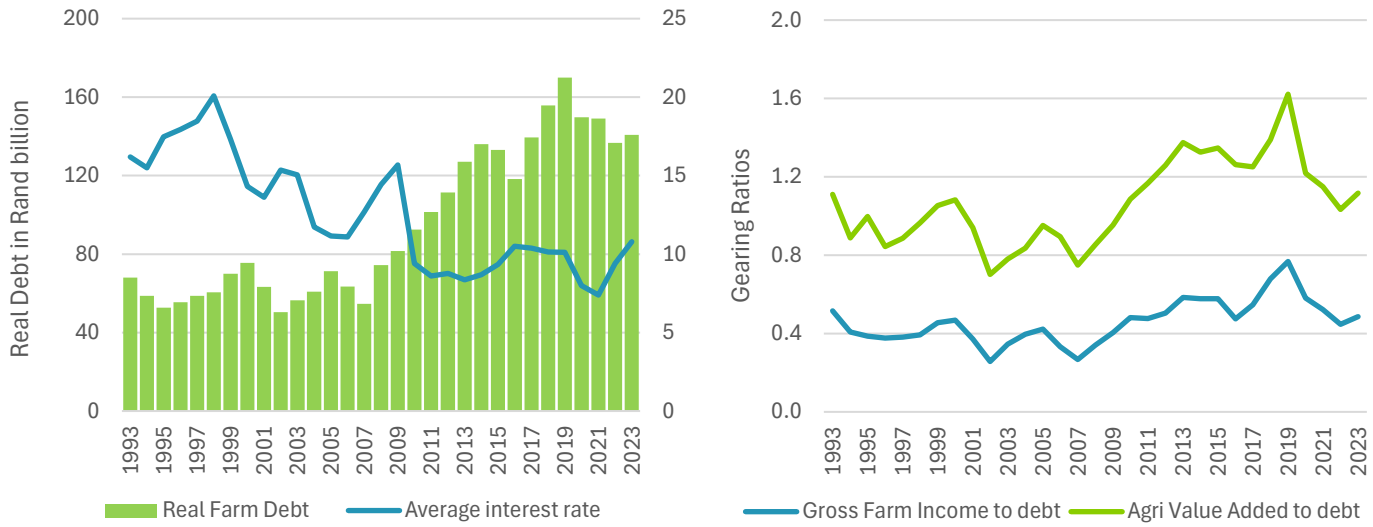

FIGURE 16: REAL FARMING DEBT (2015=100) AND GEARING RATIOS

Source: DALRRD, 2024

Energy

Agriculture is an intensive user of energy compared to other sectors of the economy. It uses electricity for various production activities (to maintain cold chains, for intensive farming such as chicken houses, and to operate irrigation equipment). Also, the use of machinery and vehicles on farms mainly utilise fuel in the form of diesel. Energy resources have been uniquely constrained in South Africa due to load-shedding during the 2007-2023 period and the subsequent threat of more load-shedding. Farmers are most often directly linked to the energy grid through Eskom and have been severely affected by load-shedding. The supply constraints are made worse by the continued above-inflation electricity tariff increases that have led to many farmers opting for alternative sources of electricity. Figure 17 highlights the trend in the amount of electricity used by agriculture in the past 30 years and shows the number of clients over this period. It shows how farmers have actively been trying to avoid excessive tariff adjustments and frequent load-shedding, with customer numbers falling drastically in the past few years.

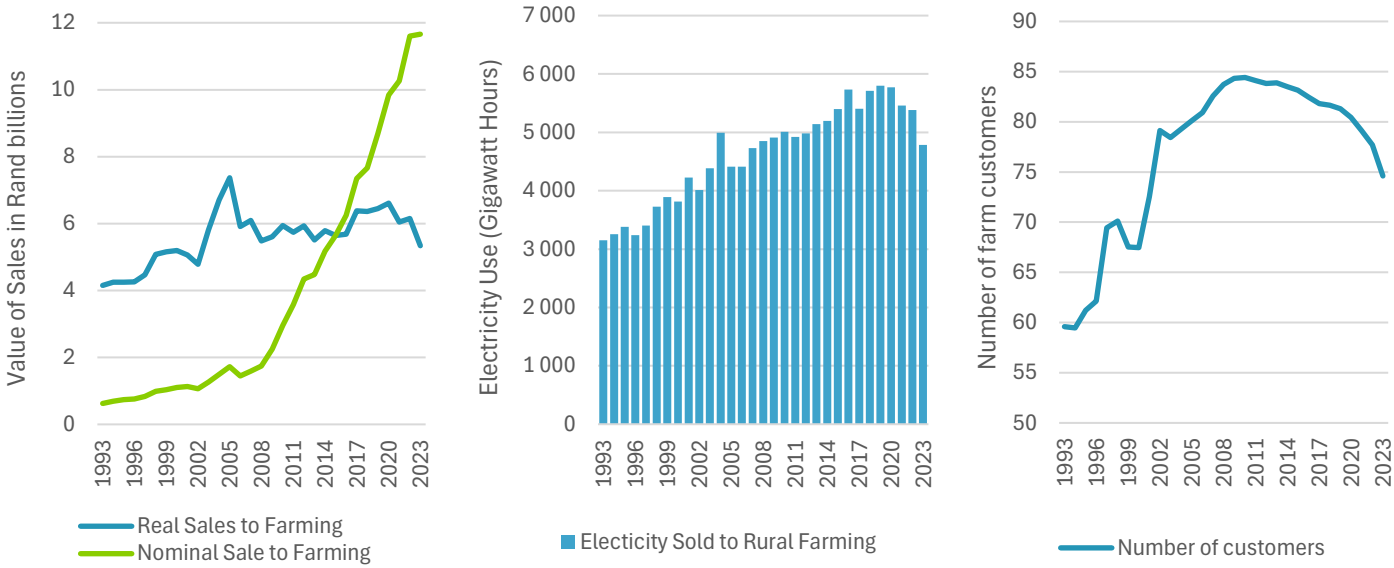

FIGURE 17: AGRICULTURE ELECTRICITY USE SUPPLIED BY ESKOM

Source: Eskom, 2024

Management

Structurally, commercial farming in South Africa represents an unusual blend of family farming with hired labour, unlike the usual family labour found in other places. This is partly the result of cheap labour but also a reflection of the larger farms needed to farm profitably in a semi-arid environment. The data on the number of farms and farm managers is poor, as in the case of data on farm workers, because the agricultural surveys and censuses enumerate farmers registered for VAT, i.e. who have a turnover of more than R1m per year. The bottom of the pyramid is, therefore, not included.

Notwithstanding, Figure 18 shows that the number of farmers and tenants seems to have shadowed the number of farm workers, with a decline in numbers arrested in the first years of the millennium and then increasing. The numbers of far managers and foremen follow a similar, if less pronounced, trend. Unfortunately, reliable information on gender, population group and education level is unavailable.

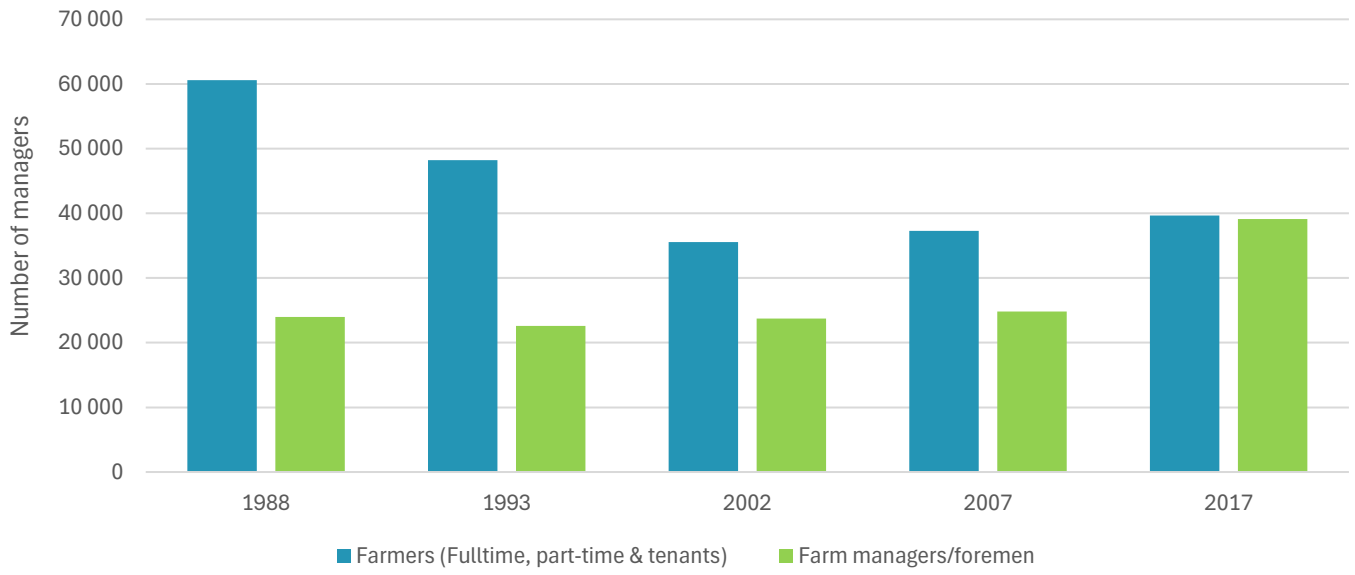

FIGURE 18: FARMERS AND FARM MANAGERS, 1988 - 2017

Source: StatsSA, 2024

Agro-processing

A detailed analysis of the agro-processing sector lies outside of the scope of this document. Rather, we aim to show to what extent these industries that buy raw agricultural commodities from farming have grown during the period under review. Due to its important role as an off-taker for agricultural production, we ask whether production capacity has increased and/or if agro-processing sales growth was driven by increases in prices. Figure 19 presents an overall picture of the real sales performance for every decade since 2023 and shows how growth has slowed in recent times. Total real sales for food and beverages increased from R234 billion in 1993 to R517 billion in 2023. Agro-processing industries, on aggregate, outperformed the total manufacturing output both in value terms (2.7% vs 2.1%) and volume (1.7% vs 0.4%) terms during the democratic era.

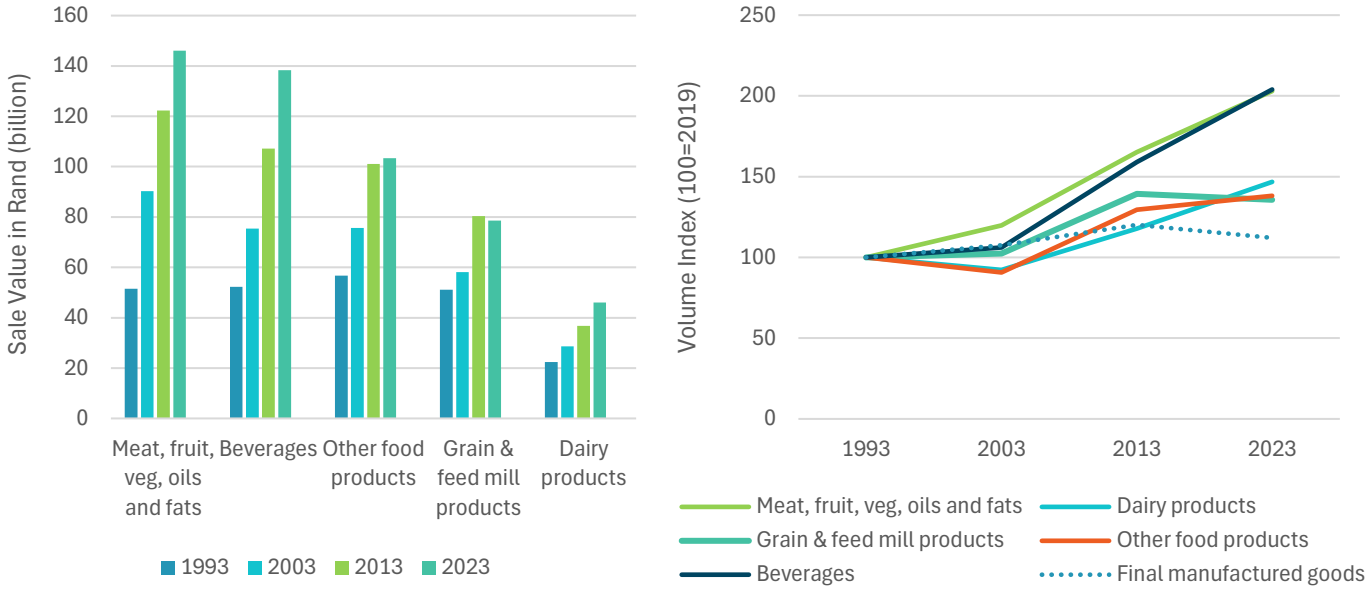

FIGURE 19: REAL SALES OF AGRO-PROCESSING MANUFACTURERS AND VOLUMES INDEX

Source: StatsSA, 2024

Table 2 presents the production volumes of the largest agro-processing products manufactured in South Africa. Products with strong annual growth over the period 1993 to 2021 were mayonnaise (8.2%), cattle meat (8%) and fruit juice (5.1%), whilst most of the selected products recorded modest growth of between 2 and 3%. Over this period, the South African population increased by 1.5% per annum whilst the economy expanded by 2.5%.

TABLE 2: PRODUCTION VOLUMES FROM FOOD AND BEVERAGE MANUFACTURERS IN SOUTH AFRICA (TONS)

Product	Industry	1993 Manufacturing Census	2021 Manufacturing Census	Annual average growth (%)	Added Volume (1993-2021)
Cattle meat (tons)	Meat	79 858	685 808	8.0	605 950
Fruit Juice (tons)	Processed fruit & vegetables	257 608	1 045 461	5.1	787 853
Processed liquid milk (tons)	Dairy	499 552	1 047 087	2.7	547 535
Maize meal (tons)	Grain mill	1 736 000	3 250 145	2.3	1 514 145
Sunflower oil (tons)	Edible oil	200 189	412 925	2.6	212 736
Margarine (tons)	Edible oil	142 978	324 485	3.0	181 507
Bread (million loaves)	Bakery	1 283	1 609	0.8	326
Poultry feed (tons)	Feed mill	2 006 000	4 153 976	2.6	2 147 976
Refined white sugar (tons)	Sugar	567 000	1 581 194	3.7	1 014 194
Mayonnaise (tons)	Other food	12 589	114 877	8.2	102 288
Bottled wine (hectolitres)	Beverages	2 708	2 315	-0.6	-393

Source: StatsSA, 2024

Trade

To this point, a clear pattern has emerged that, although highly dependent on the local market, agricultural value chains have needed to look offshore for demand growth to boost farmers' incomes. The country's export growth trajectory, in combination with a few import substitution stories, has resulted in a strong trade performance, particularly in the horticultural sector. Figure 20

presents the trade balance of agricultural products, agro-processing and a few leading inputs used in agriculture. We purposefully report these numbers in US dollars to eliminate the impact of inflation and currency fluctuations. Unfortunately, data before 2001 is not available. The trade balance for agricultural products has been increasing significantly since around 2007, whilst the net trade position of agro-processing products has not seen the same growth.

Further detailed analysis with respect to sub-sector trade performance is provided in the following section of the report.

