BFAP 20 YEAR ANNIVERSARY baseline

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AGRICULTURAL OUTLOOK

2023 - 2032

Decisive Action to Forge a **Sustainable Future**

BFAP baseline

Agricultural Outlook

2023 – 2032

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South African Pork Producers Organisation (SAPPO)
South African Sugar Association (SASA)
South African Table Grape Industry (SATI)
South African Wine Industry Information & Systems (SAWIS)
Stellenbosch University
Tetratech
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Empowering Africa's tomorrow together

... one story at a time

CONGRATULATIONS on your 20-year celebrations. This is a remarkable feat and takes leadership, vision, persistence and dedication.

If we consider South Africa and the agricultural environment 20 years ago – the industry had just been deregularised and was trying to find its feet in what must have been uncertain times. We have come from an environment where information was free and readily available to not knowing where information and research were going to come from. The value chain players were far from each other and concerned about their place in the ecosystem. Apart from the vision and leadership, it must have taken immense courage to take this bold step in establishing BFAP. We also need to acknowledge the Absa AgriBusiness leadership of the time for seeing the potential and being part of the BFAP history and story.

More recently – in 2020 and 2021 – agriculture was one of the few sectors that contributed positively to the economy in South Africa. However, in the aftermath of the pandemic, certain headwinds started to emerge towards the latter part of 2021. These included rapid increases in input costs, supply chain and trade disruptions and more recently, local issues such as deteriorating road and rail infrastructure and ailing energy supply. Absa AgriBusiness can attest that some of the best performers in the industry are nurturing solid, long-term partnerships with their stakeholders. It is these relationships that are key in navigating challenging and uncertain times.

In this spirit, nurturing business partnerships through time is also something that we actively drive in Absa AgriBusiness. It is within this context that we are extremely proud of the 20-year milestone of our partnership with BFAP. Absa AgriBusiness was one of the institutions that provided seed capital to BFAP right from the start, with the first baseline launched publicly in 2004. In the 20 years that followed, Absa continued to support this initiative, with BFAP consistently delivering quality analytical work and evidence-based research to support South African agricultural stakeholders at large. The impact of the research is a testimony to the quality of their work, contributing to policy research in key governmental initiatives such as Operation Phakisa and the Agricultural and Agro-processing Master Plans (AAMP) and to private sector decision-making, where continuous engagement with Absa AgriBusiness is a notable example.

We are proud of the local and international recognition that BFAP is receiving.

Absa would like to congratulate the BFAP team on 20 years of excellence and their contribution to South Africa and its people. May the partnerships that you nurture, support you to build further on two decades of success.

Abrie and the Absa AgriBusiness team

Western Cape Government
Agriculture
FOR YOU

Supporting evidence-based decision making for better service delivery **ForYOU**.

THE Constitution of the Republic of South Africa designated agriculture as a concurrent function between the national and provincial spheres of government. Hence, since provincialisation, the Western Cape Department of Agriculture (WCDoA) has been exploring various approaches to not only gathering data, but also changing raw data into information and intelligence which can support decision-making. This journey took the department trusting its own devices, by pooling resources with other government institutions, private sector and universities towards a joint coalition, hence the establishment of the Bureau for Food and Agricultural Policy (BFAP). Since its establishment, BFAP has never looked back.

Through the intelligence gathered through its international linkages as well as its own set of models and modelling capacity, BFAP's annual baseline forms a key component of the WCDoA's decision making process and agricultural calendar. More recently, this baseline was used as reference point for a quarterly agricultural risk analysis whilst the partnership also remains a key component of our agricultural human capital development drive.

Agriculture is a key part of the Western Cape socio-economy and the WCDoA foresees that this will only become stronger over the next couple of decades. For a sector that is complex in nature, facing numerous uncertainties, agility is of utmost importance. Therefore institutions like BFAP become key in the provision of intelligence, informing decisions at firm and policy levels. As founding members of BFAP, the WCDoA look forward to continued partnership, strengthening new technologies and additional fields of interest, as we navigate these unpredictable times together.




FOREWORD

THE Bureau for Food and Agricultural Policy (BFAP), established in 2004, serves the agro-food, fibre and beverage sectors in South Africa and the rest of the continent. Our purpose is to inform better decision-making by providing unique insights gained through rigorous analyses, supported by credible databases, a combination of integrated models and considerable experience. The Bureau has developed a distinct value proposition to deliver a holistic solution to public sector and private clients active in the agricultural sector and related value chains. This offering is complemented through BFAP's investment in the Integrated Value Information System (IVIS), a geo-spatial platform which further augments BFAP's product offering by providing enhanced visual systems-solutions to the integration of data and insights to support strategic decision-making along multi-dimensional value chains.

The BFAP Group consists of a team of experienced experts with a range of multi-disciplinary skills including agricultural economics, food science, mathematics and data science, engineering, supply chain management, socio-economic impact assessment, systems technology, and geo-informatics. We fundamentally believe that a competitive and thriving agricultural sector with its related value chains is built on long-run partnerships. Hence, BFAP has developed a well-established network of local and international collaborators and partners in the public and private sector. This includes long-standing partnerships with private sector clients, research partners like the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri in the USA, the Food and Agricultural Organisation of the United Nations (FAO) in Rome, the Organisation for Economic Cooperation and Development (OECD) in Paris, and the International Food Policy Research Institute (IFPRI) in Washington, DC. BFAP is also one of the founding members and partners of the African Network of Agricultural Policy Research Institutes (ANAPRI, formerly ReNAPRI). As a team and as a network, we pool our knowledge and experience to offer the best possible insights and access to a unique high value network.

BFAP acknowledges and appreciates the shared insight of numerous industry specialists and collaborators. The financial support from the Western Cape Department of Agriculture and ABSA Agribusiness towards the development and publishing of this Baseline is also gratefully acknowledged.

Although all industry partners' comments and suggestions are taken into consideration, BFAP's own views are presented in this Baseline publication.

EXECUTIVE SUMMARY

SOUTH AFRICA'S agricultural sector has shown remarkable resilience in recent years. In a period riddled with disruptions in both the global and the domestic environment, it was the most consistent contributor to GDP growth in 2020 and 2021. Over the past 18 months however, challenges in the global environment have escalated as the war in Ukraine, the resultant energy crisis, and persistently high inflation have threatened to derail the global post-pandemic economic recovery. Risks remain elevated, particularly in light of recent difficulties in renewing the Black Sea Grain Corridor. Furthermore, South Africa's agricultural and agro-processing sectors have also had to deal with the implications of an animal health system that is threatening to collapse, with crumbling road and water infrastructure, with congestion at the ports, and with a national electricity crisis leading to severe loadshedding and unplanned blackouts. These factors have tested the sector's resilience to the extreme and, with approximately 50% of revenue dependent on exports, are raising concerns around the sectors' competitiveness.

Much of the growth since 2020 has been underpinned by the field crop sector due to the rare combination of near record harvests and high prices, which were underpinned by global factors. In 2022 however, the sharp increase in input costs constrained GDP growth despite strong revenue performance. Looking forward, prices of the main summer crops will continue to trade at export parity in the near term, which implies that they will follow the global downward trend. The same holds true for wheat, where prices tend to trade at import parity levels. This implies that margins will become tighter over the next few years, requiring continuous innovation to remain on top of the productivity curve. Successful producers will be those that reinvested into technologies that improve resilience, particularly in light of ongoing energy challenges.

Declining field crop prices will, however, provide much needed relief for intensive livestock producers, whose margins have been strained by spiralling feed costs. However, meat demand is also under pressure. The past three years have been difficult for consumers, and this is unlikely to ease in the short term because of a combination of weak economic growth, persistent high inflation and the resultant monetary tightening. Industries that deliver mainly to domestic markets are more exposed, and prices of higher value products such as meat and dairy are more vulnerable to weak demand, as consumers shift to basic staples when affordability becomes strained. The effect of limitations in spending power has become exceedingly clear over the first half of 2023, when farm-gate beef prices in particular declined sharply. Amid ongoing animal health challenges, the ability to reduce oversupply through exports remains strained. Exports to China remain closed as a result of FMD and while additional volumes have been sent to the Middle East, the demand profile is different and volumes much smaller than for China. Over the next few years, production volumes are expected to increase as herd expansion that occurred over the past three years starts to enter the market. Consequently, prices are likely to remain under pressure in the long term and enabling additional exports is a key priority to ensure sustainability.

In other meat sectors, such as pork and poultry, prospects for volume growth remain, due to recent investments made to expand production. Following the signing of the poultry Masterplan in 2019, investments in excess of R1.5 billion resulted in expanded production volumes and a consistent decline in import volumes. External factors may also have contributed to the decline, but the industry's relative competitiveness in the global arena improved

into 2021. Unfortunately, the current energy crisis could negate many of the gains achieved. These production systems rely on controlled environments and constant power supply is critical. BFAP estimates that for every hour of loadshedding, running diesel generators scales energy costs to more than double that of the current Eskom tariff. These additional costs occur throughout the value chain and contribute substantially to persistently high food inflation.

The horticultural sector has also benefitted from significant investment over the past decade to expand production. The long-term nature of production however implies that produce takes longer to enter the market. When it does, the need for additional volumes of shipments comes up against global disruptions in the shipping industry and domestic challenges with respect to port capacity and efficiency of operations – a perfect storm which weighs on prices and in many instances also influencing quality, jeopardising the added employment and foreign revenues. Thus, the baseline projects a significant slowdown and consolidation in area under production, in some cases even a decline in the short term. Given the substantial share of young trees already established and yet to enter full production, alleviation of current price pressure may take many years, despite the current buffer provided by the weaker exchange rate.

Given these reflections on the challenges in the individual subsectors, it's not surprising that the 2023 BFAP Baseline projects that, despite the sectors' resilience, agricultural growth will come under pressure over the next few years. Real agricultural GDP is projected to decline by 1% in 2023 and trend downwards for several years as global prices continue to normalise, reducing revenue in the field crop sector in particular. Growth is only expected to return to a positive trajectory midway through the ten-year projection period, when the electricity crisis is assumed to start improving as the effects of investments into private generation capacity start to bear fruit. This results in improved economic growth projections, albeit only modestly, and while agriculture is projected to return to a positive growth trajectory, growth is slow and well below the potential highlighted under the Agriculture and Agro-processing Masterplan (AAMP). Given the current risk profile both globally and in South Africa, however, the Baseline projections are subject to higher than normal levels of uncertainty.