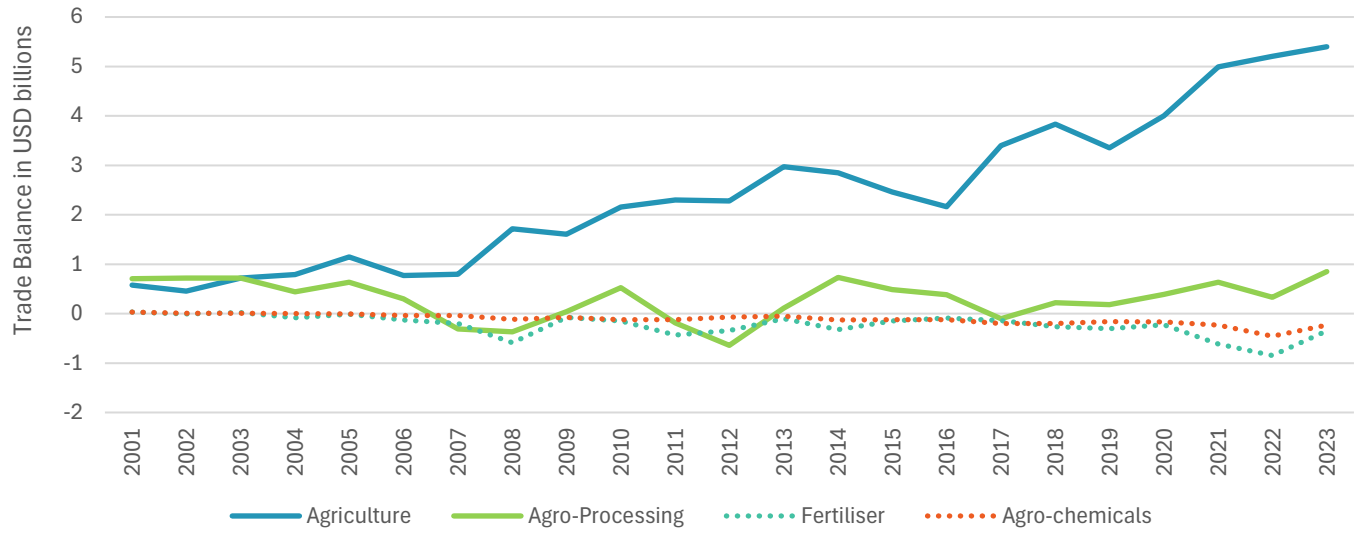

FIGURE 20: REAL SALES OF AGRO-PROCESSING MANUFACTURERS AND VOLUMES INDEX

Source: ITC, 2024

South African agriculture's positive trade balance rests on an export portfolio that is skewed towards traditional markets in Europe and North America but has become more diversified over time. Figure 21 shows, for example, that there has been an increase from three to five African countries among the ten largest destinations, while their share of total exports has tripled from 8% to 24%. Imports, on the other hand, are increasingly sourced from Asia rather than the traditional markets (Figure 22).

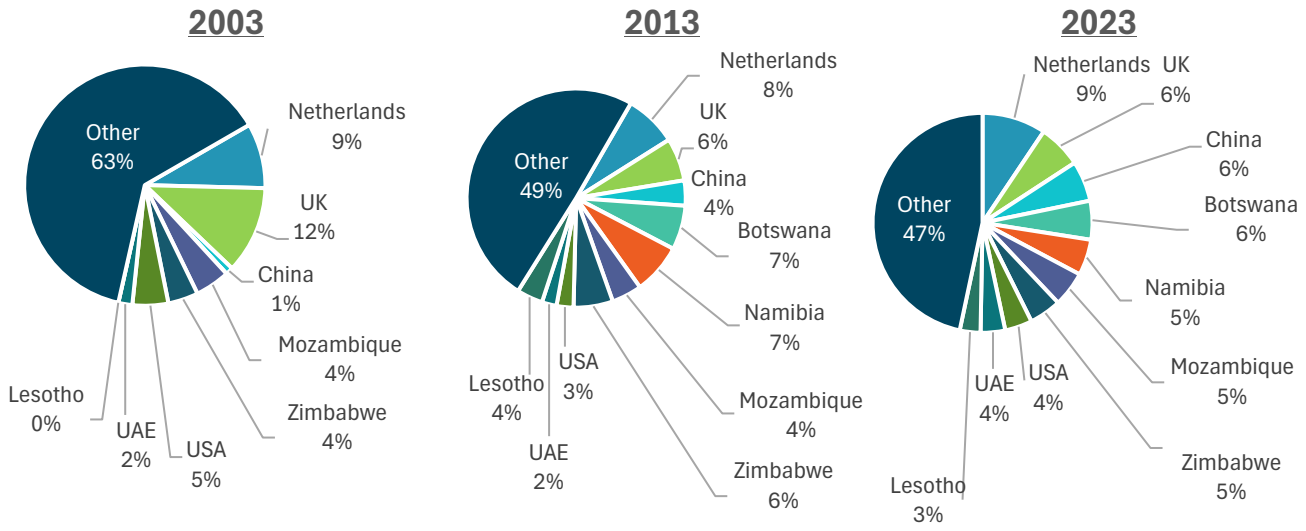

FIGURE 21: TOP 10 AGRICULTURAL AND AGRO-PROCESSING EXPORT MARKET DESTINATIONS BY VALUE

Source: ITC, 2024

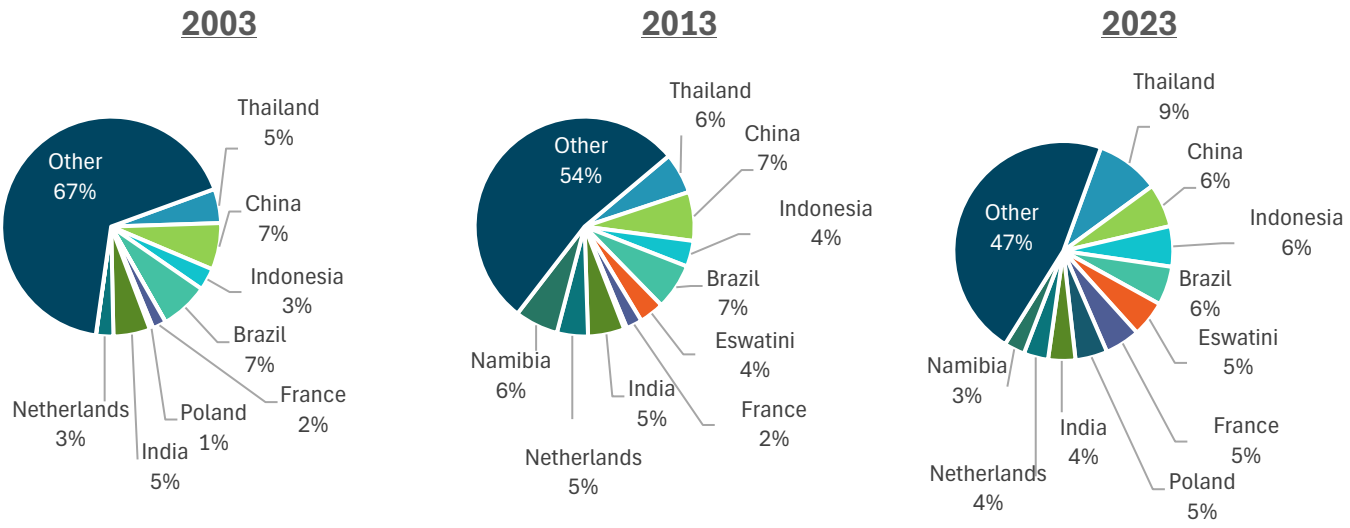

FIGURE 22: TOP 10 AGRICULTURE & AGRO-PROCESSING IMPORT MARKET SOURCES BY VALUE

Source: ITC, 2024

A similar exercise can be conducted for the main commodities that are exported and imported (Figure 23). Fruits and wine, a proxy for irrigated commodities, dominate the commodity export basket with a share of 33% of total exports by value in 2023 (FAOSTAT, 2024). The other share increase from 48% to 51% indicates that the export mix of commodities has become more diversified. The import portfolio is dominated by imports of the country's dependence on rice, wheat and palm oil. Interestingly, soybeans jumped from being among the top ten imported items in 1993 to the top ten of exports, the details of which will be discussed later on.

The overall change in the composition of the import portfolio reflects the major shifts in consumer habits over these three decades. Tobacco, for example, no longer appears among the top 10 imported commodities, palm oil has tripled its share of inputs, and sugar and poultry meat are now among the 10 largest import commodities.

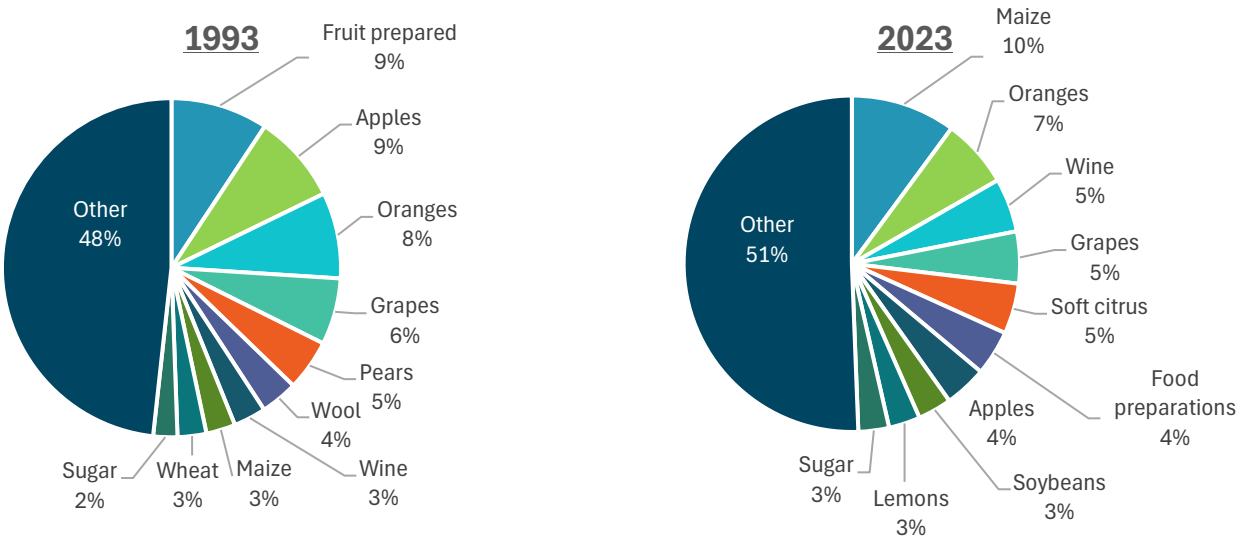

FIGURE 23: TOP 10 AGRICULTURAL EXPORT COMMODITIES BY VALUE (US DOLLAR TERMS)

Source: FAOSTAT, 2024

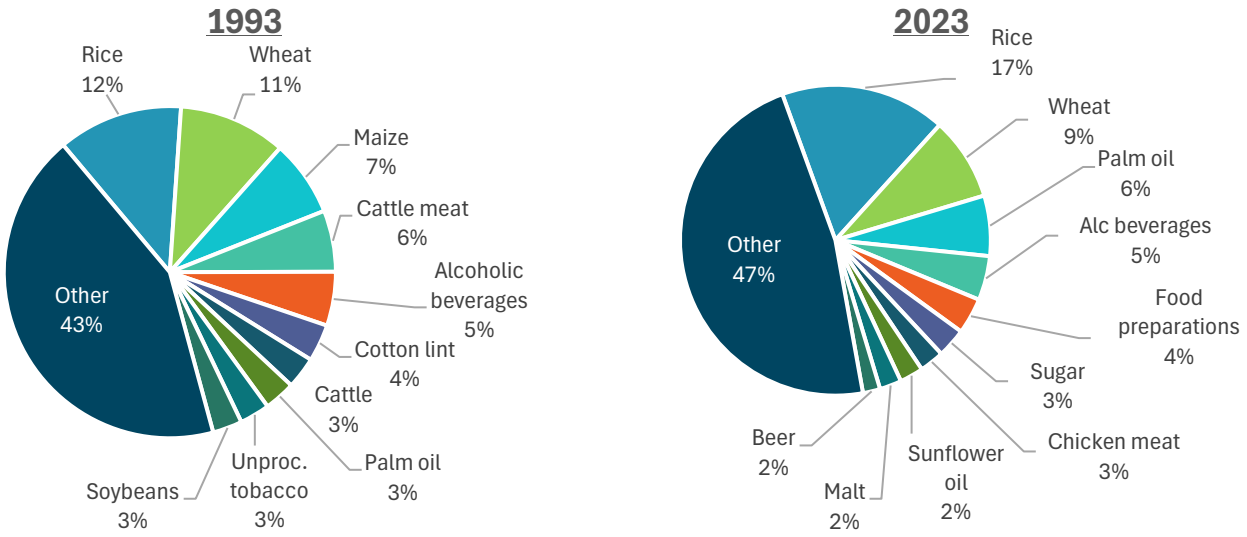

FIGURE 24: TOP 10 AGRICULTURAL IMPORTED COMMODITIES BY VALUE (US DOLLAR TERMS)

Source: FAOSTAT, 2024

Agriculture's Wider Contribution to the Economy

Although we have aimed to assess how agriculture has performed during the past three decades, we end Section 1 by emphasising the interconnectedness of agriculture with other sectors of the economy, besides the linkages already explained, such as input supply upstream and agro-processing downstream. In Figure 25, two methods are used to estimate the share of the total value added of all economic activities related to primary production from agriculture, forestry and fisheries activities. It captures individual contributions by other industries, be it input suppliers, traders, transporters, financiers, manufacturers, or food services, amongst others. We carefully try to exclude imported food in this calculation. The production approach captures individual contributions by producing firms, whilst the expenditure approach aggregates the final use of agriculture-derived products. By these measures, between 13.6 and 15.4% of the South African economy is linked to agriculture.

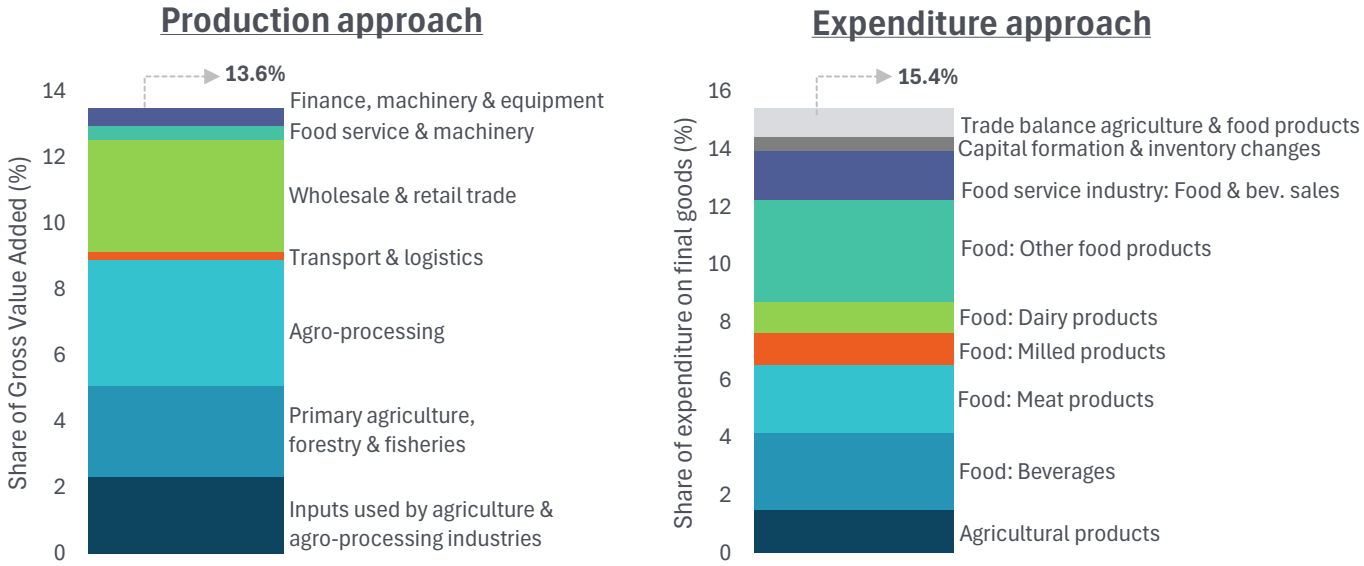

FIGURE 25: AGRICULTURE'S WIDER ECONOMIC CONTRIBUTION USING 2021 SUPPLY AND USE TABLES

Source: StatsSA, 2024

Subsector Performances

We start here with an overview of the direct contribution of agriculture to the rest of the economy. To this end, agriculture's gross domestic product in real terms and the year-on-year change over the past three decades are shown in Figure 26. Apart from outpacing the annual average growth rate of the rest of the economy, agriculture is also far more volatile, with major upswings and downswings due to a combination of external shocks like climate, world prices, exchange rates, animal diseases, wars and a pandemic. What is, however, interesting to note is that the volatility seems to have declined from 2010 onwards, with year-on-year percentage changes not exceeding 10%, compared to the annual changes that frequently exceeded 30% before 2010. There are two reasons for this: first, field crops are the most volatile sector, and as the relative share of total output for horticulture and livestock increases over time, it mitigates the impact of field crop volatility on total agricultural output (Figure 27). Second, the output of field crops was far less volatile from 2013 until 2018 due to favourable weather, after which summer crops were severely affected by a drought in 2019 and from 2020 to 2023, the grain and oilseed markets erupted, first due to the Covid-19 pandemic and then the impact of the Russian-Ukraine war. In other words, there is still significant volatility within the sub-sectors.

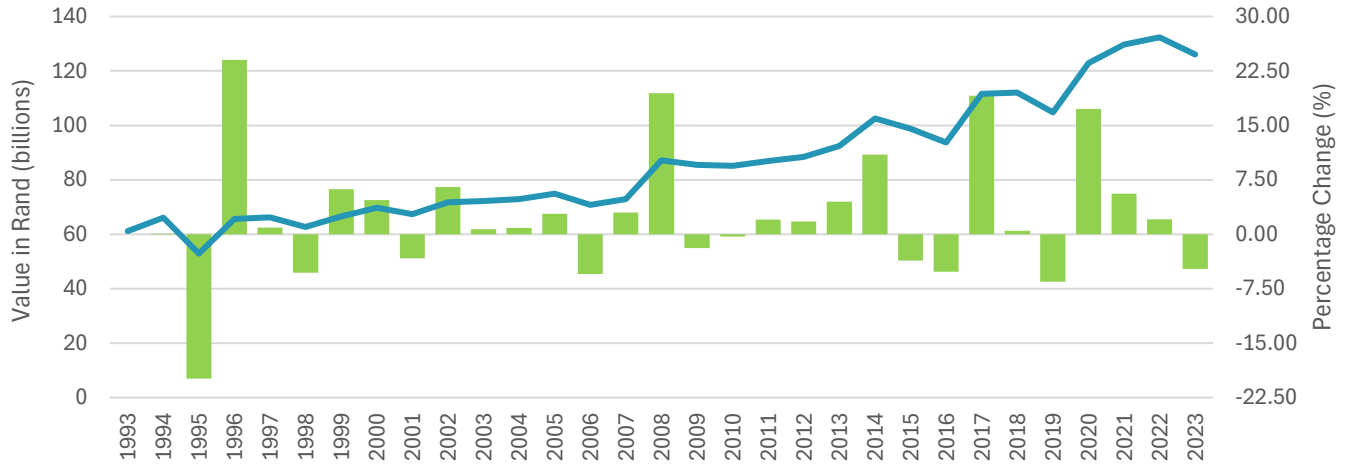

FIGURE 26: REAL AGRICULTURAL GDP (2015 = 100)

Source: StatsSA, 2024

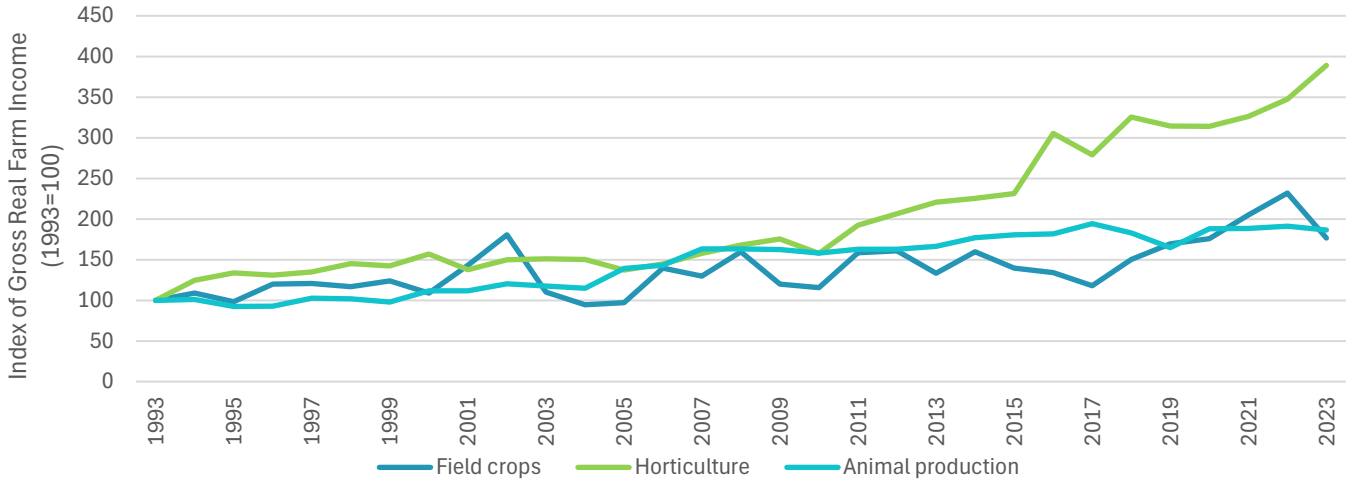

FIGURE 27: REAL GROSS INCOME OF FIELD CROPS, HORTICULTURE, AND LIVESTOCK PRODUCTS (1993=100)

Source: DALRRD, 2024

Although the horticultural sector has quickly caught up with the output of the animal sector, animal products remain South Africa's largest agricultural output in value terms.

Animal Products

Figure 28 illustrates the growth in volumes produced by the main animal subsectors. Although the dairy sector is the largest based on volumes, with approximately 3.3 million tons of fluid milk produced every year (62% growth since 1993), it is the chicken industry that remains the largest of the sub-sectors, with total volumes increasing by 173% since 1993 and the total value of chicken meat produced in 2023 exceeding R54 billion, from 1.7 million tons of chicken meat. Most of this growth occurred during 2000-2010 when the disposable incomes of consumers improved rapidly, and they could afford to shift from a staple-based diet to affordable animal proteins like chicken.

Although the beef sector maintains its second position, with the total value of beef in 2023 exceeding R42 billion from approximately 760 000 tons, volumes have only increased by 48% over the past three decades. Although from a much smaller base, the pork industry has also expanded production (by 160% since 1993), and more than 300 000 tons of pork are produced yearly. The sheep industry has not shown any material growth, and in recent years, with extremely dry conditions in the semi-arid areas of South Africa (Karoo), sheep production has come under increasing pressure, coupled with weak economic growth and relatively high sheep prices. Stock theft also plays a major role, especially in some of the higher potential grazing areas. It must also be noted that the increasing prevalence and severity of animal disease outbreaks in recent years has impacted the rate of production growth across most livestock sectors.

One cannot discuss the performance of the animal subsectors without the important caveat that there is a very large informal sector where we can only guess what the actual output really is. In a survey that BFAP undertook for the pork industry several years ago, it was estimated from the StatsSA Household Surveys that there are approximately 900 000 pigs from more than 200 000 households in the informal sector, compared to 1.5 million pigs in the formal pig herd, while a large but unknown proportion of the country's cattle herd is unrecorded because it is in the informal sector. Although the productivity levels in most cases are significantly lower in the informal livestock industry, it remains a major source of income and food security that is not captured adequately by any of the existing databases.

In addition to the dynamics within the informal sector, we wish to highlight two significant features of the livestock sector over the past three decades. The first is the chicken industry's ongoing efforts to compete against imports, and the second is South Africa's transition from a net importer to a net exporter of beef.

A detailed examination of the chicken industry's balance sheet reveals that local consumption growth has outpaced chicken production, leading to a rapid increase in imports of chicken products, which exceeded 500 000 tons by 2018 (Figure 29). This trend accelerated post-2007 when the introduction of biofuel globally led to a substantial increase in feed grain prices. These imports were competitively priced, particularly from Europe, where bone-in portion cuts are not in high demand and are often marketed at prices below production costs. The industry initiated several measures, including a benchmarking project by BFAP, which demonstrated that Europe was, in fact, a higher-cost producer per kilogram of live chicken compared to South Africa. Consequently, anti-dumping duties were introduced, and tariff levels were raised, curbing imports in recent years.

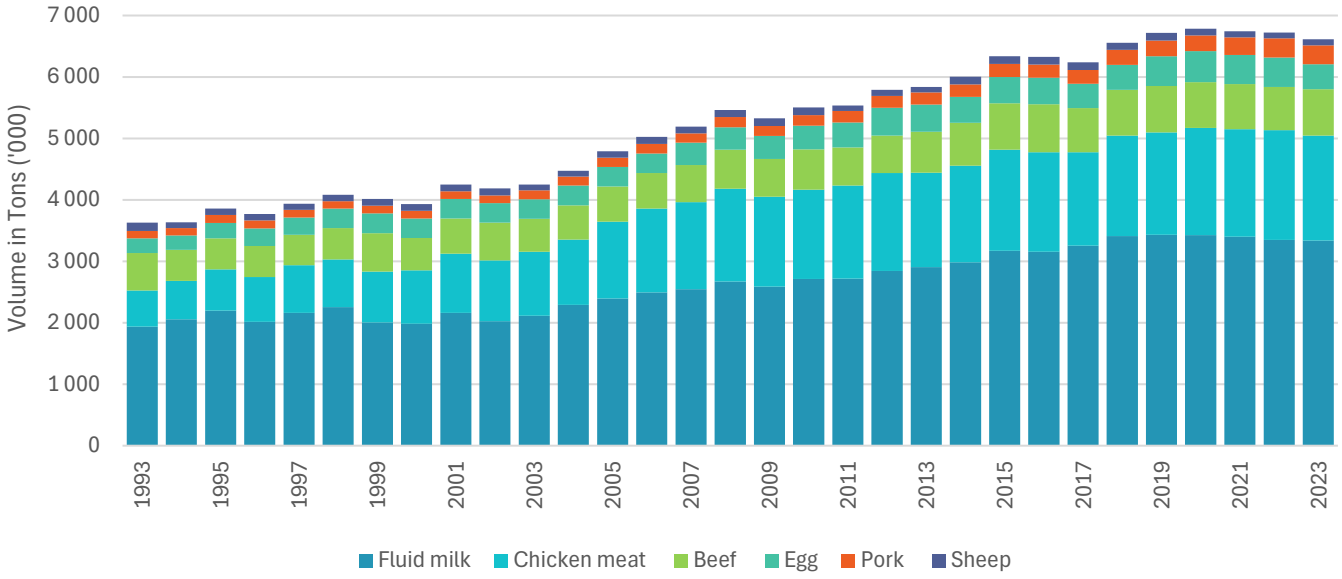

FIGURE 28: MILK AND MEAT PRODUCTION

Source: BFAP, 2024

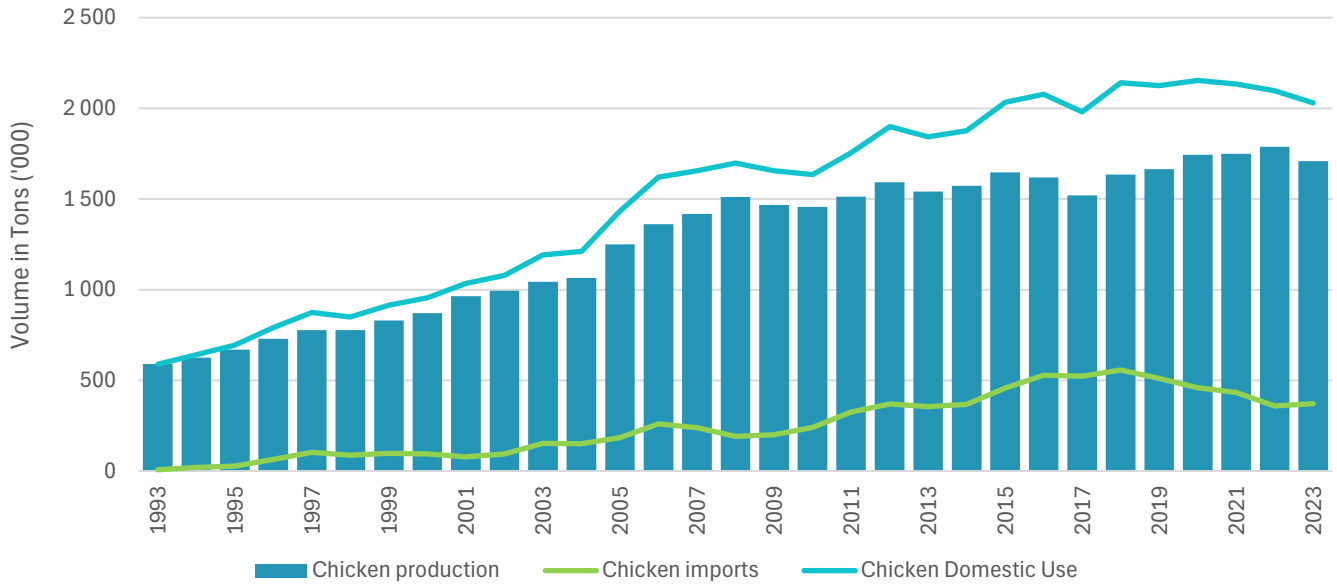

FIGURE 29: CHICKEN MEAT PRODUCTION, CONSUMPTION AND TRADE

Source: BFAP, 2024

Moreover, a significant development in recent years that has enhanced the overall competitiveness of the South African chicken industry is the rapid increase in soymeal production. This increase drove soymeal prices down from import to export parity price levels in 2023. Major chicken exporters such as Brazil and the USA produce substantial surpluses of soymeal at export-parity prices, making them highly cost-effective producers. The pricing of key feed ingredients like yellow maize and soybean meal at export parity is crucial for South African chicken producers to compete against imported chicken and potentially become cost-competitive exporters to specific premium markets in the future. This will become increasingly relevant as limited consumer spending power has curbed domestic consumption growth in recent years.

In the context of beef trade, South Africa imported approximately 15% (70 000 tons) of its local demand, which amounted to 611 000 tons in 1993. During a period of robust economic growth, which enhanced consumers' disposable income, the per capita consumption of beef remained strong and was increasing at approximately the same rate as production. However, as the economic growth rate began to decline beyond 2010, production gradually increased at a faster rate than consumption (annual average growth rate of 1.5% versus 0.5%). By 2014, South Africa had transitioned to exporting more beef than it imported. Figure 30 illustrates the continuation of this trend, with South Africa exporting beef valued at over $150 million in 2023. Beef exports are precariously balanced due to South Africa's ongoing biosecurity challenges and the increasing incidence of foot-and-mouth disease, which has led to numerous temporary closures of export markets. Fortunately the industry's transition to compartmentalisation, which ensures clear traceability of products within a defined "compartment", has provided significant relief in this regard.

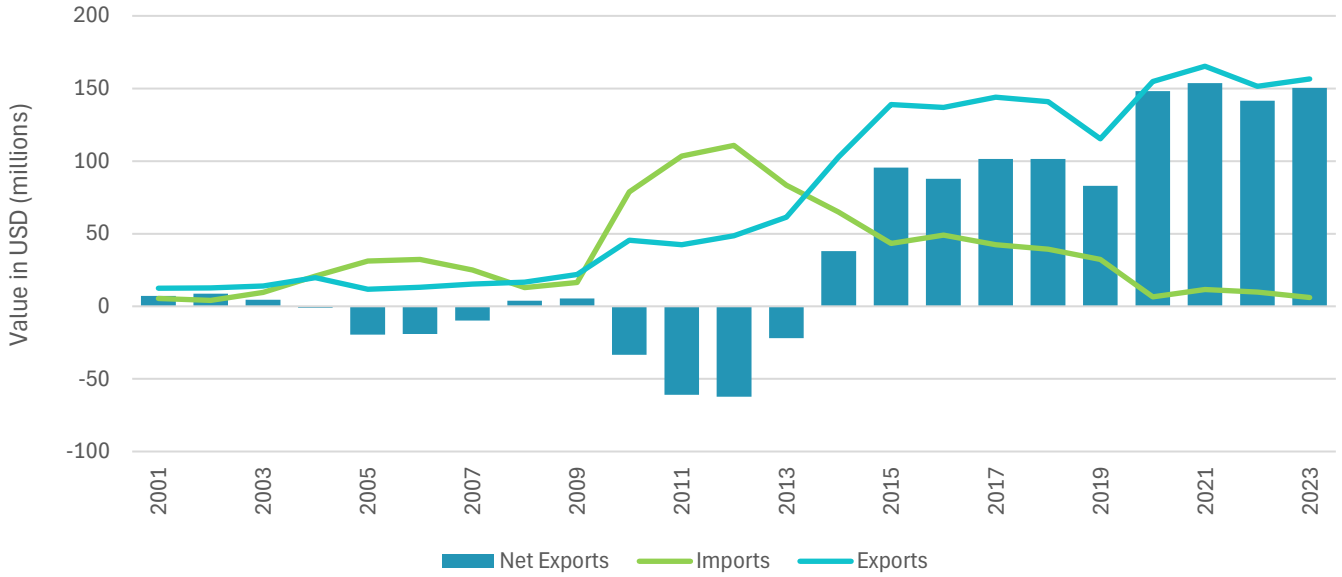

FIGURE 30: BEEF TRADE BALANCE

Source: ITC, 2024

Field Crops

Although the field crops sector is considered South Africa's most volatile agricultural sub-sector, it has also demonstrated the highest productivity gains. Figure 31 compares the shift in area to the shift in production for the top five summer crops (white maize, yellow maize, soybean, sunflower, sorghum) and the top three winter crops (wheat, barley, and canola). For summer crops, the total area has expanded by 200 000 hectares (2.4%), yet total production has nearly doubled (95%) from 10 million tons in 1993 to 19.5 million tons in 2023. Among all summer crops, this productivity growth can primarily be attributed to maize and soybeans. In the case of winter crops, the total area planted has declined by 44% (primarily due to the reduction in dryland wheat plantings in the Free State), yet production has increased by 12%. In other words, increased production was not achieved through a net expansion in area planted but rather through an improvement in yields.