To conclude, while significant, the current challenges facing the sector, and indeed the South African economy, are not insurmountable - but they will not solve themselves. BFAP has over the years highlighted a number of factors that are critical to turn the tide. These include the need for a stable and conducive policy and investment environment, comprehensive infrastructure development and services - including electricity, roads, and water, with well-functioning municipalities, efficient farmer support programmes, and complete and effective state services. Despite an abundance of well-constructed growth plans in recent years, the latest of which is the AAMP, implementation has been sorely lacking. As such, **the 2023 Baseline represents a call to action – *decisive action to overcome imminent challenges and forge a sustainable future*** for the entire agriculture and food value chain, from an economic, environmental and social perspective.

CONTEXT AND PURPOSE OF THE BASELINE

THE 2023 edition of the BFAP Baseline presents an outlook of agricultural production, consumption, prices and trade in South Africa for the period 2023 to 2032. The outlook is generated using BFAP's system of models and, amid the current turmoil in both global and domestic markets, aims to provide insights to support decision making. The information presented is based on assumptions about a range of economic, technological, environmental, political, institutional, social and international market factors. Amongst these is the key assumption that the current energy crisis in South Africa will improve in the medium term, as the investments into private generation capacity come to fruition. Loadshedding however remains a constraining factor in the short term. Furthermore, the baseline assumes that normal weather conditions will prevail in Southern Africa and around the world; therefore yields grow constantly over the baseline as technology improves.

Assumptions regarding the outlook of macroeconomic conditions are based on a combination of projections developed by the International Monetary Fund (IMF), the World Bank and the BER at Stellenbosch University. Baseline projections for world commodity markets were generated by FAPRI at the University of Missouri. Once the critical assumptions are captured in the BFAP system of models, the Outlook for all commodities is simulated within a closed system of equations.

This implies that, for example, any shocks in the grain sector are transmitted to the livestock sector and vice versa. Therefore, for each commodity, important components of supply and demand are identified, after which an equilibrium is established through balance sheet principles by equating total demand to total supply.

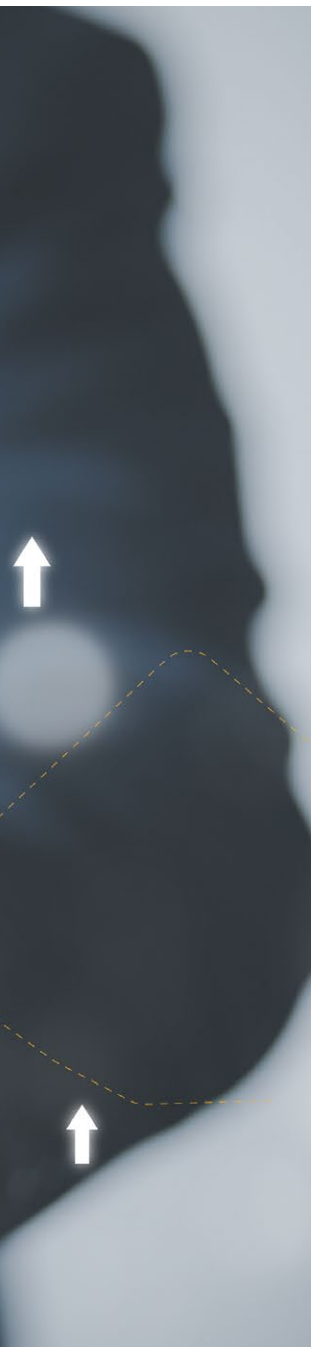
This year's Baseline takes the latest trends, policies and market information into consideration and is constructed to present a picture of equilibrium in agricultural markets, given the assumptions made.

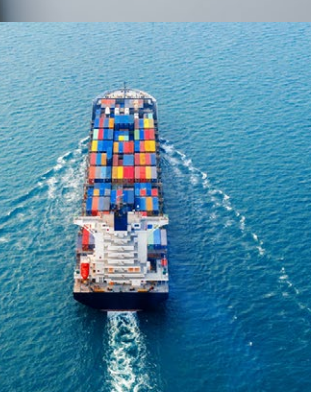
However, markets are extremely volatile and the probability that future prices will not match baseline projections is therefore high. Given this uncertainty, the baseline projections should be interpreted as one possible scenario that could unfold, where temporary factors play out over the short run and permanent factors cause structural shifts in agricultural commodity markets over the long run.

The Baseline, therefore, serves as a benchmark against which alternative exogenous shocks can be tested and interpreted. In addition, the Baseline serves as an early-warning system to inform role-players in the agricultural industry about the potential effects of long-term structural changes on agricultural commodity markets, such as the impact of a sharp increase in input prices or the impact of improvements in technology on the supply response.

To summarise, the Baseline does NOT constitute a forecast, but rather represents a benchmark of what COULD happen under a particular set of assumptions. Inherent uncertainties, including policy changes, weather, and other market variations ensure that the future is highly unlikely to match baseline projections. Recognising this fact, BFAP incorporates scenario planning and risk analyses in the process of attempting to understand the underlying risks and uncertainties of agricultural markets. Farm-level implications are included in the commodity specific sections and the scenarios and risk analyses illustrate the volatile outcome of future projections.

Additional stochastic (risk) analyses are not published in the baseline, but prepared independently on request for clients. The BFAP Baseline 2023 should thus be regarded as only one of the tools in the decision-making process of agricultural sector role players, and other sources of information, experience, and planning and decision-making techniques have to be taken into consideration.





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DECISIVE ACTIONS TO FORGE A SUSTAINABLE FUTURE

THE theme of the 2022 BFAP Baseline was *"Informing policy and investment decisions: Balancing short term tactical responses with long-term development goals"*. The "tactical responses" referred to the sectors' ability to navigate market dynamics, more specifically the sharp rise in input costs relative to output prices, the impact of animal decease outbreaks like Avian Influenza and Foot-and-Mouth disease, and the ad hoc amendments to export protocols and regulations in key export markets. These external shocks are not uncommon to most of South Africa's competitors in the global market. However, the South African agricultural and agro-processing sectors simultaneously also have to deal with the implications of an animal health system that is threatening to collapse, crumbling road and water infrastructure, congestion at the ports and a national electricity crisis leading to loadshedding and unplanned blackouts. With approximately 50% of revenue dependent on exports, these external factors are raising considerable concerns around the sectors' competitiveness.

While dealing with the shorter-term responses, targeted interventions and investments into the long-term development goals must be prioritised to address the dualistic nature of the sector, the slow progress on racial transformation and the sector's overall ability to make a real contribution to rural livelihoods and food security. Ironically, many of the required short- and long-term interventions are not mutually exclusive and clear decisive actions on low hanging fruit in the short-term can have lasting positive impacts with significant multiplier effects throughout the economy.

The 2022 BFAP Baseline projections already showed a downward trend in commodity prices for all sectors, resulting in much tighter profit margins and a much slower growth rate in the Real Agricultural Gross Domestic Product from 2023 onwards. Although a combination of challenges has pestered the industry in the first half of 2023, most sub-sectors in the agricultural and agro-processing industries have remained extremely resilient. Job numbers have improved, and overall output remains very high. However, these positive trends are mainly spillovers from the big momentum in the grain and oilseed sub-sectors over the past three years.

Hence, for the purpose of this baseline, three important questions need to be answered, namely:

1) How has the industry managed to grow at this pace and be the star of the South African economy for the past three years, despite so many challenges?
2) How long will this trend last? and
3) How can inclusive growth be stimulated in future?

To answer the first question, one needs to take a long-term perspective. Although the combination of favourable weather patterns and the spike in global commodity markets has fuelled the unprecedented growth witnessed in the past three years, especially of the grains and oilseed sub-sectors, continuous private sector investments over the past decade have yielded growth. These investments occurred throughout the agricultural food system from input suppliers to producers, processors, and retailers, across various commodity groups. The sector has grown far beyond what the local markets can absorb and currently approximately 50% of the total output value generated by the sector comes from exports. The evolution of the citrus and soya sub-sectors provide two prime examples.

In the case of citrus, the total area under production expanded from 60 000 to 100 000 hectares over the past decade. It costs approximately R500 000/ha to establish

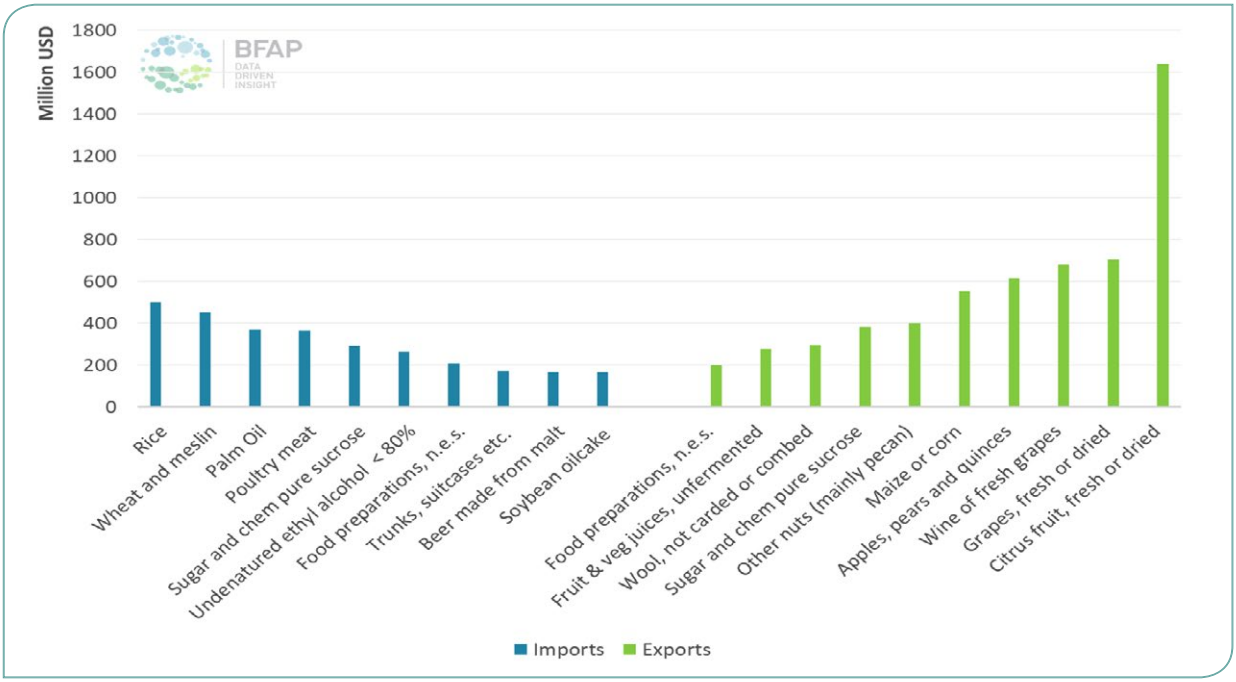


Figure 1: South African agricultural trade – average 2018-2022: Top ten products imported and exported
Source: ITC TradeMap, 2023

citrus, which implies that private sector investments of approximately R20 billion have been made over the 10-year period. Furthermore, the private sector has invested approximately R150 million per annum in research and development to provide the industry with the latest technology and cultivars to ensure global competitiveness. The private sector has also partnered with the government to unlock export markets. The result is that citrus is South Africa's largest agricultural export product. In fact, citrus exports alone offset the top four imported agricultural products, namely rice, wheat, palm oil and poultry (Figure 1).