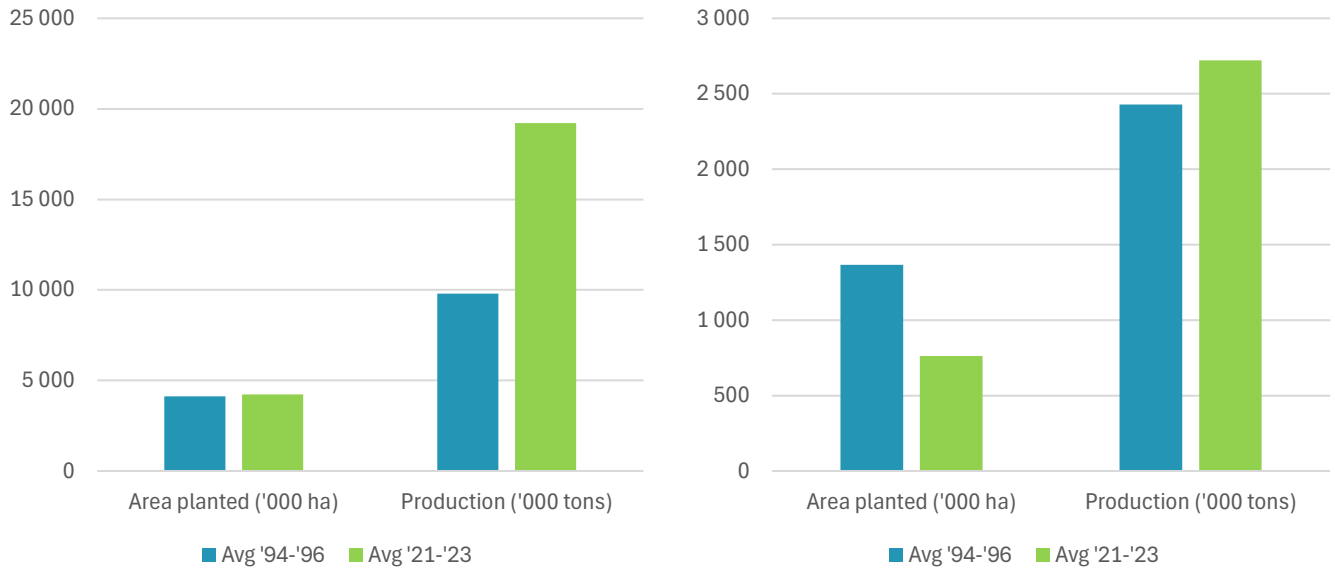

FIGURE 31: CHANGE IN SUMMER AND WINTER CROPS PLANTED AREA AND PRODUCTION

Source: BFAP, 2024

Furthermore, Figure 32 shows that the fastest yield growth was achieved in the past ten years, particularly for crops such as soybeans and canola, where yields improved rapidly due to advancements in genetics and farming practices. In the case of soybeans, where approximately 80% of the area is planted with farm-saved seed, a technology levy was introduced in recent years. This levy requires farmers to pay a fee per ton, which is transferred to seed companies to provide the necessary incentive for continued investment in South Africa's latest genetics and technology. South Africa outperformed the USA, Brazil and Argentina with respect to the average annual growth rate of maize yields over the past decade. This has boosted the overall competitiveness of South Africa's maize exports in the international market.

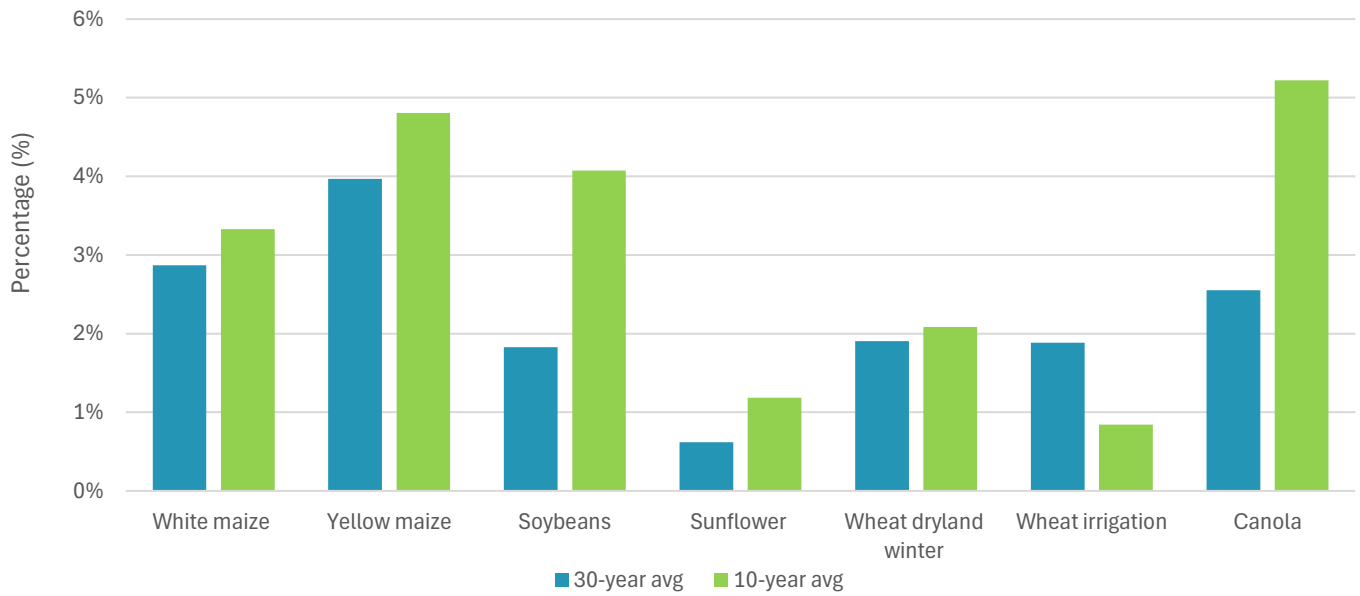

FIGURE 32: PRODUCTIVITY GROWTH IN YIELDS

Source: CEC, 2024; BFAP, 2024

The respective trends in the area planted under various field crops are presented in the next three figures. Several noteworthy characteristics have influenced the overall trend in the plantings of each crop. In 1993, the three-year moving average for the maize area planted was 3.5 million hectares, whereas in 2023 this declined to 2.6 million hectares (Figure 33). Most of these 'lost' hectares were shifted to soybeans, where the area planted increased from approximately 60 000 hectares in the early 1990s to over 1.1 million hectares by 2023, with an average national yield of 2.4 tons per hectare and a total crop of 2.7 million tons. Despite the reduction in hectares, South Africa's maize production has increased significantly due to advancements in genetics, technology, farming practices, and rotational cropping with soybeans.

The area under sunflower production has remained relatively stable at around 550 000 hectares. Although sunflower yields have not improved to the same extent as those of soybeans and maize, sunflowers have demonstrated extreme drought resistance, particularly in the more marginal production regions in the western and northern parts of the country. Production has not kept pace with the growing demand for vegetable oil, resulting in a substantial increase in palm oil imports. While sunflower meal consistently finds a market as animal feed, it typically trades at a discount compared to soybean meal.

Regarding the field crops grown during the winter season, typically planted around April and May and harvested in October and November, the significant decline in dryland wheat plantings in the summer rainfall regions (primarily in the Free State province) following the deregulation of the wheat market in 1995 overshadows any other shifts that have occurred (Figure 34). The area under wheat cultivation decreased from approximately 800 000 to around 700 000 hectares by 2023. Historically, in the 1980s when subsidies and other forms of support to grain farmers were at their highest, more than 2 million hectares of wheat were cultivated in the Free State. Much of this land reverted to grazing when this support was withdrawn due to its marginal production potential. In areas with better soils and more reliable rainfall, maize and, more recently, soybean production began to increase. It is also noteworthy that the introduction of faster-maturing maize varieties mitigated the risk of early frost damage in these production regions, contributing to the shift from wheat to maize and soybean production.

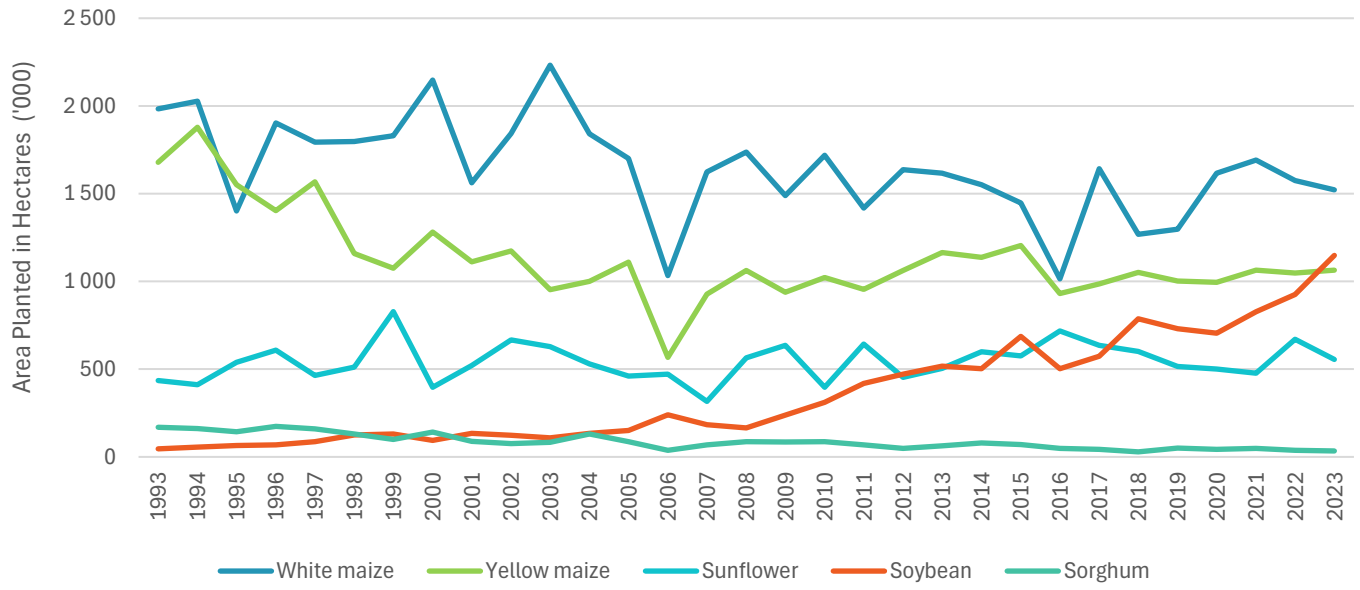

FIGURE 33: SUMMER CROP AREA PLANTED

Source: CEC, 2024

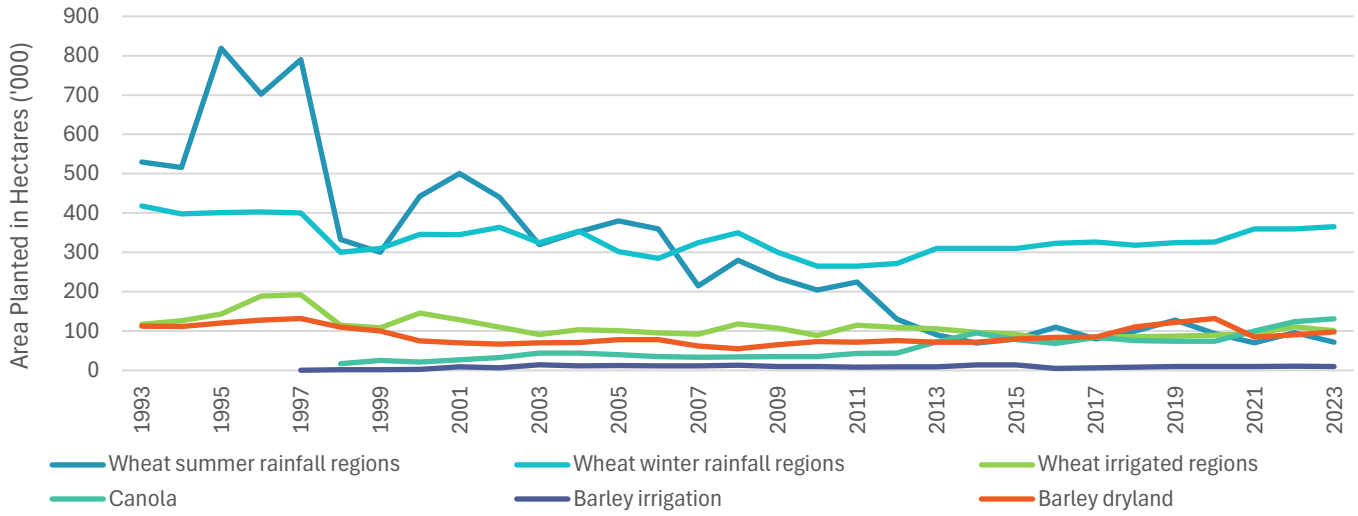

FIGURE 34: WINTER CROP AREA PLANTED

Source: CEC, 2024

Several commodities have experienced a decline in area under cultivation over time, including sugarcane, cotton, groundnuts, and sorghum (Figure 35). Although the specific reasons for the decline in each commodity vary, the underlying issue is the farmers' ability to achieve sustainable profit margins in the long term. In the case of cotton, there has been some reinvestment in recent years. The area under sorghum cultivation has remained relatively stable in recent years due to a shortfall, with sorghum trading at import parity at a premium above maize.

It is also noteworthy that the sugar market, and consequently sugarcane, is the only agricultural market that has not deregulated and still operates within a single channel where millers and growers negotiate the price for sugar sold in the local market, which is significantly higher than the world price. Surplus sugar is "removed" from the local market and exported at a loss. Therefore, the local market requires tariff protection from imported sugar. However, large volumes are still imported duty-free from Swaziland as a member state of the Southern African Customs Union (SACU). The decline of the sugar industry is complex, and several reports have highlighted the challenges and potential solutions in greater detail. Globally, sugar markets are severely distorted directly or indirectly through a range of trade policies and renewable energy policies.

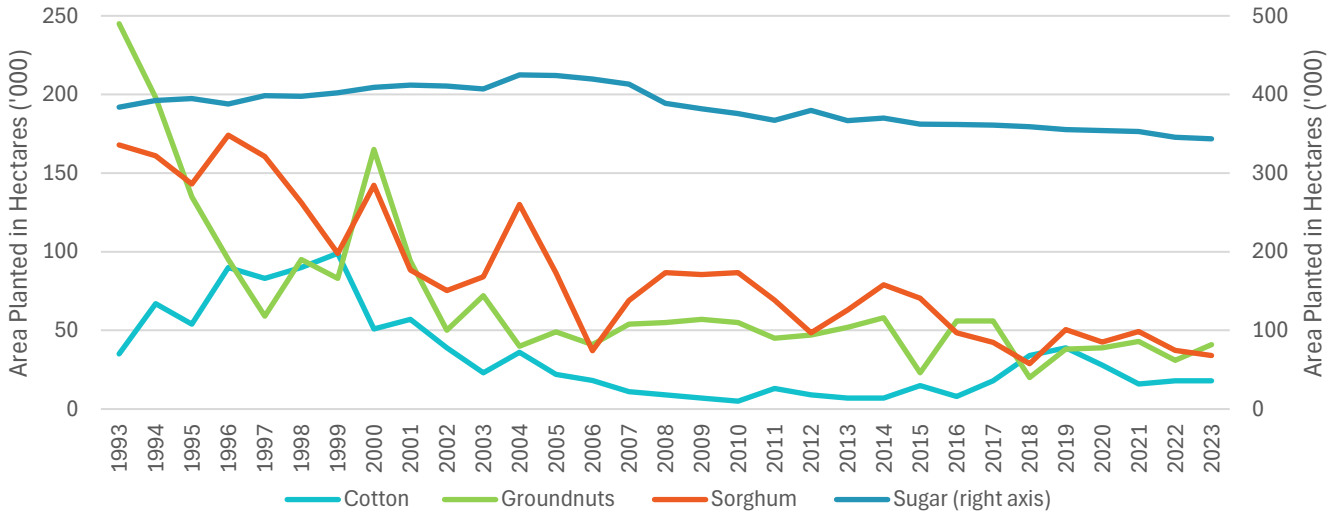

FIGURE 35: DECLINING FIELD CROPS IN HECTARES

Source: CEC, 2024

In the next section of the report, we discuss the deregulation and liberalisation of the sector, which resulted in the abolition of marketing boards and a shift in price discovery to a free market environment. In this environment, buyers and sellers respond to supply and demand fundamentals and various macroeconomic drivers, such as world prices and exchange rates. A key feature of price discovery in the grains and oilseed sub-sectors was the establishment of the Crop Estimates Committee (CEC, 2024), which has proven highly effective in estimating South Africa's grain and oilseed crops. Additionally, the South African Grain Information Service (SAGIS, 2024) was established to report a wide range of market data related to deliveries, usage, and trade flow on a high-frequency basis. In later years, the Supply and Demand Estimates Committee, hosted by the National Agricultural Marketing Council (NAMC, 2024), was established to provide official monthly estimates of the supply and demand balance sheets for South Africa. These institutions, along with the formation of the South African Futures Exchange for Agricultural Commodities (SAFEX)[5], provide the foundation for the price discovery of grains and oilseeds in South Africa.

While there is always room for continued improvements in the accuracy, transparency, and timely reporting of data, the success of the current price discovery mechanism in the grains and oilseeds markets is illustrated in Figure 36. In a free market with transparent and accurate information, the law of one price dictates that local prices will fluctuate between import and export parity prices, depending on local market fundamentals. Local prices will rise to import parity levels if there is a shortfall of product in the local market, making it attractive for traders to import products and sell them locally. Conversely, if there is a surplus of product in the local market, prices will drop to export parity levels, prompting traders to export products. Figure 36 demonstrates how the yellow maize price has remained within the import-export parity price band for most of the past three decades, showing that local maize prices accurately reflect local supply and demand dynamics.

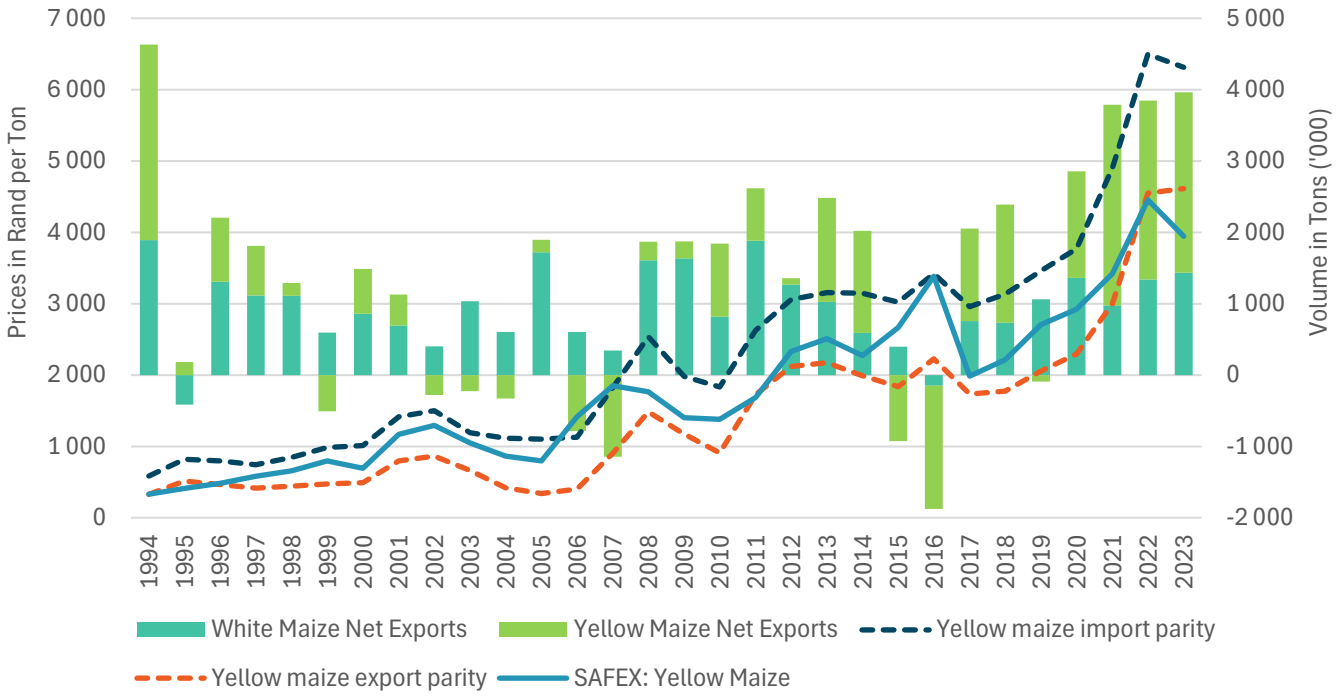

FIGURE 36: MAIZE PRICE DISCOVERY IN FREE MARKET

Source: BFAP & SAGIS, 2024

[5] Now styled as the JSE Commodity Derivatives Market

In the initial years, South Africa primarily exported its maize to regional markets. However, as Zambia's surpluses began to increase, traditional markets such as Zimbabwe and the Democratic Republic of the Congo were increasingly supplied by Zambia. Furthermore, South Africa's competitiveness in deep-sea export markets improved, particularly in recent years due to favourable climatic conditions that boosted production. Consequently, the number of export destinations expanded rapidly to include countries such as Vietnam, Korea, and China (Figure 37).

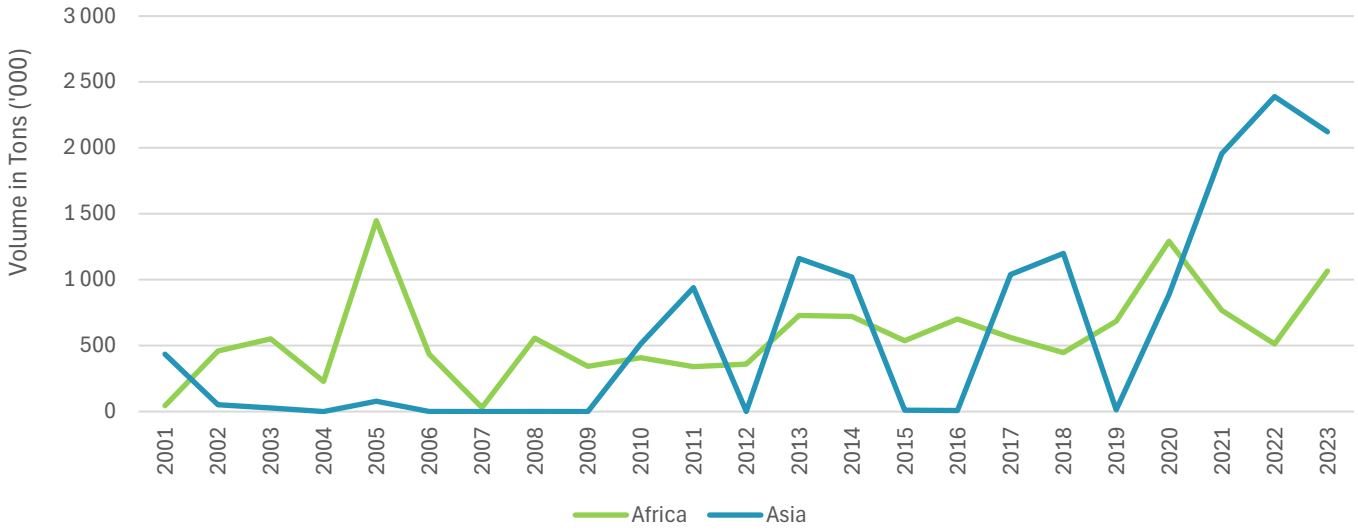

FIGURE 37: MAIZE EXPORT DESTINATIONS

Source: ITC, 2024

Earlier in the report, we illustrated that primary agricultural production grew faster than agro-processing. Within the agro-processing sector, however, the rapid growth of soybean processing over the past decade stands out, with investments exceeding 2 million tons in crushing capacity. Soybean meal imports were replaced by local production, and by 2023 South Africa achieved self-sufficiency in soybean meal and soybeans for the first time (Figure 38). Out of the total crop of 2.7 million tons, nearly 2 million tons of soybeans were processed, and 650 000 tons were exported.

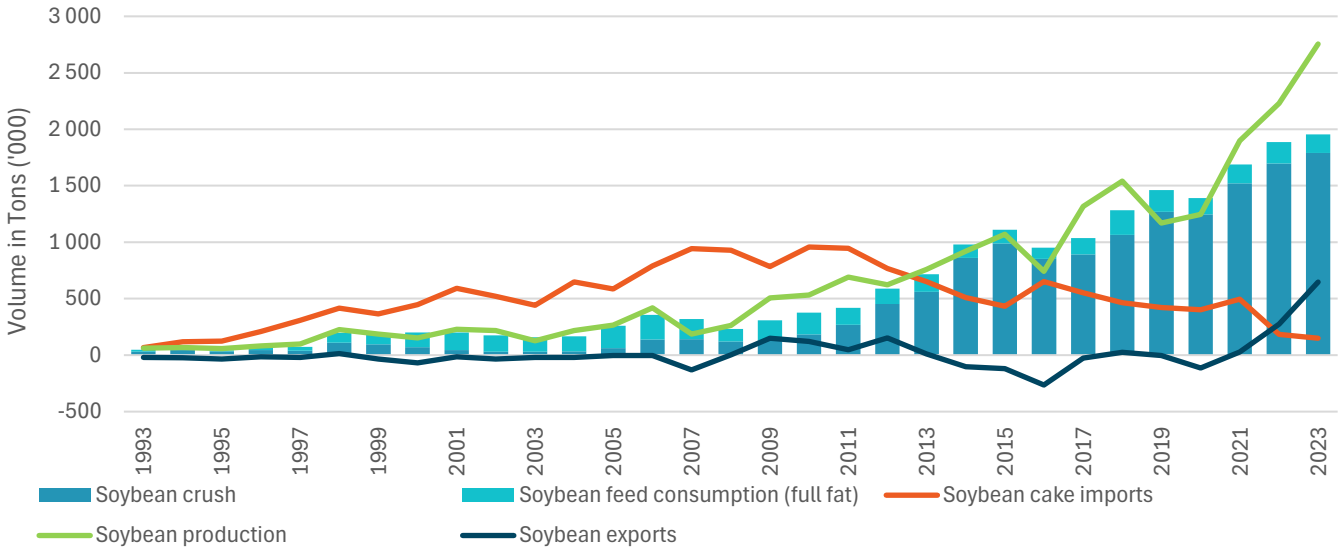

FIGURE 38: SOYBEAN PRODUCTION PROCESSING AND TRADE

Source: BFAP& SAGIS, 2024

Horticulture

The horticulture sector is made up of many different industries, each with its unique growth story over the past three decades. The picture of growth presented in Figure 39 is one of broad growth in the area planted for most major fruit commodities, albeit mostly at the expense of wine area. During the first few years of democracy, investment in expanding fruit cultivation saw decent growth of around 2% per annum, after which a slight slowdown occurred. From around 2006/7, major fruit industries expanded at a much faster rate, reaching 3.3% per annum. In 1994, the country's major fruit area planted was 201 000 hectares, which almost doubled to 385 000 hectares in 2023. The biggest expansion in the area was in macadamia plantings, whilst citrus fruits gained the amount in volumes produced. The wine grape area planted has decreased significantly after reaching a peak of 102 000 hectares in 2006, losing around 14 000 hectares by 2023.

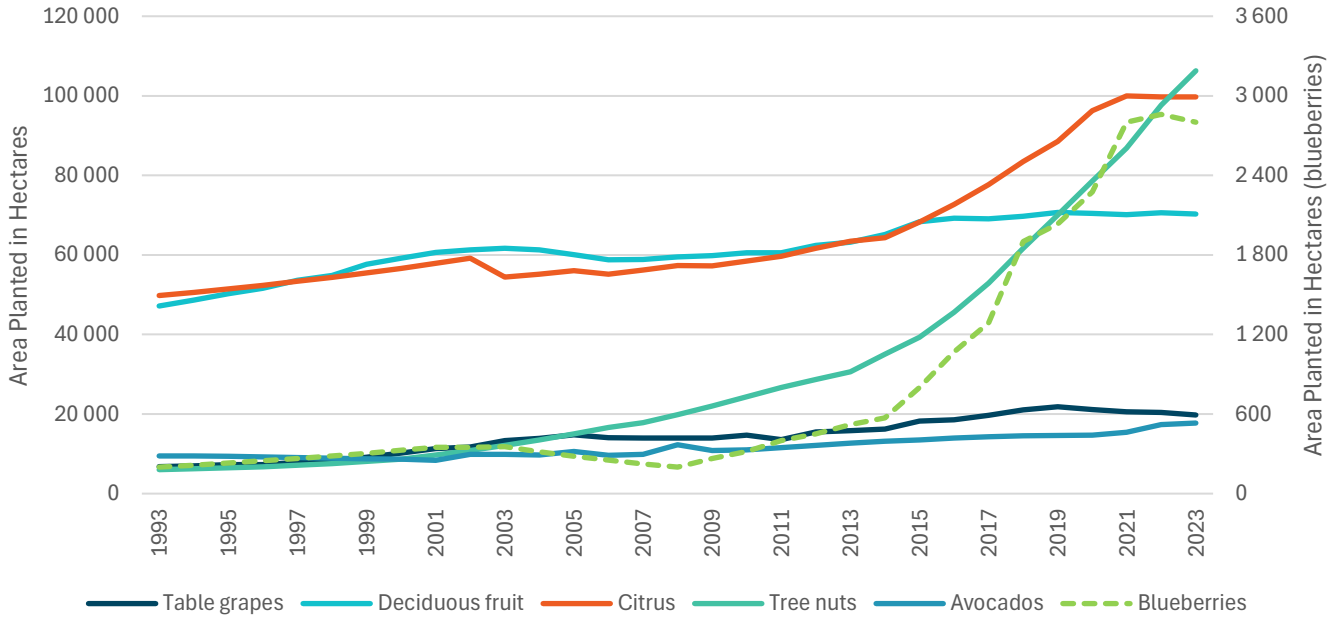

FIGURE 39: FRUIT AREA PLANTED
Source: BFAP, 2024

Several fruit categories expanded significantly during the democratic era. Figure 40 shows where this growth was driven mostly by area expansion or yield improvement. By far, the fastest-growing fruit type was blueberries, which, although growing from a very small base, managed to become a major fruit industry in just the past 10 years. Here, growth was a combination of both strong yield and strong area growth. Likewise, already established and large industries in the fruit sector, such as citrus, pome fruit, avocados and table grapes, realised strong growth in production volumes from a combination of area and yield growth. It should be noted that the 2022/23 table grape season was marred by many challenges, which saw the industry contracting by 16% year-on-year, skewing the data. By contrast, South Africa's production of tree nuts saw growth accelerate largely from gains only in area planted, which grew by 11% per annum in the past three decades. The strong production performance of the country's horticultural industries was further strengthened by high export earnings. Gross farm income in horticulture benefited from strong demand for South African products because of the counter-seasonal advantage for producers, whilst the continued depreciation of the Rand also meant higher returns to farmers.