The success of the soybean sub-sector over the past decade has been well documented and projected by previous BFAP Baseline publications. In essence, a favourable investment environment coupled with clear policy mandates by the Department of Trade, Industry and Competition (DTIC) triggered private sector investment in 2 million tonnes of crushing capacity during the early 2010's. These investments, in combination with extensive cultivar trials and the introduction of the technology levy to incentivise seed companies to provide South African producers access to latest seed technology, ignited the rapid expansion in production. Twenty years ago, South Africa produced only 220 000 tonnes of soybeans, while the latest estimate for the 2023 production season puts soybean production at 2.8 million tonnes. Soybean prices have switched to export parity levels, and exports are projected to exceed 500 000 tonnes in the current marketing season. With soybeans trading at export parity levels, the crushing plants are processing high volumes, despite loadshedding, and are offering considerable discounts on soybean meal, which is providing some relief to the intensive livestock industries, which are also severely impacted by loadshedding.

The story of the South African soybean industry is hailed as one of the biggest successes with respect to a targeted import replacement programme with a common vision pursued by government and private sector. However, not all imported soybean meal has been replaced by local production even though we produce a surplus of soybeans and we have sufficient crushing capacity. This is because transport costs from the northern production regions to the coastal areas is too expensive and major discounts must be offered to compete against imported soybean meal in these markets. All products are being transported by road, which is far more expensive than rail, but the rail network is not functioning effectively.

To answer the second question on how long this trend could last, Figure 2 presents the Baseline for South Africa's Real Agricultural Gross Domestic Product (Real AgGDP). Growth over the past three years has

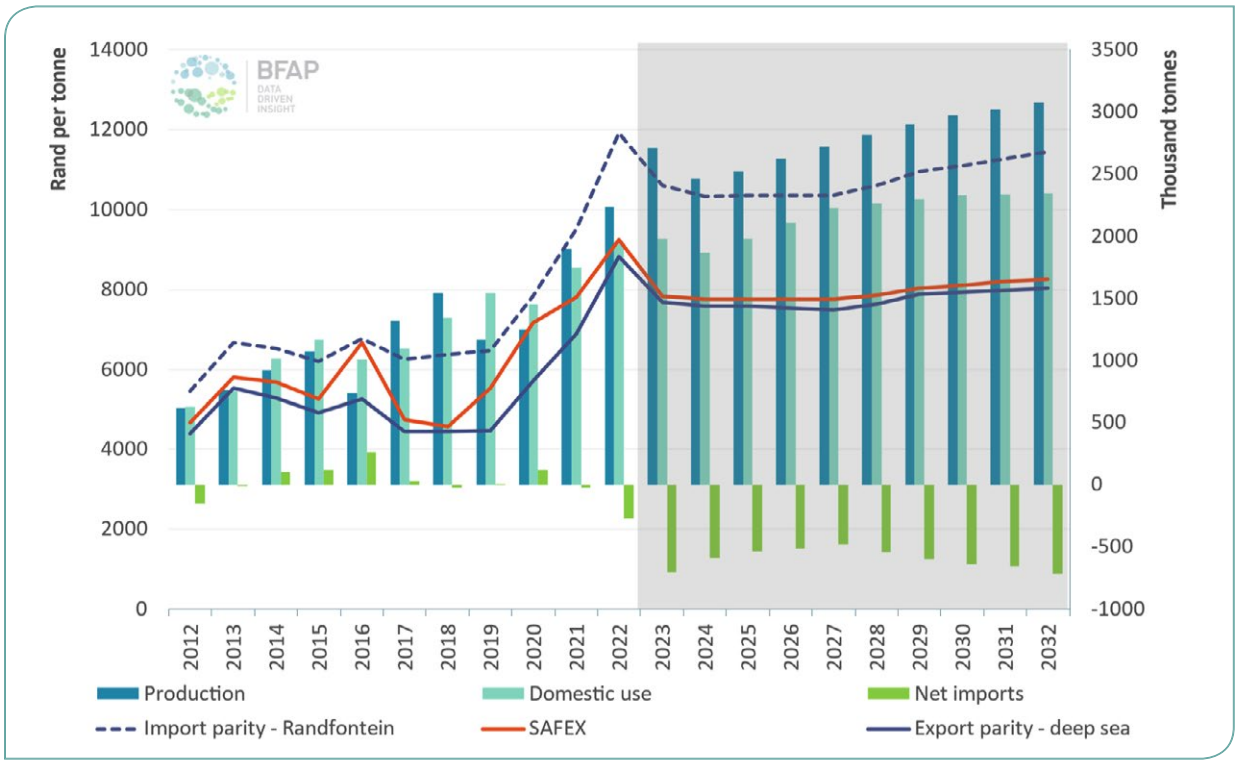


Figure 2: South African soybean production, consumption, trade and prices

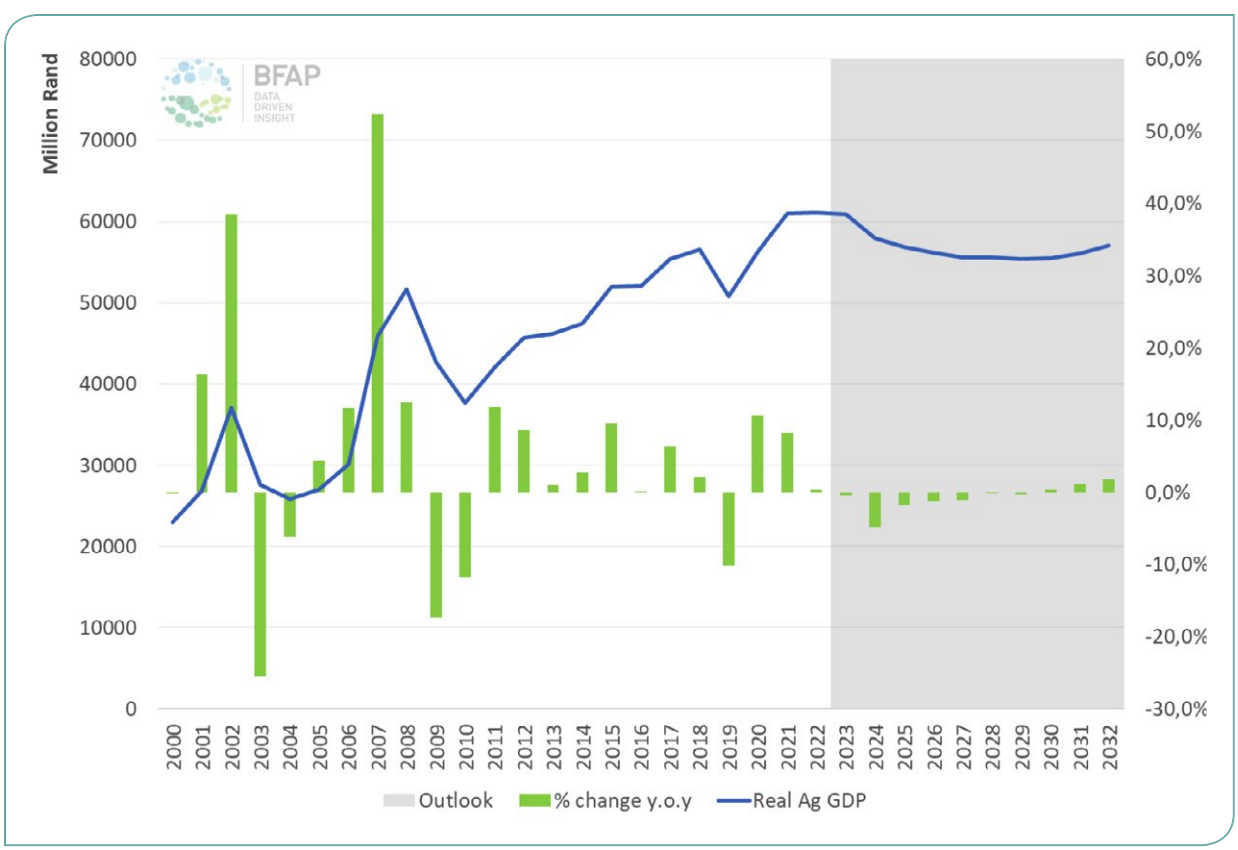


Figure 3: South Africa's Real Agricultural Gross Domestic Product

been exceptional. The agricultural sector expanded by 13.4 and 8.3 percent in 2020 and 2021 respectively. As projected in our 2022 Baseline, growth declined considerably to only 0.3 percent in 2022. The BFAP Baseline 2023 shows that profit margins are declining sharply for grains and oilseeds, many of the livestock sub-sectors are struggling to make positive margins and most of the horticultural farmers have been facing negative margins for the past two seasons.

Real agricultural GDP is projected to contract by 1 percent in 2023 and growth in real terms is projected to slow down over the medium term, (Figure 3), specifically for field crops, where the normalisation to lower global prices over the next two years will be transmitted to local markets (Figure 4). Lower feed grain prices will provide some level of relief for intensive livestock operations, but local demand for these higher-value products will be dampened by the poor performance of the South African economy.

The third question looks at key drivers of future growth in agriculture and agro-processing. With each Baseline, BFAP provides a summary of key policy reforms and investments that should be prioritised to drive inclusive growth in each of the sub-sectors. The baseline chapters for each sub-sector highlight the current realities and the expected path over the next ten years. Although the short- and medium-term market fundamentals will run their course, with supply and demand adjusting over time, it is the decisive actions within the long-term strategic policy interventions and investments that will drive overall competitiveness and consequent future growth.