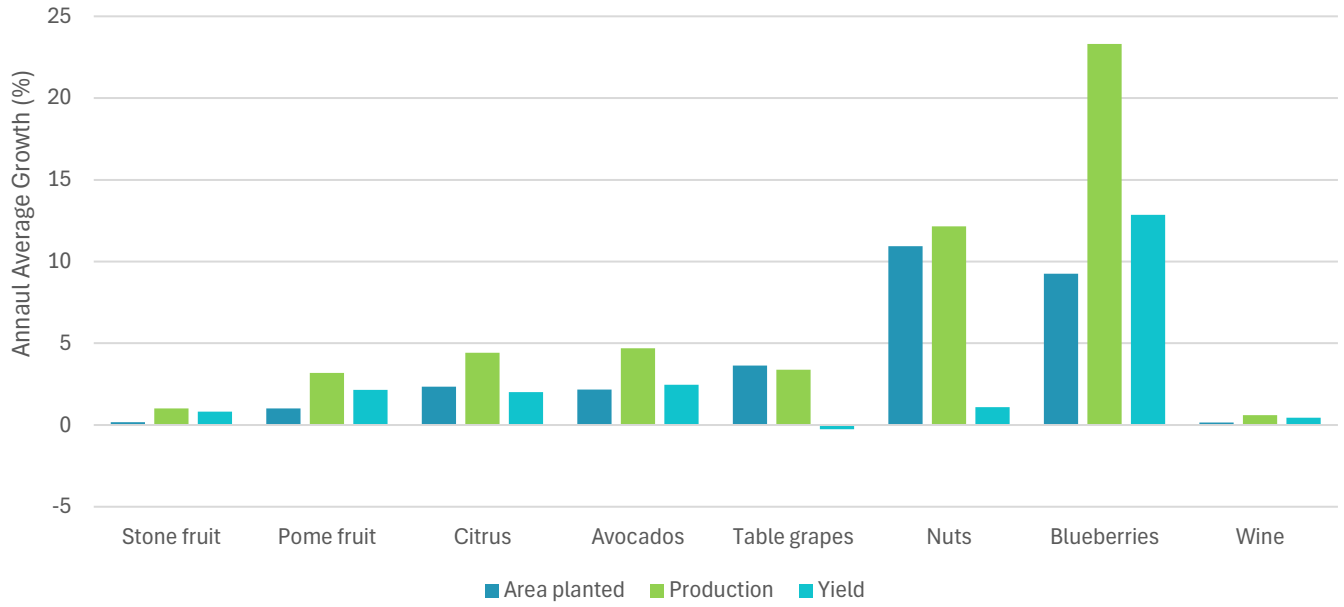

FIGURE 40: 30-YEAR ANNUAL AVERAGE GROWTH RATES IN AREA, PRODUCTION AND YIELD
Source: BFAP, 2024

Figure 41 shows how fruit and nut exports increased in value from 2001 to 2023 in US dollar terms. Not only did the horticultural subsector succeed in growing sales in their traditional markets in Europe and the United Kingdom, but sales to other countries have translated into a more diversified set of export destinations. It should be noted in the past several years, the strong price support during the 2010 to 2020 period has been largely offset by other Southern Hemisphere countries also growing their production base substantially, resulting in prices declining and halting further export revenue growth since 2020. Logistical challenges contributing to the freight price hike, combined with high inflation and pressure on international consumers also caused some pushback on returns realised at the port of loading.

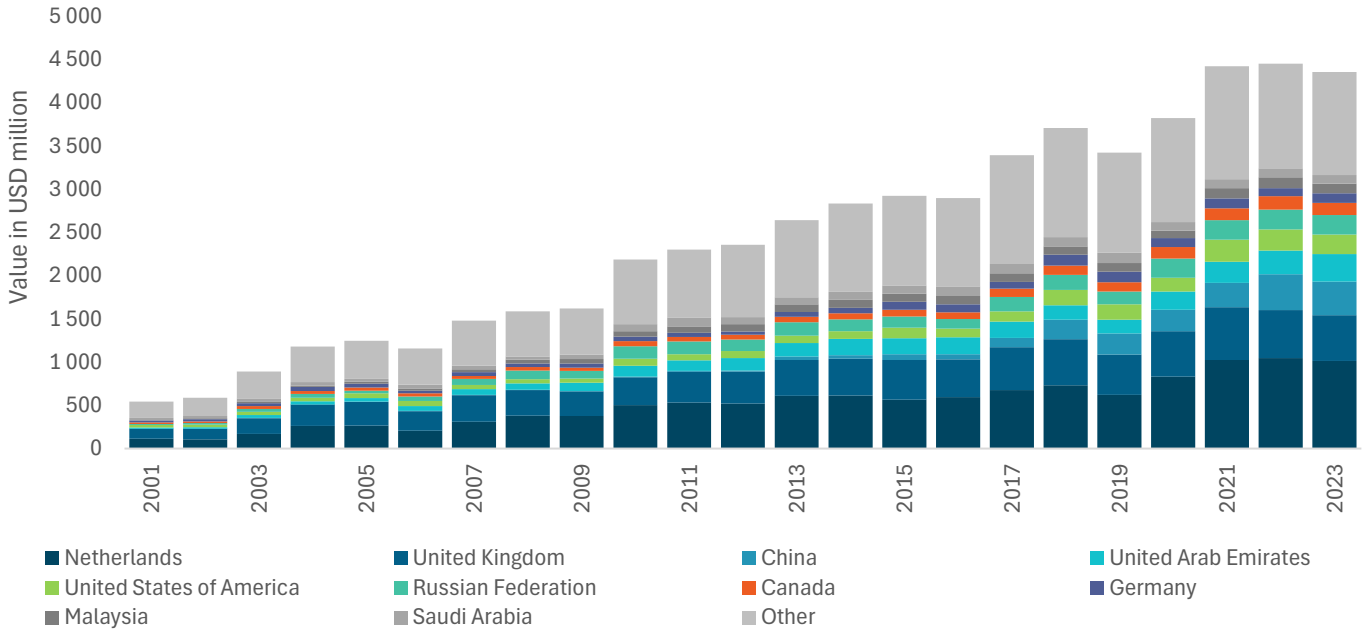

FIGURE 41: FRUIT AND NUT EXPORTS
Source: ITC, 2024

In 1994, the total area under wine production was 84 000 hectares, peaking at 102 000 hectares in 2006 during the red wine boom (Figure 42). Since then, there has been a gradual decline, with the area under production now only 5% more than in 1994. Technical productivity gains have resulted in efficiency improvements of 21% when comparing production volumes from 1994-1996 to those from 2021-2023. An interesting interplay between productivity gains and farm consolidation has been observed. To benefit from scale efficiency and remain in business, the average farm size has doubled over the past 30 years, resulting in the loss of half of the producers in the wine industry during this period. Conversely, beyond the farm gate, there has been fragmentation at the cellar level, with a 90% increase in the number of cellars, indicating a shift towards value addition as the landscape has changed. This increase and subsequent stabilization in the number of cellars, particularly private cellars, have unlocked additional turnover through wine as an experience. With less wine per cellar on average, alternative income streams have become paramount. The direct contribution of wine tourism was valued at R3 billion in 2022, representing 17.3% of the total revenue generated by cellars that crush grapes. Micro wine cellars, in particular, are heavily dependent on this value addition to remain in business, with more than a third of their turnover generated from wine tourism. South Africans, especially Western Cape residents, remain the backbone of wine tourism, particularly as day visitors, with about one-third of visitors being foreigners.

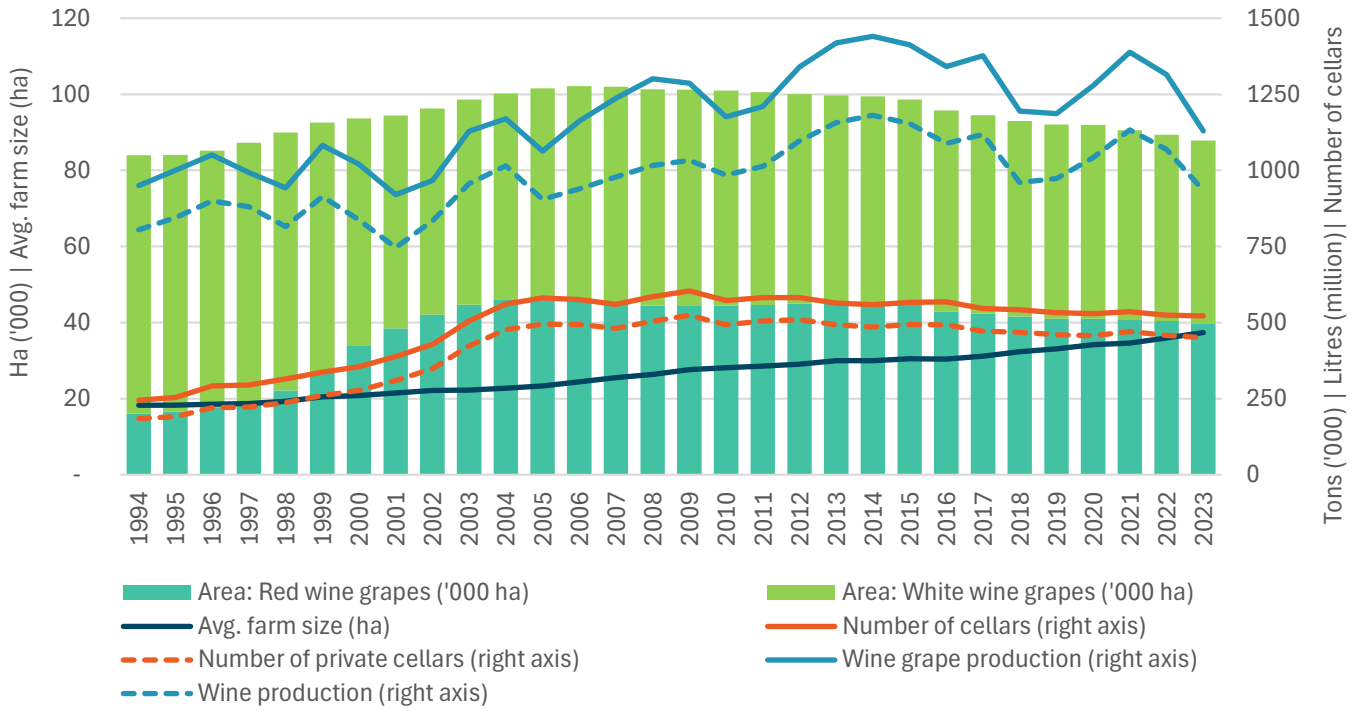

FIGURE 42: WINE AND WINE GRAPE PRODUCTION
Source: BFAP, 2024

When we consider wine sales, the opening of the export market has led to a gradual expansion of both bulk and packaged wine exports, with the rate of bulk expansion being 2.5 times that of packaged exports (Figure 43). The average annual growth rate for bulk exports during this period was 8.1%, while packaged exports grew at 3.3%. In contrast, local consumption growth was 0.9%. South Africa entered the global market below the average and continues to trail. On average, South African wine earns 90 cents on the dollar for bulk exports compared to the global average export price, and 65 cents on the dollar for packaged exports. The latter has actually declined from 76 cents on the dollar in 2001, whereas the bulk wine export prices in 2023 are still comparable to those in 2001.

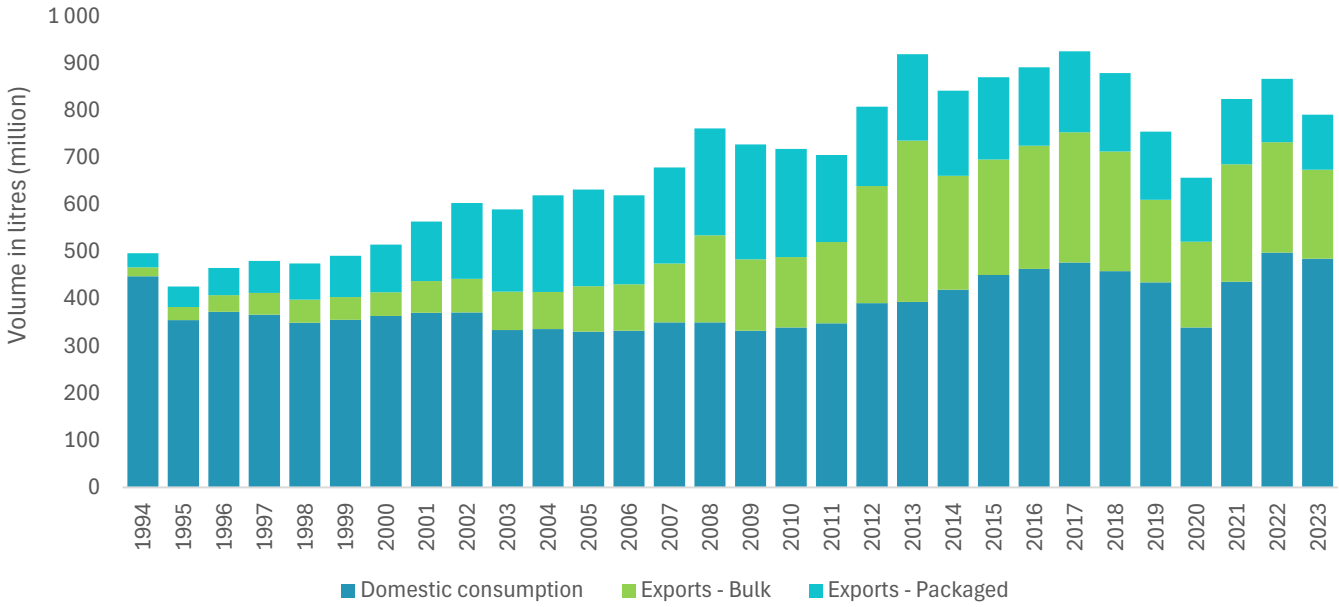

FIGURE 43: WINE SALES BY MARKETING CHANNEL
Source: BFAP, 2024

Our final assessment within the horticulture sector looks at the performance of micro crops. These are often niche fruit industries with a much smaller footprint but still make an important contribution to the sector's overall performance. Although detailed data on their area planted is limited, Figure 44 presents the growth in total production volumes, whilst their contribution to real farm income is given on the right axis (2015 base year). A key driver for strong growth has been local and global demand increases fuelled by the emergence of healthier eating habits and new evidence of the health benefits that these fruits enable. Strawberries and other berries (raspberries, blackberries and gooseberries) have seen strong growth, as have cherries and litchis.