The current deep energy crisis in South Africa is a clear illustration of the adverse impact if the correct policy interventions and investments are not made. Consistent energy supply is currently the factor that will have the single biggest impact on future growth in the agriculture and agro-processing sectors, along with their ability to keep the nation food secure and to create jobs and support livelihoods, especially in rural communities. The broader impacts of the energy crisis are starting to appear in critical indicators like food security. Figure 5 compares food price inflation for several countries. In all countries except South Africa, food inflation rates have started declining from April 2023, as much lower commodity prices are starting to enter the supply chains. In South Africa, the impact of

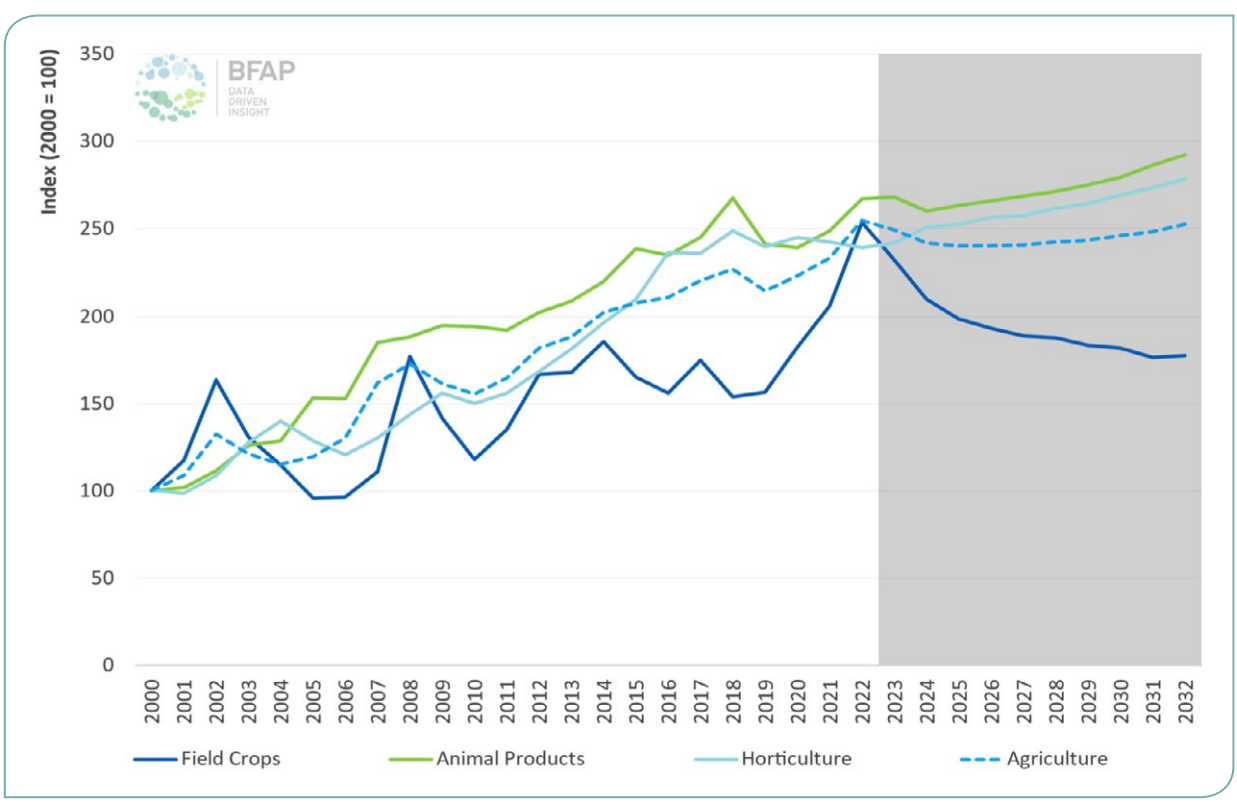


Figure 4: Real gross value of agricultural production in South Africa per subsector

lower commodity prices is not reflected in the food inflation rate yet. Although the sharp depreciation in the exchange rate over the past year has dampened some of the declines in international commodity prices, some local prices have declined, especially for grains and oilseeds. Although some lower food inflation rates should be evident in the second half of 2023 due to a lag of approximately 3 months between commodity prices and retail food prices, all processors and retailers are reporting unprecedented increases in energy costs due to load shedding. Firms are switching to backup generation to keep the food supplies running but this adds significant capital and operational expenses. These expenses either have to be pushed back to the producer, absorbed internally, or passed on to the consumer, which influences food price inflation and ultimately the overall competitiveness of the sector, which in turn remains the key building block for future growth.

The declining trend in global agricultural commodity prices in real terms over the past forty years (Figure 6) is a stark reminder of the constant drive for productivity and competitiveness. Only during periods of extreme shocks, like the energy price spike and the introduction of biofuels in 2008, or the drought in the Northern Hemisphere in 2013 and the current Russian-Ukraine war, do global prices rise sharply in real terms. However, supply and demand adjustments soon take effect and market prices return to a longer-term equilibrium. Hence, in real terms prices are expected to continue to decline for most of the agricultural commodities, and if South Africa cannot keep up with this trend, we will eventually lose market space in global export markets and face more fierce competition from imports.

Although the agriculture and agro-processing sectors have a broad footprint, with complex interlinkages with the rest of the economy, the key drivers to develop competitive sectors are very simple. Previous BFAP Baselines have reiterated these basic pre-conditions and they have also been incorporated in the signed Agriculture and Agro-Processing Master Plan (AAMP). These pre-conditions include:

- A stable and conducive policy and investment environment,
- Comprehensive infrastructure development and

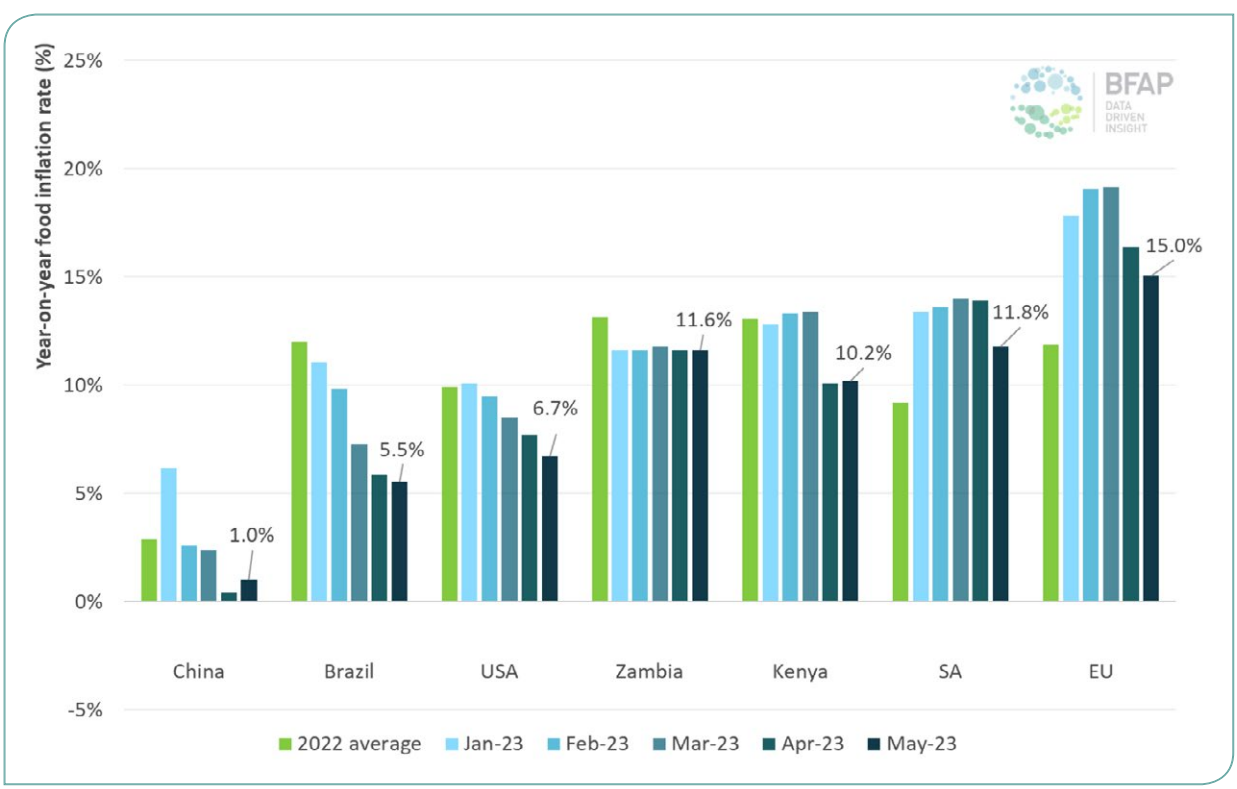


Figure 5: International food inflation comparison

Source: Official food inflation figures of the various countries reported by national statistical agencies

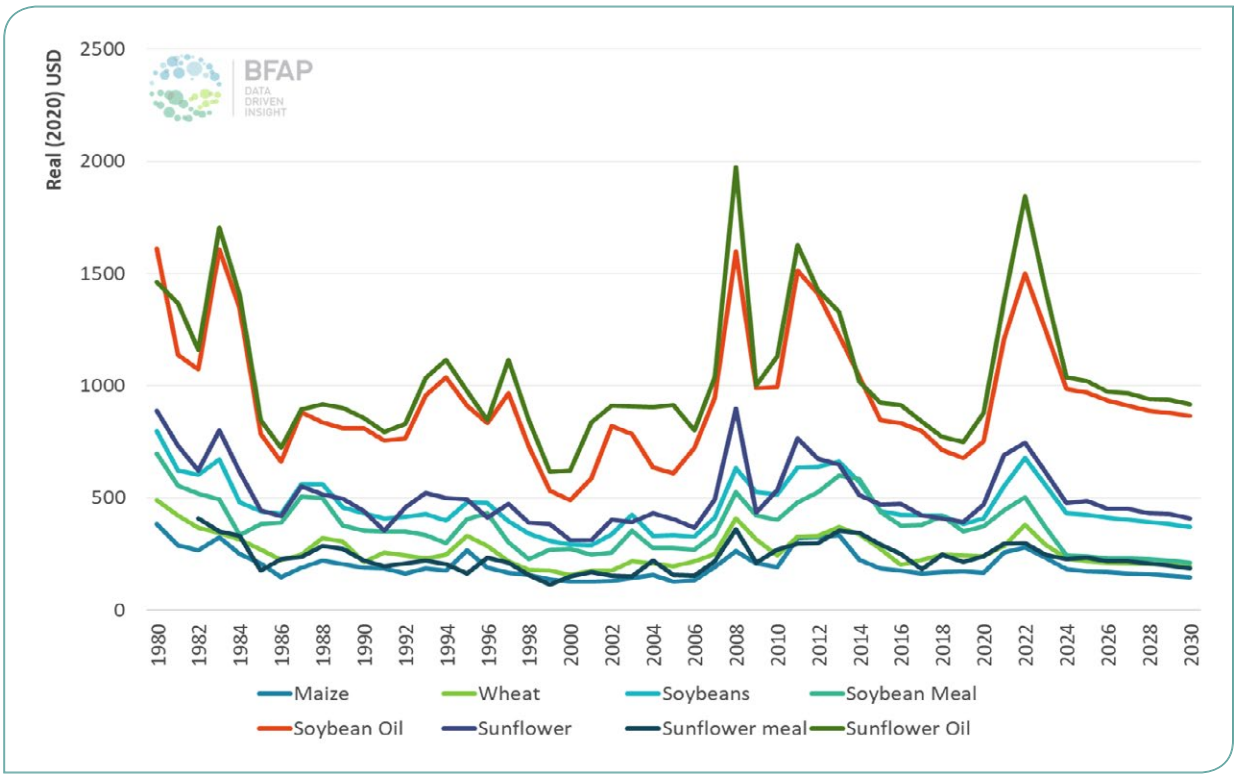


Figure 6: Global commodity prices in real terms

Source: FAPRI & BFAP, 2023

services including electricity, roads and water with well-functioning municipalities,

- Comprehensive and effective farmer support programmes,
- Full and effective state services (e.g. trade affairs, port authorities, veterinary services, biosecurity control, plant health, agricultural research council etc.)