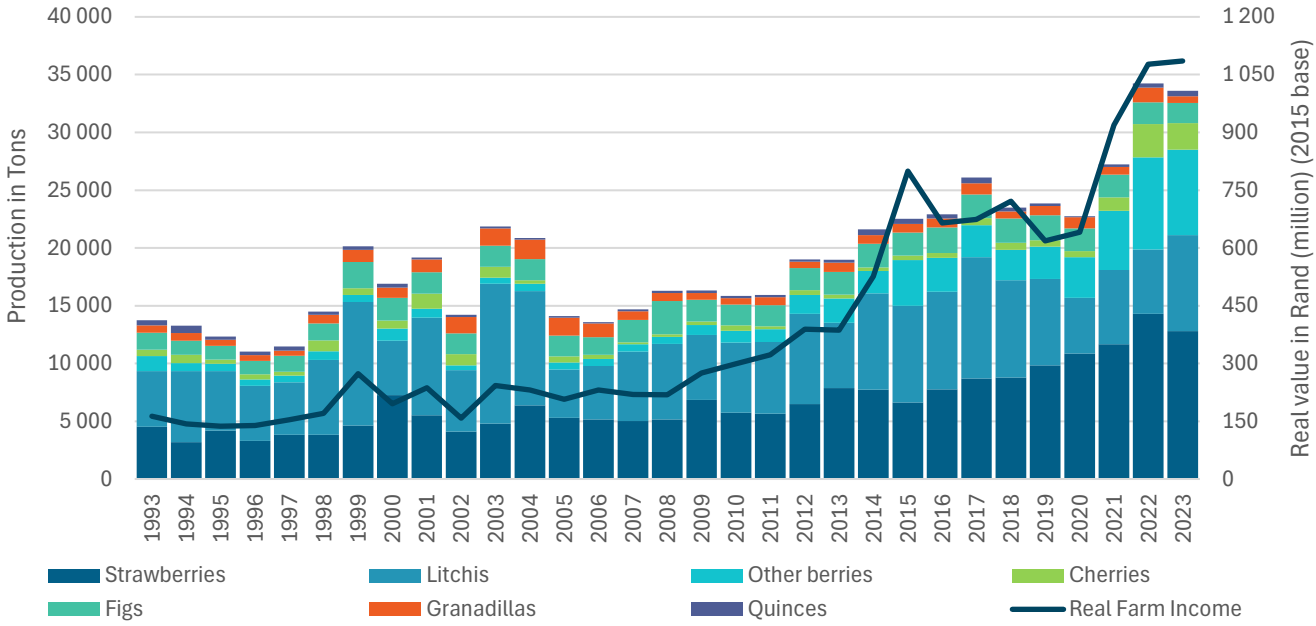

FIGURE 44: THE RISE IN PRODUCTION OF MICRO-CROPS
Source: DALRRD, 2024

The changing policy and institutional environment

An economy functions on the basis of the myriad of decisions made every day by consumers and producers throughout the supply chains that take produce from the factory floor and the farms to the point of final consumption. These decisions are influenced by factors in the wider political, institutional, natural resource, economic, and technological environment at the global and local levels. We have alluded to some of these in the earlier discussion (e.g., the implications of Russia's invasion of Ukraine and the near-collapse of the financial system in 2008). The decisions of consumers and producers are also influenced by what governments do, i.e. by macroeconomic and sector policies. In this regard, growth in the South African agricultural sector post-1994 was clearly shaped by the democratically elected government with its new fiscal, monetary, trade and development priorities. A range of more sector-specific policies and programmes provided further direction to the agricultural growth trajectory and structural change in the sector.

The advent of democracy created a unique environment for policy change because it coincided with a benign external environment. Examples include the new geopolitical realignment that resulted from the collapse of the Soviet Empire, the positive outlook for South African exports that resulted from the lifting of boycotts and sanctions and the simultaneous adoption of the Marrakech Agreement and the subsequent creation of the WTO. While this "democratic dividend" may have been more short-lived than expected, it created opportunities for policy changes at the macroeconomic and sector level in South Africa that profoundly impacted the path of agricultural change over the ensuing three decades. Here, we discuss the most important of these changes and analyse their consequences for the sector.

A range of different macroeconomic frameworks evolved with the political landscape over the 30-year period, starting with the Reconstruction and Development Programme (RDP) and the work of the Macroeconomic Research Group (MERG). The RDP went through two iterations, first as the main policy statement for the election manifesto of the tripartite alliance (ANC, COSATU and the South African Communist Party) (ANC, 1994), and second as a White Paper on Reconstruction and Development (White Paper, 1996). However, the RDP was criticised for being a shopping list of actions without prioritisation among them, or consideration of its impact on macroeconomic balances (Munck, 1994). The MERG report, released at the same time as the RDP (MERG, 1993) was subsumed by the former because of opposition from the business sector, but dissatisfaction with the RDP remained until it was abandoned by the government in 1996 in favour of the Growth, Employment and Reconstruction (GEAR) strategy of the Treasury (Terreblanche, 1999). GEAR was, in turn, superseded by the Accelerated and Shared Growth Initiative for South Africa (ASGISA) in 2006, the New Growth Plan (NGP) in 2010 and then finally, the 2012 National Development Plan, still the formal policy position of the government at the time of writing. Agriculture and land reform were given some prominence in all of these policy statements.

Agricultural and land reform policies

Background

Greyling et al., 2024 illustrate the long sweep of agricultural policy in South Africa (Figure 45).

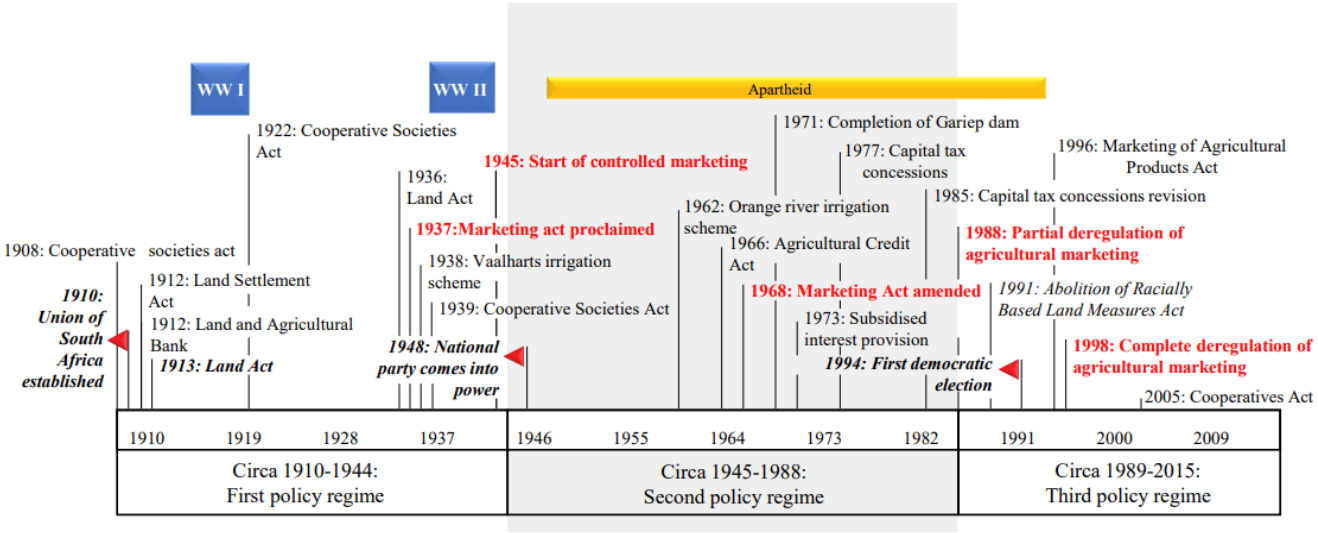

FIGURE 45: A TIMELINE OF AGRICULTURAL SECTOR POLICY IN SOUTH AFRICA FROM 1910
Source: Greyling, et al., 2024

The first phase (or "policy regime") was characterised by a sequence of matched policies that sought, on the one hand, to support white farmers and, on the other, to suppress farming by black farmers. The former included the establishment of the Land Bank and the passage of the Land Settlement Act, both intended to ease access to land for white farmers, in 1912 and the Marketing Act of 1937, whose main purpose was to ensure market access and to protect white farmers from perceived exploitation by those further downstream in the different agricultural value chains. Suppression of black farmers came in the form of the Land Acts of 1912 and 1936. These laws ensured that, where black farmers did have title to land, their title was inferior (e.g., it could not always be used as collateral or to qualify to vote in the era when all qualified men in the country could actually vote). In the main, however, black people were not given titles and, of course, had access to far less land. Between 1912 and 1936, land occupation by black people was restricted to so-called Scheduled land, making up only 6 percent of South Africa's surface area. Between 1936 and the late 1980s, a further 7 percent of the land was added in the form of "Released land" to constitute the Bantustans as they existed until 1994.

Likewise, the second phase (the era of WWII up to the demise of apartheid in 1990) was one of consolidation and expansion of the farmer support system for commercial farmers, encompassing the research, development and extension system, the provision of financial services including tax concessions, and the provision of irrigation infrastructure, etc. The third phase was aimed at meeting three objectives, namely a) removing the barriers to participation by black farmers (e.g., the Abolition of Racially Based Land Measures Act, 1991); b) dismantling support to white farmers (e.g., the demise of the Marketing Act and the withdrawal of tax concessions to cooperatives); and c) building a more competitive agricultural sector (e.g., via trade policy, land reform).

Agriculture and land policies in a macro context

In the section on "building the economy" the RDP promised to grow the commercial farming sector and to support small-scale agriculture by changing ownership patterns through land reform and supporting small farmers (particularly women). The goal was further to ensure that affordable food was available to meet the basic needs of all South Africans and to extend full worker rights to farm workers. Simultaneously, land reform was envisaged to consist of measures to ensure tenure security, and would consist of two parts, namely redistribution and restitution.

Agriculture was also addressed in the MERG (McCarthy, 1994), based on the prevalence of the poor, especially poor women, in South Africa's rural areas, with half the rural poor dependent on agricultural wage employment (IDS, 1994). Policy recommendations included land redistribution, investment in physical and social infrastructure, incentives to commercial agriculture, a strengthened voice for landless women and wage labourers, the use of variable tariffs on maize and wheat to ensure food security in staple foods and rural nutritional programs targeted at the women and infants. Furthermore, the incomes of food-insecure households in urban and rural areas would be increased by a national minimum wage and public works programmes.

GEAR, on the other hand, hardly mentions any social or sector policies, including agriculture and land reform, in line with its focus on achieving overall macroeconomic balance, but it recognises the key potential of the sector in addressing inequality and contributing to economic growth. ASGISA is also light on any detailed sector policies. Agriculture and land reform are mentioned in the context of their potential contribution to job creation, with a focus on biofuels.

By contrast, the New Growth Path (NGP) (Presidency, 2010) echoes many of the policy positions of the MERG, advocating support for commercial farmers as a means of employment creation, and land reform, support to small-scale farmers, and measures to address price instability in wheat and maize prices as measures to increase incomes for the working poor and rural people. To this, the NGP adds a focus on export promotion as a means of stimulating commercial agriculture.

The NDP has by far the most detailed exposition of the agricultural and land reform policies of the state. These will be discussed in the relevant sections below.

Policies since 1994

The most prominent policy statements on agriculture and land reform in the national sphere by the South African government over the past three decades include:

1. The White Paper on Agricultural Policy, 1995
2. The Strauss Commission Report into the Provision of Rural Financial Services, 1996
3. Broadening of Access to Agriculture Thrust (BATAT), 1996
4. The Integrated Food Security and Nutrition Programme, 1996
5. The new Marketing policy as enshrined in the Marketing of Agricultural Products Act, 1996
6. White Paper on South African Land Policy, 1997
7. Integrated Sustainable Rural Development Strategy, 2000
8. Land Redistribution for Agricultural Development Programme, 2001
9. The Strategic Plan for South African Agriculture, 2001
10. The Integrated Food Security Strategy for South Africa, 2002
11. The Micro Agricultural Financial Institutions of South Africa (MAFISA) initiative, 2004
12. The Proactive Land Acquisition Strategy, 2006
13. The agricultural and land chapters of the Accelerated and Shared Growth Initiative for South Africa, 2007
14. Recapitalisation and Development Programme, 2011
15. The Integrated Growth and Development Plan, 2012
16. The National Development Plan, 2012 (Chapter 6)
17. Poultry Sector Master Plan, 2019
18. South African Sugar Value Chain Master Plan 2030, 2020
19. Agriculture and Agro-processing Master Plan, 2022

The first twelve of these were meant to affect the agriculture and land sector strategies enumerated in the RDP, GEAR, ASGISA, and the NGP, as enumerated above, while the last six focus on Chapter 6 of the NDP. In this regard, the NDP does not deviate from the main goals of its predecessors (envisaging the sector as a tool for stimulating economic growth in rural areas and greater equality in the country as a whole by means of producing affordable food and securing worker rights). It also does not deviate from the overarching mechanisms proposed to reach these goals, namely growing commercial agriculture and implementing land reform and farmer support to land reform beneficiaries as a means of creating opportunities and reducing inequality. Where the NDP does differ is in its detailed proposals on what actions are required to implement these programmes. In this regard, a proper assessment of the success of these parts of the RDP would entail comparing actual implementation (i.e. the last six items on the list above as well as the post-2012 actions of the Department after the release of the NDP) with these detailed proposals.

The policies identified above all come in the form of a written document that has been formally accepted by the Government as official policy statements. There are also statements of policy that are not formally documented. To identify these, it is necessary to search the Annual Reports of the Department[6], giving the following incomplete list:

- Comprehensive Agricultural Support Programme (CASP), 2003
- Recapitalisation and Development Programme, 2010
- The Zero Hunger Programme, 2011
- The Ilima/Letsema project, 2011
- The "one household one hectare" program, 2015
- The Agri-Parks Initiative, 2015.

It is not always clear whether all or any of these policies are still active – this would entail a search of the Department's Annual Reports to see whether they incurred any expenditure. For example, there is no longer any mention of the "one household, one hectare" programme in the 2021/2022 and 2022/2023 Annual Reports, while CASP still makes up a considerable proportion of the expenditure of the Provincial Department of Agriculture.

Policy instruments deployed since 1994

Governments dispose of a wide range of instruments to implement policy. These include, among others, Acts of Parliament, Regulations enabled under these laws, and Departmental Strategic Plans and budgets, etc. While it is not possible to identify and write all of these up, the following paragraphs provide a bird's-eye view of salient issues regarding extant statutes, budgets and institutions, by means of summary data and some examples.

Statutes

The agriculture function is identified in the Constitution of South Africa as a concurrent function between the national and the provincial spheres of government, with a few functions (e.g., abattoirs and veterinary services) reserved exclusively for the provinces. This means that the Provincial Legislatures also have the authority to pass laws pertaining to the sector – to the best of our knowledge these have not been inventoried. In the national sphere, laws passed in Parliament

[6] *Available at https://old.dalrrd.gov.za/Branches/Food-Security-Agrarian-Reform/National-Extension-Support/Annual-Report/DAFF-Annual-Reports*

are administered by the Department of Agriculture (which is, of course, the main policy instrument in the implementation of policy)[7]. The website of the Department lists 187 of these laws, but the list is unfortunately riddled with omissions, repetition and errors. For example, it does not identify any Acts of Parliament passed after 2015, while a search for the years 2019 to 2024 revealed six such pieces of legislation, and it includes brochures, regulations issued under statutes, bills, etc. A preliminary clean-up of the lists leaves 54 separate pieces of legislation but also reveals an anomaly, illustrated in Table 3, namely that the Department administers more laws passed during the apartheid era and earlier than since 1994, and has passed only one new law since 2015 – the rest identified in the period 2019-2024 are all either Amendment Acts (e.g., the Agricultural Products Standards Amendment Act 12 of 2023) or new versions of older Acts (e.g., the Plant Breeder's Rights Act of 2018).

TABLE 3: LAWS ADMINISTERED BY THE DEPARTMENT OF AGRICULTURE

Date law promulgated	Number of laws
1935-1993	29
1994-2004	21
2005-2014	3
2015-2024	1
	54

Budget

Unravelling the expenditure of taxpayers' money on the agriculture and land reform functions of government is a complicated exercise and one that needs to be updated since the latest estimate we have was done in the previous decade (Kirsten et al., 2009). An accurate assessment requires the unravelling of the provincial budgets as well as those of the State-Owned Enterprises (SOEs) involved with the sector (e.g., the Agricultural Research Council and the Land Bank[8]). Nevertheless, most of the expenditure is reflected in the budget of the national Department of Agriculture, and here, Table 4 shows that the share of the national budget that goes to these functions has been declining over at least the past seven years. Note that according to the Malabo Declaration targets, South Africa committed to spending 10% of its budget on agriculture – unlikely ever to be achieved.