With these basic services in place, private sector investments will accelerate to improve South Africa's overall competitiveness, while creating jobs, developing rural economies, and boosting overall food security. The National Development Plan (NDP) clearly identified the opportunity for agriculture to be the engine of inclusive growth in rural and less developed areas and towns of South Africa where it is typically the biggest employer of labour and capital. This includes under-developed rural areas, especially former homelands, with a concentration of smallholder farmers and households. Our food system requires a portfolio approach that combines highly diverse value chains with a wide spectrum of producers linking to a range of formalised and sophisticated markets on the one extreme and completely informal markets on the other. This approach has also been presented in previous Baselines and has been incorporated in the Agriculture and Agro-processing Master Plan (AAMP).

Figure 7 provides a schematic representation of the different farmer categories and farming systems coexisting in South Africa. The farmer categories are (loosely) paired against their target markets and the examples of specific support services required for these farmers to thrive are identified. Successful transformation will result in an increased number of smallholder farmers able to produce for local markets, and ensure regional food security, and where possible and viable, link into formal or tailor-made value chains and grow their businesses. Nevertheless, South Africa's large, urbanised population and economically important international trade balance will still largely depend on large scale commercial farming operations of both white and black commercial farmers and corporate agribusinesses such as the fruits, sugar, poultry, and egg producers. The sustainable existence of a strong and healthy commercial sector is also vital for the bourgeoning smallholder sector, as the larger farmers create the critical mass of demand for research and technologies, input supply networks and value chains that will incorporate, expand and adjust to also serve the smallholder sector better if properly targeted. Transformation of the commercial farming sector and

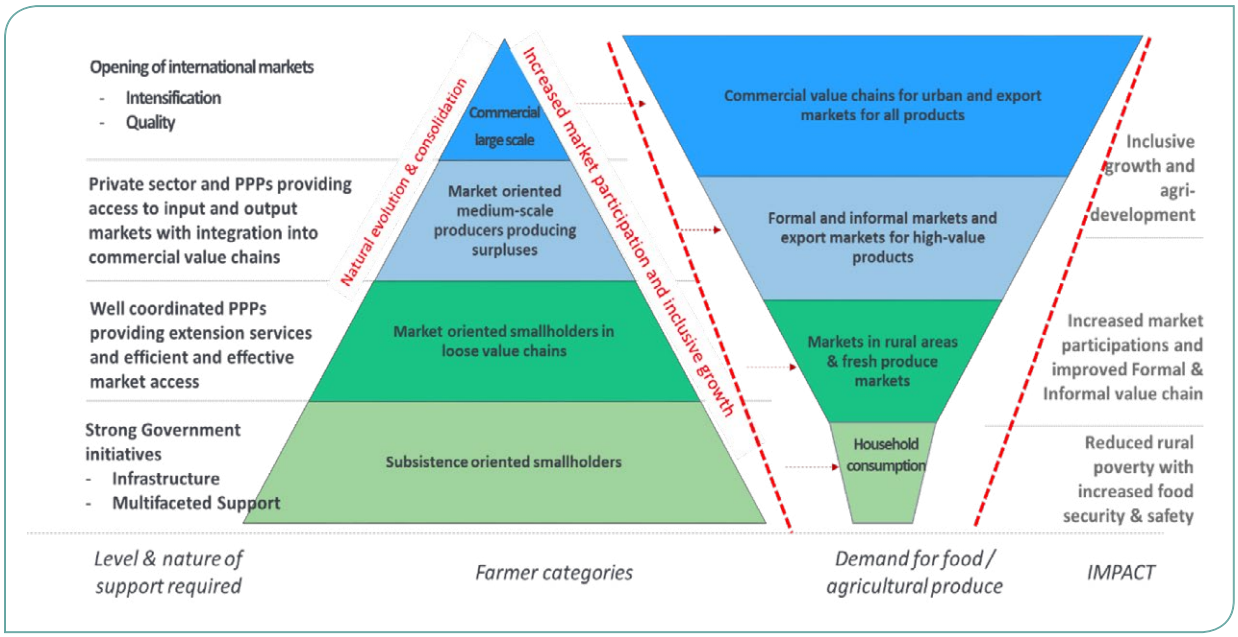


Figure 7: Potential architecture of a redesigned Land Reform and producer support framework

the establishment and support of increased numbers of black commercial farmers are key for the continued existence of the sector. To this end, government should a) prioritise the provision of farmer support services so that people who wish to farm can do so and successfully create their own livelihoods; b) provide tenure security and support the sale and rental of land to ensure it is put to best use; c) ensure that farmers in remote areas are also able to access farming inputs; d) and support public-private-partnerships and the deepening of value chains to accommodate smaller operators.

Apart from the required pre-conditions for growth and the delivery model to integrate a wide spectrum of producers and markets, BFAP applies deep-dive value chain analyses to identify and prioritise specific policy reforms and investments at each value chain node. In practice, this implies that all areas of growth in demand are considered. This includes increased access to export markets, the potential for import replacement and the expansion in local formal and informal markets for agriculture and food products. Existing bottlenecks in the value chain are also clearly defined and potential productivity gaps identified where further investments are necessary. The required interventions per sub-sector can be summarised as follows:

• **Livestock**, the largest agricultural subsector, has ample potential for accelerated, inclusive growth. Strong progress over the past decade was underpinned by substantial investments in intensive operations producing chicken, eggs and pork. The beef industry also shifted from a net importing to a net exporting position, and wool exports have been hailed as a success, specifically because comprehensive support efforts bolstered output from smallholder communal farmers, delivering into export markets. However, growth projections for the coming decade are balanced on a knife's edge. The current energy crisis has severely affected the intensive feed operations. Instead of investing in improved technology and expanding operations, firms are investing in alternative electricity generation to keep production going. Domestic consumption growth is expected to slow due to weaker spending power; thus, production growth will rely on expanded exports. The animal health system, an essential precondition to achieve this, is currently inefficient in managing disease outbreaks, which hampers productivity and limits export opportunities. **One of the single largest drivers of growth of the South African agriculture and agro-processing sector is to address animal health and overall biosecurity.**

• For **field crops**, the 2023 BFAP Baseline projects that margins will tighten over time, and production levels will fluctuate around a long-term equilibrium, unless additional demand is generated in feed markets or alternative export markets. Furthermore, tight margins will have an adverse impact on the growth trajectory of emerging black farmers who are entering the sector

for the first time. Vast tracks of land, where dedicated commercial field crop production by black farmers can be expanded, have become unproductive under the current land reform programme, with minimal effective producer support and extension services. Comprehensive producer support, including access to credit and insurance safety nets, are essential to grow this segment of the market. Under baseline assumptions, including stable weather, further real growth in the value of field crops beyond 2024 is limited. Even for soybeans, one of the most dynamic sectors in recent years, growth could slow as the industry now produces a surplus. Although a major milestone, this introduces the need to compete sustainably at export parity levels, which can be enabled by introducing new seed technology and germplasm, along with a constant drive toward improved farming practices, better efficiency in handling and processing, and investment in logistics - especially transport to coastal areas where almost one-third of soybean meal is consumed.

• Within **horticulture**, BFAP estimates that the area under high-value export fruits and nuts has expanded by 130 000 hectares over the past decade. Consequently, export volumes could rise further by roughly 30% up to 2032. **While a success in itself, this will bring significant price pressure in many markets, highlighting the need for government to negotiate favourable, competitive access to new export markets, and to invest in upgrading port facilities.** Considering sharp increases in input and shipping costs, the need for additional market access to keep prices at sustainable levels becomes even more pertinent. Furthermore, critical maintenance in irrigation scheme infrastructure has fallen behind, and water losses are estimated at approximately 30%. While on-farm water use efficiency has improved with the rising prevalence of netting, expansion and maintenance of infrastructure in existing irrigation schemes will be critical for new entrants to enter the sector successfully. Investments that improve transport efficiency and port logistics will also support the competitive, export orientated horticultural sector. Export orientation makes this sector less sensitive to domestic spending constraints and it is currently reaping the rewards of more than a decade of investment. As a major employer within agriculture, the sustainability of these investments must be prioritised going forward.

Over the years, the BFAP Baseline has highlighted key interventions that have to be prioritised to achieve long-run development goals, while being sustainable and profitable from a market-led perspective. A combination of pre-conditions and targeted reforms within each value chain is required. While short term market dynamics are important, these preconditions and targeted reforms will ultimately determine long-term growth trajectories. In the recently signed AAMP, social partners agreed to the vision of *"Globally competitive agriculture and agro-processing sectors that drive market-oriented and inclusive production to develop rural economies, ensure food security, and grow decent and inclusive employment and entrepreneurial opportunities for all participants in agriculture and agro-processing value chains"*. However, decisive actions, which are based on well-structured plans that are detailed enough to pin-point and prioritise specific actions, are required to forge a sustainable future. Although many plans like the AAMP exist for agriculture and agro-processing, the implementation of these plans has been dismal to date.

To conclude, agriculture's performance over the past three years reflects immense resilience in the face of numerous challenges - benefitting from significant investment over the past decade, and a number of external factors such as high commodity prices globally and favourable weather. While the benefits of the historic investments will continue to bear fruit, global prices are normalising quickly and as they continue to come down, South Africa's ability to compete in increasingly competitive export markets will be tested. This at a time when deteriorating infrastructure and service delivery in many municipalities is increasingly constraining, animal health services are under severe pressure and loadshedding is adding major costs across the value chain. Consequently, real agricultural GDP is expected to contract in the short term, with profit margins tightening in most subsectors. While significant, the current challenges facing the sector, and indeed the South African economy, are not insurmountable - but they will not solve themselves. Despite an abundance of well-constructed growth plans in recent years, the latest of which is the AAMP, implementation has been sorely lacking. As such, the **2023 Baseline represents a call to action – *decisive action to overcome imminent challenges and forge a sustainable future* for the entire agriculture and food value chain, from an economic, environmental and social perspective**.

KEY BASELINE ASSUMPTIONS

THE POLICIES

The Baseline assumes that current international as well as domestic agricultural policies will be maintained throughout the period under review (2023 – 2032). In a global setting, this implies that all countries adhere to bilateral and multilateral trade obligations, including WTO commitments, an important consideration given the ongoing war in Ukraine and some of the trade restrictions imposed during the current crisis. It also implies that countries adhere to stated objectives related to biofuel blending mandates. On the domestic front, current policies are assumed to be maintained.

With the deregulation of South Africa's agricultural markets in the mid-nineties, many non-tariff barriers to trade and some direct trade subsidies to agriculture were replaced by tariff barriers. In the case of maize and wheat, variable import tariffs were introduced. The variable import tariff for wheat was replaced by a 2% ad valorem tariff in 2006. However, in December 2008 the original variable import levy system was re-introduced, and the reference price that triggers the variable import levy on wheat was adjusted upwards from $157/tonne to $215/tonne. Following the sharp increase in world price levels in 2012, the industry submitted a request for a further increase in the reference price, which was accepted in 2013, increasing the reference price to $294/tonne. Having initiated a review of the tariff structure in April 2016, ITAC adjusted the reference price downward to $279 in 2017. The annual quota of 300 000 tonnes of wheat that can be imported duty free from the EU from 2017 onwards has also been incorporated into the Baseline.

Global maize prices have traded significantly higher than the reference price in recent years and international prices are not projected to fall below the reference price of $110 per tonne over the next decade. Consequently, no maize tariff is applied over the Outlook. In contrast, wheat prices have fallen well below the reference price and consequently the import duty on wheat was already triggered in 2015, and only exceeded the reference price again in 2021. Projections for the global wheat price suggest that the tariff will come into play again in 2024 and remain in place over the rest of the Outlook as the projected world price for wheat remains below $279/tonne. Ad valorem tariffs are applied in the case of oilseeds. For meat and dairy products, a combination of fixed rate tariffs and/or ad valorem tariffs are implemented.

General duties on imported chicken were increased substantially in October 2013; however a significant share of imports originate from the European Union and therefore carry no duty under the original Trade, Development and Cooperation Agreement (TDCA), which was later replaced by the new Economic Partnership Agreement (EPA). Furthermore, South Africa applies anti-dumping duties of R9.40 per kilogram on bone-in chicken pieces originating from the United States. In June 2015 it was announced that this anti-dumping duty would be removed for a quota of 65 000 tonnes of bone-in portions. On bone-in portions originating from the EU, South Africa applied a safeguard duty, which was introduced in 2018 at 35.3%. The safeguard declined annually and was phased out completely by March 2022. In 2020 the general duty on bone-in portions was increased from 37% to 62%, while the general duty on boneless cuts was increased from 12% to 42%. In 2022, ITAC granted further anti-dumping duties on bone-in portions originating from Brazil, Denmark, Ireland, Poland and Spain. However, implementation of these duties was delayed as a result of rapid increases in prices through 2022. The projected tariff levels, as derived from the FAPRI projections of world commodity prices, are presented in Table 1.

Table 1: Policy Assumptions

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
R/tonne										
Maize tariff: (Ref. price = US$ 110)	0	0	0	0	0	0	0	0	0	0
Wheat tariff (Ref price = US$ 279)	0	100	395	528	584	646	715	788	863	889
Wheat tariff: (300 000 tonne quota: EU Origin)	0	0	0	0	0	0	0	0	0	0
Sunflower seed tariff: 9.4 % of fob	780	750	743	730	723	739	750	769	788	811
Sunflower cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	240	210	179	161	154	157	159	163	166	171
Sorghum tariff: 3 % of fob	171	141	130	131	130	132	135	138	141	145
Soybean tariff: 8 % of fob	675	661	664	664	661	677	698	706	713	720
Soybean cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	516	438	413	407	408	420	433	437	442	446
Tonnes										
Cheese, TRQ quantity	1199	1199	1199	1199	1199	1199	1199	1199	1199	1199
Butter, TRQ quantity	1167	1167	1167	1167	1167	1167	1167	1167	1167	1167
SMP, TRQ quantity	4470	4470	4470	4470	4470	4470	4470	4470	4470	4470
WMP, TRQ quantity	213	213	213	213	213	213	213	213	213	213
Percentage										
Cheese, in-TRQ	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Butter, in-TRQ	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
SMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
WMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
c/kg										
Cheese, above TRQ rate	500	500	500	500	500	500	500	500	500	500
Butter, above TRQ rate	500	500	500	500	500	500	500	500	500	500
SMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
WMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
Beef tariff: max (40 %*fob,240c/kg)	3588	3171	3172	3209	3279	3372	3505	3642	3778	3920
Lamb tariff: max(40 %* fob,200c/kg)	3610	3421	3490	3562	3673	3827	4015	4215	4427	4650
Chicken tariff (Whole frozen): 82%	2707	2419	2473	2519	2596	2676	2768	2866	2966	3070
Chicken Tariff (Carcass): 31%	124	113	115	117	119	120	121	121	122	122
Chicken Tariff (Boneless Cuts): 42%	1588	1419	1450	1477	1523	1569	1624	1681	1740	1800
Chicken Tariff (Offal): 30%	267	239	244	249	256	264	273	283	293	303

Table 1: Policy Assumptions (Continued)

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Chicken Tariff (Bone in portions): 62%	973	869	888	905	933	961	995	1030	1066	1103
Chicken tariff: EU Origin	0	0	0	0	0	0	0	0	0	0
Pork tariff: max (15 %* fob, 130c/kg)	712	756	768	789	808	836	871	908	946	986

South Africa's horticulture sector, as a net exporter, is influenced by policies in the global trade arena. Baseline assumptions reflect no changes in this environment, with current tariffs imposed by key trading partners maintained over the projection period. This implies that South Africa continues to face a more stringent tariff environment than some of its competitors in key Asian markets. While the tariff environment is more favourable in the EU thanks to the EPA, it must be noted that South African producers are facing increasingly stringent Sanitary and Phytosanitary requirements – such as the new cold chain requirements imposed on citrus exports due to perceived risks around False Coddling Moth.

MACRO-ECONOMIC ASSUMPTIONS

To some extent, the Baseline simulations are driven by the outlook for a number of key macroeconomic indicators. Projections for these indicators are mostly, but not exclusively, based on information provided by the OECD, the IMF and the BER. Covid-19 caused widespread turmoil and sent shockwaves through the global economy in 2020. It brought with it widespread uncertainty, risk appetite amongst investors declined and many emerging market currencies depreciated sharply. As one of the most frequently traded emerging market currencies, the Rand was no exception. As global economies locked down and movement restrictions were imposed, oil prices declined sharply, to as low as $28 per barrel of Brent Crude. However, much has changed since. Restrictions eased in 2021 as vaccine rollouts around the world gathered momentum. Governments, particularly in higher income economies, invested in supporting a recovery and rolled out multiple stimulus packages. Consequently, in 2021, the global economy grew by almost 6% - well beyond initial expectations.

As the recovery from the pandemic gathered momentum, 2022 brought a whole new set of challenges. While even China finally removed the last restrictions related to Covid-19, the world has been focussed on new challenges following Russia's invasion of Ukraine, a war that is still ongoing more than a year later. This further exacerbated already rising inflation, and most of the world moved into tighter monetary control by raising interest rates. While inflation has started to decline in many countries, it remains at high levels and, despite aggressive action, is proving difficult to bring down. Uncertainty around global growth prospects remains high, with many risks on the downside, particularly in developed economies.

South Africa has not been immune to the headwinds in the global economy. Global uncertainty, combined with persistent interest rate hikes in the developed world resulted in fairly consistent depreciation in the value of the Rand. However, as loadshedding continues to escalate, remaining at near consistent stage 4 to stage 6 levels since the final quarter of 2022, the Rand depreciated sharply through the first half of 2023. Food price inflation remains high, partly driven by the weakness of the Rand and with the South African government still sticking to their non-aligned policy with respect to the war, the possibility of trade repercussions with important trading partners is adding further uncertainty and driving further depreciation in the local currency.

Amid rapid escalation in load shedding, GDP growth in South Africa has fallen consistently and is projected at 0.2% in 2023. Growth is projected to improve only marginally to 1.4% in 2024 before recovering to 2% per annum in the medium term, with the energy crisis expected to ease in a few years' time, as private generation capacity comes online. This is well below the targets established under the NDP and insufficient to meaningfully reverse unemployment trends. The current value of the Rand reflects global uncertainty and hence some improvement is expected in 2024, before returning to a longer-term trend of depreciation over the remainder of the projection period.

Table 2: Key Macro-Economic Assumptions

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Millions										
Total population of SA	61.0	61.6	62.1	62.7	63.3	63.8	64.3	64.8	65.4	65.9
SA cents per foreign currency										
Exchange rate (SA cents/US$)	1848	1755	1744	1749	1771	1811	1865	1921	1979	2038
Exchange rate (SA cents/Euro)	1916	1828	1878	1949	2019	2087	2150	2215	2281	2349
Percentage change										
Real GDP per capita	-0.82	0.41	0.84	0.98	1.11	1.14	1.17	1.19	1.19	1.19
Consumer Price Index	5.9	4.5	4.5	4.5	4.5	4.4	4.5	4.5	4.5	4.5
Percentage										
Weighted prime interest rate	11.3	10.8	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5

Another factor with significant influence on producers' input cost structure is the price of Brent Crude oil. This typically influences the cost of both fuel and fertiliser but can also influence international commodity market prices through biofuel markets. Prices increased sharply amid the ongoing war, but as growth prospects diminished and the risk of recession rose, demand softened and oil prices declined. In the medium term under the baseline, equilibrium oil prices are expected to fluctuate between $70 and $75 per barrel (Figure 8). Under this assumption, combined with consistent depreciation in the exchange rate, key inputs such as fuel and fertiliser prices are expected to decline over the first few years of the outlook, before rising consistently from 2027 onwards (Figure 8).