TABLE 4: AGRICULTURE AND LAND REFORM'S SHARE OF THE NATIONAL BUDGET

	Agriculture, Forestry, Fisheries, Land Reform and Rural Development	National Expenditure	Share of national expenditure (%)
	R million		
2017/18	15176	1 403 215	1.2
2018/19	16594	1 504 200	1.1
2019/20	16948	1 624 571	1.0
2020/21	15248	1 747 452	0.9
2021/22	16920	2 077 000	0.8
2022/23	17171	2 157 300	0.8
2023/24	17387	2 268 900	0.8

[7] *The Department has been named and renamed many times, and is currently the Department of Agriculture, Forestry and Fisheries. We use Department of Agriculture for ease of exposition. To complicate matters, the Department of Land Reform and Rural Development also addresses matters pertaining to agriculture, but its remit is wider, encompassing land administration, spatial planning, etc., and spanning urban as well as rural land. This department has at times been merged with agriculture, and at times been separated, as is the case at the time of this writing, just after the establishment of the Government of National Unity. We include those policies and policy instruments that pertain to agriculture where possible in this section.*

[8] *Formally the Land and Agricultural Development Bank of South Africa.*

Institutions

The main institutions involved in the implementation of agricultural and land reform policy include the Land Bank and the Agricultural Research Council. As far as the former is concerned, Figure 46 shows the nominal annual loans and advances of the Land Bank. These reached a peak in 2018 and 2019 but declined steeply over the next five financial years. Note that the earlier Annual Reports of this institution are not available online, but it is clear that the Land Bank has not been managed well for large parts of the past three decades.

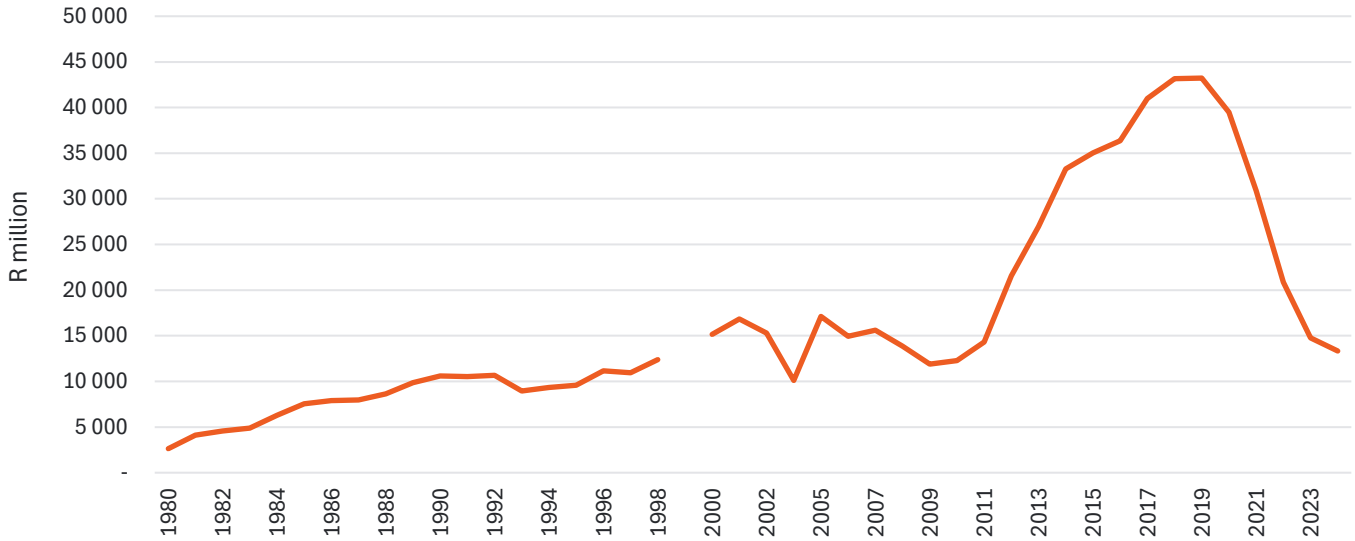

FIGURE 46: ANNUAL LOANS AND ADVANCES OF THE LAND BANK, 1980-2023
Source: Annual Reports of the Land Bank

The **Land Bank**, established in 1912, had a narrow mandate for many decades. Its focus was on mortgages for white farmers to acquire farmland. It also provided wholesale finance to agricultural cooperatives and marketing boards who on-lent production (short-term) finance to individual farmers. These loans were offered at below-market rates. This was because the bank was well supported by the state through an initial capital endowment, annual parliamentary allocations and state-guaranteed long-term debentures and bonds sold in the capital market. For example, the bank's loan book was R26 billion (in 2022 values) and was funded through R8 billion of government capital and Land Bank reserves (R3.4 billion), all at zero interest rate, with the balance obtained in the capital market at market-related interest rates. With this mix of funds, its cost of capital was far below the prime lending rate of the commercial banks. Even adding an interest margin to cover operational costs, the bank was able to on-lend to farmers below commercial prime lending rate and at very favourable terms (25-40 year mortgages, for example). This was not something the commercial banks could do. In essence, Land Bank, in a true sense, fulfilled its development mandate – it provided affordable finance.

Its funding model and its narrow and specific mandate meant that, for decades, it was a stable institution. However, critical mistakes were made that compromised its role as a development finance institution in the agricultural sector. As a result, the Land Bank is today a shadow of its former self following two decades of poor decisions and poor management. The result was two periods of default, which constrained the ability of the institution to provide affordable finance to support the growth and transformation of the agricultural sector. It is disheartening to see how many South Africans, including parliamentarians, have forgotten the simple and influential role the Land Bank played in South African agriculture. The former Minister of Agriculture, Derek Hanekom, summarised this role nicely in his foreword to the bank's 1997 Annual Report:

> "The Land Bank was a conduit for cheap money for mortgage finance for farmers, for production finance to co-operatives, and for the liquidity of the marketing boards".

By the early 2000s, the Land Bank was virtually bankrupt and had to be resuscitated around 2008/9. Even after this, critical mistakes continued to be made. At the end of the 1997 financial year, Land Bank had R1.7 billion in reserves. In today's values, this would be only R6.5 billion. It was all lost, either through irregular expenditure, or poor credit decisions and lending to activities outside the bank's mandate.

New leadership also changed the nature of the Land Bank to be more commercially focused and to compete with commercial banks. Furthermore, in 1999 the bank changed its policy on interest rates. It had always charged farmers a simple interest rate, but then switched to compound rates, resulting in an increase in non-performing loans and lost court cases.

The other big change involved Land Bank linking its lending rate to the prime rate. This had never been done before as the bank estimated its own interest rates irrespective of the decisions taken by the South African Reserve Bank. Currently, all Land Bank's pricing is linked to the commercial prime lending rate.

Other mistakes were made too. These included:

- lending to non-agricultural activities such as property development, soccer teams and cotton gins, which depleted capital reserves
- engaging in non-traditional transactions such as structured finance deals
- reducing the number of offices in the country and the number of field staff to manage and assist clients
- using intermediaries to manage short-term production loans, resulting in poor credit controls and massive losses for the bank.

The technical default of the Bank in 2020 happened in the midst of the Covid-19 pandemic when one of the lenders called up its facility to the Land Bank and, with insufficient liquidity due to the long-term nature of the loans and increased bad debts amongst farming clients, a cross-default was triggered which at the time of writing is still being resolved. This reality, together with a large number of non-performing loans and massive arrears, put the Land Bank in a precarious position, resulting in the net loan book declining from R43 billion in 2019 to around R20 billion in 2022/23. Of this loan book, around 50% is non-performing, mainly amongst large-scale white commercial farmers and some agribusiness.

Fortunately, it seems as if the institution is now on a path to recovery and able to provide finance to black commercial farmers through the Blended Finance Programme supported by the Department of Agriculture. Time will tell.

The **Agricultural Research Council (ARC)** seems to have kept out of the financial troubles that plagued the Land Bank over the years, but it is not clear that it has succeeded in spending its available resources sensibly. The ARC is the largest entity in the South African National Agricultural Research System (NARS), which consists also of universities, private organisations and non-profit entities as well as other public bodies involved in agricultural research. The current NARS arrangement is, however, largely incapable of addressing the key challenges of the South African agricultural sector in a coherent manner. The main weaknesses include lack of a coordinating mechanism at national level; inadequate mechanisms to establish priorities; lack of a national system to allocate resources to priorities; lack of institutionalised monitoring, evaluation and impact

assessments; lack of R&D capacity; lack of an intellectual property rights (IPR) management system; poor partnerships (public-private, public-public, private-private); ineffective linkages among knowledge and information generators and users; inadequate linkages internationally; low level of investment in agricultural research; overlapping mandates of role players and lack of clarification of the role and responsibilities of different role players.

The ARC has been plagued by managerial issues and poor appointments at the senior level, leading to an exodus of top scientists to universities and private sector companies. At the same time, the budget was almost insufficient to cover basic needs such as staff costs and head office overheads. This resulted in poor maintenance of key research infrastructure and, therefore, compromised the ability of the ARC to make a meaningful impact on research and innovation in South African agriculture. More innovation and research are now being done at the universities and in the private sector and funded by commodity organisations and private investments than at the ARC.

The level of detail regarding employee remuneration reported in the Annual Reports of the institution has improved over the years (note that these are only available online from the 2010 fiscal year). Nevertheless, two important shorter-term trends can be discerned.

First, Figure 47 shows that the cost of employment as a proportion of total revenue declined by some 10 percentage points from above 60% in 2001 to below 50% in 2023. Could this reflect more expenditure on the equipment required for research?

Second, however, it is clear, even over so short a period, that the remuneration paid by the institution is becoming increasingly skewed towards top management. In 2010, the average remuneration of the four top managers of the institution was 4 times that of the average cost to company for all employees: this had more than doubled to ninefold on average for the six top managers over the three-year period 2021 to 2023. Similarly, the top managers took home 1.2% of the total wage bill of the institution in 2010; in 2023 this had increased by 45% to an average of 1.7% in the three years 2021 to 2023.

FIGURE 47: PERSONNEL COST AS A SHARE OF REVENUE, ARC
Source: Annual Reports of the ARC

During the late 1980s and early 1990s, the **Development Bank of Southern Africa** built a strong portfolio of projects aimed at putting farmer support systems in place in the former homelands. The approach was built on a considerable body of research, monitoring and evaluation, and policy formulation using domestic and international networks. This capacity to appraise and finance projects was regarded as one of the strengths of the institution but was dismantled within the first few years after 1994. The argument was that the Department of Agriculture would ensure that a farmer support system was in place to support the objectives of agricultural policy (i.e. building commercial agriculture and supporting small-scale farmers). This would come in the form of programmes such as BATAT, support from the Land Bank and the ARC, land reform, and so forth. Needless to say, these institutions did not fulfil their mandates in any way that materially benefitted small-scale farmers, while commercial agriculture was left to its own devices.

Even the **National Agricultural Marketing Council (NAMC)**, which appears to have been well-managed since its creation in 1996, has seen private sector initiatives, especially in the form of the Bureau for Food and Agricultural Policy (BFAP), rapidly move into the public goods space of the provision of market intelligence[9], the first necessary condition for the empowerment of new entrants to farming and the rest of the agricultural value chain.

The NAMC had its origin in the controlled markets that defined agricultural commodity production, processing, distribution and trade in South African agriculture through most of the 20th century. These were radically deregulated during the early 1990s and finally when the Marketing of Agricultural Products Act (Act No. 47 of 1996) was passed. The new Marketing Act made provision for the establishment of the NAMC and also replicated some of the powers of the old Act providing for interventions such as registration and information collection and the introduction of statutory levies.

The need for a NAMC was recognised by the new legislation but failed to define its role and allocate the necessary authority and independence. It basically established the NAMC as a state organ with no real purpose by denying it any decision-making or executive powers. Experience over the last few decades also suggests that until recently the various Ministers of Agriculture did not always take the institution seriously.

Onderstepoort Biological Products (OBP) is an important role player in effective animal biosecurity, particularly as a sole supplier of essential vaccines and other biological products for animal diseases occurring in South Africa. OBP has been plagued for much of the last 15 years with elements of State Capture and non-accountability of a large National treasury allocation of R500 million to fix and upgrade the vaccine production facility. This has been so bad that staff left, the budget for vaccine production was compromised, and commercial sales of vaccines declined dramatically. It also became clear that OBP continues to experience significantly long delays in delivering veterinary medicines for vaccination against important diseases commonly found in Southern Africa. OBP used to have the capacity to manufacture 90 million doses of vaccines annually but typically now only produces around 22 million doses on average. The breakdown of the freeze drier, loss of critical staff and poor maintenance of the production plant all contributed to this underperformance and the shortage of vaccines in the country.

OBP has, as recently as February 2022, highlighted production problems – which, according to our knowledge, were supposed to be fixed since 2014 when Treasury Funds of R500 million were allocated to OBP. The fact that OBP management and Board have not allocated their profits for 15 years to the maintenance and improvement of capital equipment and production facilities like any

[9] *The authors are all associated with the establishment and management of BFAP to varying degrees. BFAP also consults privately.*

private company points to poor management and poor financial planning. The concern about the availability of vaccines and the contestation about the true situation is a major concern and harms the reputation and standing of OBP.

The ARC-OVR (Onderstepoort Veterinary Research Institute) is the central veterinary laboratory of the country. It also hosts OIE Reference Laboratory status for African swine fever (ASF), African horse sickness (AHS), bluetongue, Foot and Mouth Disease (FMD), Rift Valley Fever (RVF), Sheep and goat pox, Lumpy Skin Disease (LSD) and rabies. In addition, the ARC-OVR has responsibility for the research and development of diagnostic tools and vaccines.

To provide a sustainable solution for disease management (in the wake of the problems at OBP), the National Treasury provided R600 million towards enabling the ARC–OVR to manufacture FMD vaccines. The funds were primarily for skills and capacity development, diagnostic capability improvement, vaccine development and production infrastructure (design and construction of a BSL3 diagnostic and manufacturing facility). However, according to our knowledge, the ARC-OVR has not commenced with the design and construction of the FMD vaccine manufacturing facility. Again, our management of animal diseases remains compromised.

Outcomes

Most of the architecture (laws and regulations, policies and procedures, implementing agencies, extension services, etc.) that ensured that commercial farmers had access to the full range of farmer support services were systematically dismantled after 1994 for no discernible good reason. The combined effect of this short-sighted policy and the deregulation and liberalisation of the sector meant that South African agriculture was exposed to all the volatilities of international commodity markets. The reduced levels of subsidisation were supposed to reduce land values and, hence, support land reform and the transformation of the agrarian economy. In reality, the impact was different: it made the process of integrating new and previously disadvantaged farmer communities into commercial agricultural value chains very difficult and was one of the main reasons for the failure of agrarian transformation in general and of land reform in particular.

The withdrawal of this support to white farmers had two consequences. First, it allowed the growth of very large-scale ('mega') farming operations (about 2 600 (or 6.5%) of them), especially (but not exclusively) in intensive irrigated horticulture production (Stats SA, 2020). Second, it was accompanied by the abolition of support measures, from direct subsidies to indirect market interventions, from funding of research and extension to the withdrawal of subsidies on conservation works (Vink, 2000). The result was that black farmers were bereft of the support services that they had been denied under the previous regimes.

The many attempts to remedy this situation through a range of plans and programmes have been ex-post, piecemeal and unsuccessful. After 30 years, in the post-apartheid dispensation, a host of plans have been put forward to develop and transform the agricultural sector. Disappointingly, implementation and execution were inadequate and/or uncoordinated, resulting in frustration and failure. In response, new plans were developed without addressing the root causes of failure and frustration. As a result, the dualism that has divided the sector, the product of more than a century of segregation, suppression, and support, has not abated.

Where commercial farming is concerned, the analysis in the first part of this manuscript shows that the most important changes in the sector can be summarised as:

- The extraordinary success of the fresh fruit export industries in terms of production and productivity, especially in the past decade
- The ability of the sector in all its components to adopt new processes, techniques and artefacts in order to increase productivity. Most of these advances have come about as a result of new biological and mechanical technologies
- The maintenance of the size of the labour force, even though economic theory predicts ever-declining employment levels in primary industries
- Greater predictability of the expected volumes of production and prices is a sign of greater resilience against climate change
- The ability to exploit new market opportunities, mainly in domestic markets but even in foreign markets. Examples include the switch to becoming a net exporter of beef and the substitution of domestic for imported soybeans and their processed equivalents.

The sector has, in short, become more sustainable, more agile and more resilient. However, this may turn out to be short-lived unless the state can succeed in addressing the dualism that plagues the sector as a result of the heavy hand of the past.

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