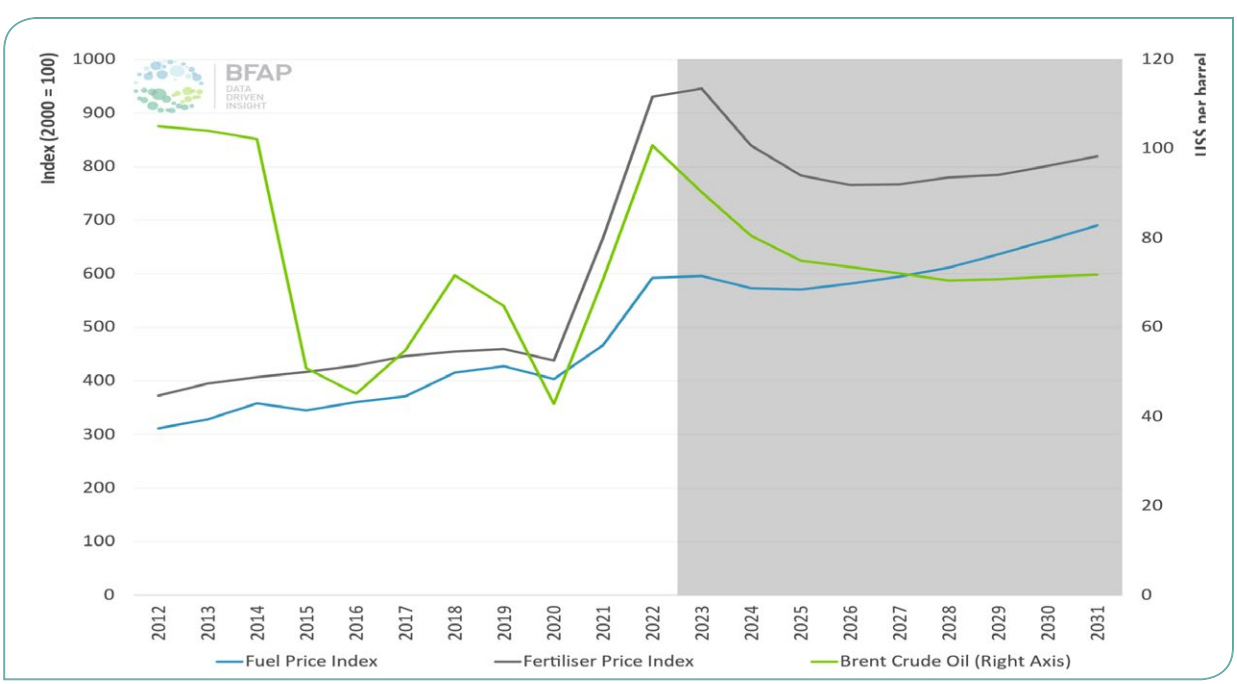


Figure 8: Oil price assumption and input cost implication

Source: OECD, IMF, BER and BFAP (2023)

SOUTH AFRICAN CONSUMER PROFILE


THIS CHAPTER PRESENTS AN OVERVIEW of the South African consumer landscape, which underpins the modelled projections presented in the 2023 edition of the BFAP Baseline, and sheds light on dynamic changes in the socio-economic environment.

THE SOUTH AFRICAN SOCIO-ECONOMIC CONSUMER SPECTRUM

The socio-economically disaggregated view of South African consumers presented in this section is based on three main lifestyle clusters or segments: Low-income, middle-income and affluent consumers. Figure 9 presents a summary of the more prominent characteristics that distinguish these three lifestyle clusters. Rising socio-economic status is characterised by rising household income, higher education levels, decreasing unemployment, increasing urbanisation, increasing dietary diversity, a higher food expenditure per capita and a lower share of total household budget allocated to food.

Figure 10 presents the socio-economic distribution in South Africa on a provincial level in 2021/2022. The largest number of households within the various socio-economic sub-groups reside in the provinces listed. The bracketed numbers refer to the share of households in the relevant province that are classified in the particular socio economic grouping.

Low-income:
KwaZulu-Natal (22%)
Limpopo (17%)
Eastern Cape (17%)
Gauteng (12%)

Middle-income:
Gauteng (29%)
KwaZulu-Natal (18%)
Western Cape (15%)
Eastern Cape (8%)

Affluent:
Gauteng (48%)
Western Cape (19%)
KwaZulu-Natal (15%)

HOUSEHOLD INCOME

According to data from the South African Reserve Bank, the average household disposable income per capita

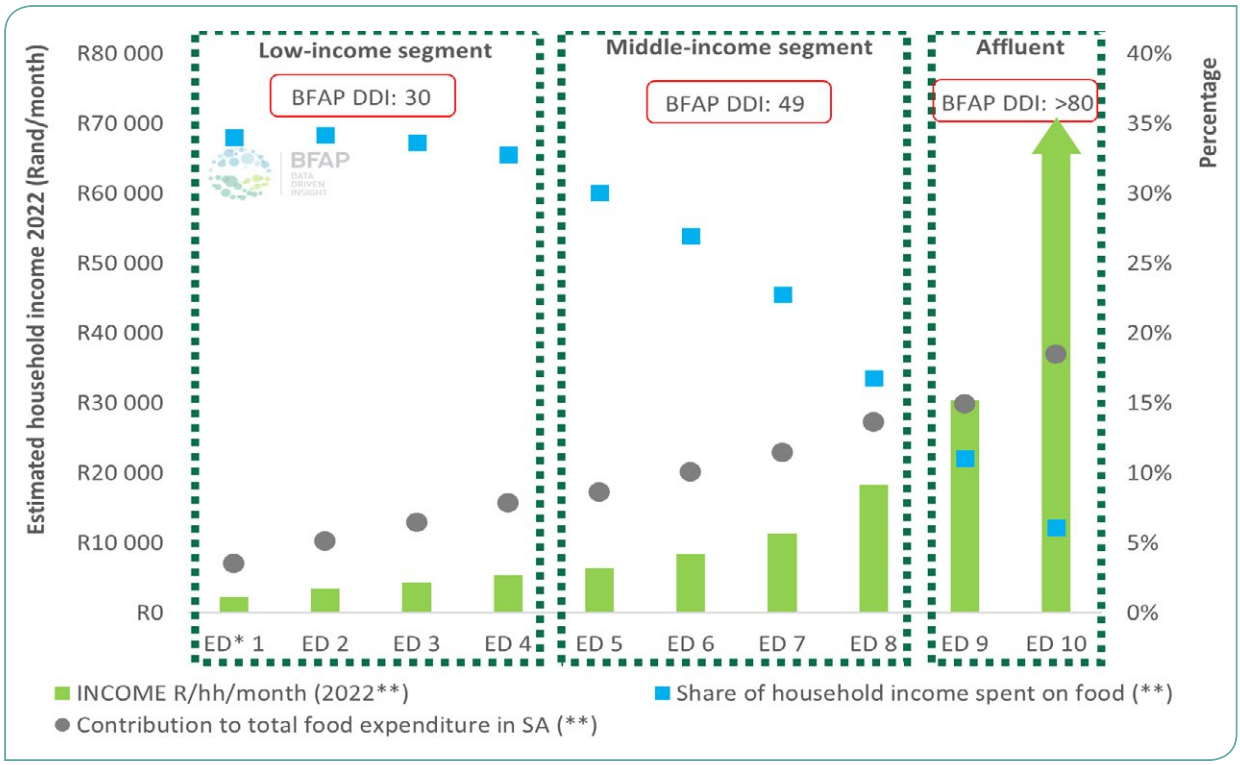


Figure 9: An overview of the South African consumer spectrum

Source: BFAP estimations based Stats SA (2014/2015) & MAPS (2021/2022)

NOTES: (*) Each Expenditure Decile (ED) represents 10% of the households in South Africa. (**) Calculated estimates. BFAP DDI = BFAP Dietary Diversity Indicator: Refers to the number of food items accounting for 80% of food expenditure

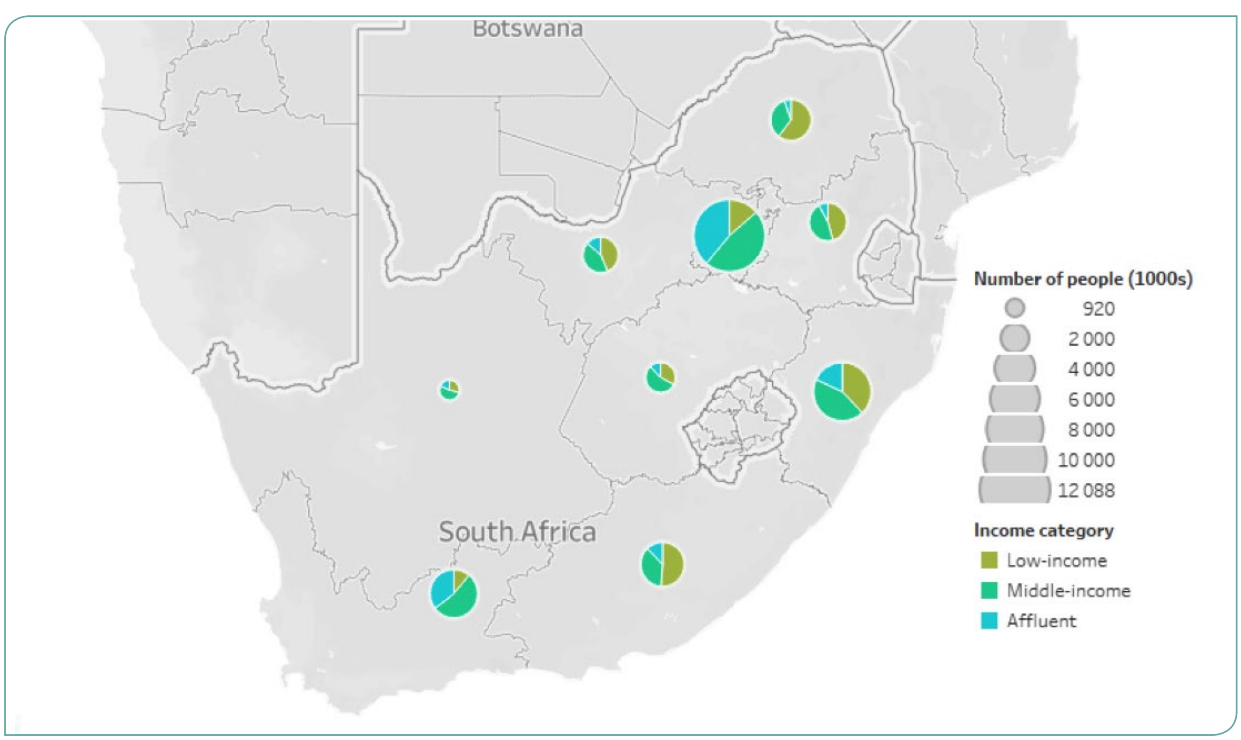


Figure 10: Provincial distribution of the main socio-economic sub-groups in South Africa

Source: BFAP calculations based on the Marketing All Product Survey (MAPS) 2021/2022

increased by 62.7% in nominal terms from 2012 to 2022, but this equates to only 1.0% in real terms once general inflation is accounted for (Figure 11). Following a gradual real positive growth trend from 2011 to 2019, per capita disposable income declined during the Covid-19 pandemic, on the back of economic restrictions, followed by some recovery as economic activity resumed. Despite real year-on-year growth of 4.5% from 2020 to 2021, disposable income per capita only increased by 0.8% from 2021 to 2022 – reflecting the pressure experienced by consumers in the current economy and implying that in real terms, per capita income remains below pre-pandemic levels.

Household income data from the Marketing All Product Survey (MAPS) (Marketing Research Foundation, 2022) reflects 7% growth in the nominal average household income from 2020/2021 to 2021/2022, which compares well with the nominal increase of 8% presented in Figure 11 from 2021 to 2022.

In 2022 the World Bank, reporting on income inequality in Southern Africa, stated that South Africa is the most unequal country in the world, ranking first among 164 countries in the World Bank's global poverty database. BFAP estimates, based on household income levels reported in MAPS, indicate that in 2021/2022 the least affluent third of the South African population earned less than 15% of total income, while the most affluent 20% of the population earned more than 50% of total household income.

According to the latest Stats SA General Household Survey 2021, the dominant income sources of households in South Africa was salaries / wages (an income source for 59% of households), followed by grants (51%). From 2019 to 2020 the percentage of South African households who received income from salaries, businesses and remittances decreased significantly, along with higher grant dependency, due to the restrictions imposed to manage the Covid-19 pandemic. From 2020 to 2021 the share of households receiving income from salaries recovered by 2 percentage points, but was still below pre-Covid levels.

High grant dependence in South Africa is evident from Figure 12, which illustrates that social support grants were the main income source of 24% of households (compared to 20% in 2019) and an additional income source for 27% of households in 2021. Despite some

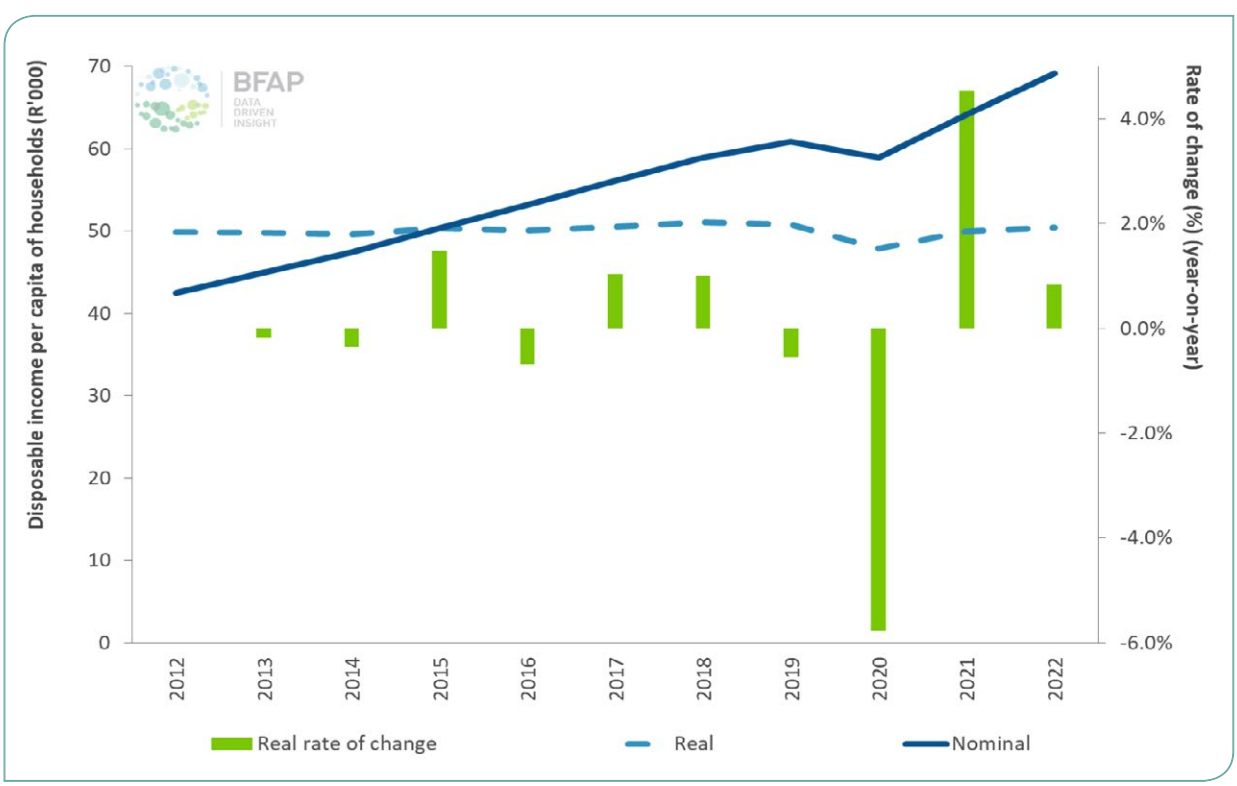


Figure 11: Disposable income per capita of households in South Africa from 2012 to 2022

Source: South African Reserve Bank, 2023

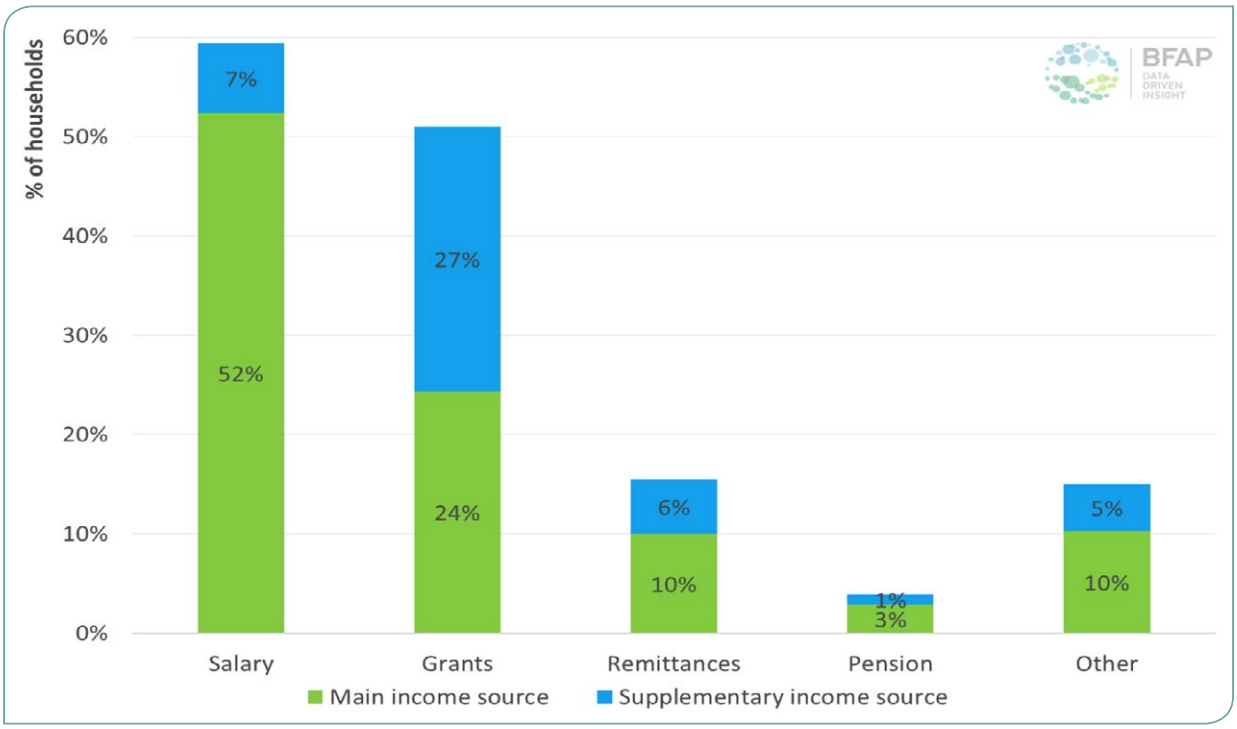


Figure 12: Household income sources in South Africa in 2021

Source: Stats SA General Household Survey 2021

reduction in grant dependence from 2020 to 2021, the share of South African households receiving grant income in 2021 was still 5 percentage points higher than pre-Covid levels.

In South African the dominant type of social support grant is the Child Support Grant, which represented 70% of the total number of grants paid in March 2023 by SASSA, followed by Old Age Grants (21%). According to the 2021 Stats SA General Household Survey, grants contributed to the income stream of the largest share of households in Mpumalanga (66.2% of households), Limpopo (65.7%), Eastern Cape (63.7%) and Free State (60.0%).

CLASS MOBILITY

Class mobility, defined as the movement of consumers to higher socio-economic groups, has been a key feature of the South African consumer landscape for much of the past 20 years, and has been detailed in previous Baseline publications. During this period, continued upward class mobility was observed from low-income to middle-income segments, as well as from middle-income to affluent segments.

However, in more recent years, various factors have put strain on the consumer economy in South Africa, such as the measures imposed to contain the Covid-19 pandemic, combined with other pressure factors such as high food prices, high general inflation and a challenging economic climate in general. Consequently, changing class mobility patterns have emerged in recent years (Figure 13). From 2020 to 2021 the share of the South African population within the low-income socio-economic group still decreased and remained stable in 2022, while the middle-income group increased from 2020 to 2022. However, in contrast to the period 2005 to 2015, the share of the South African population within the affluent socio-economic groups decreased from 2020 to 2022 – thus showing negative class mobility.

HOUSEHOLD SIZE AND COMPOSITION

Over the past decade, the average household size in South Africa remained almost unchanged, at 3.4 per household (Stats SA, 2021), with larger households typically residing in provinces such as the Eastern Cape (3.8 people), KwaZulu-Natal (3.8 people) and Limpopo (3.6 people). Smaller households typically reside in

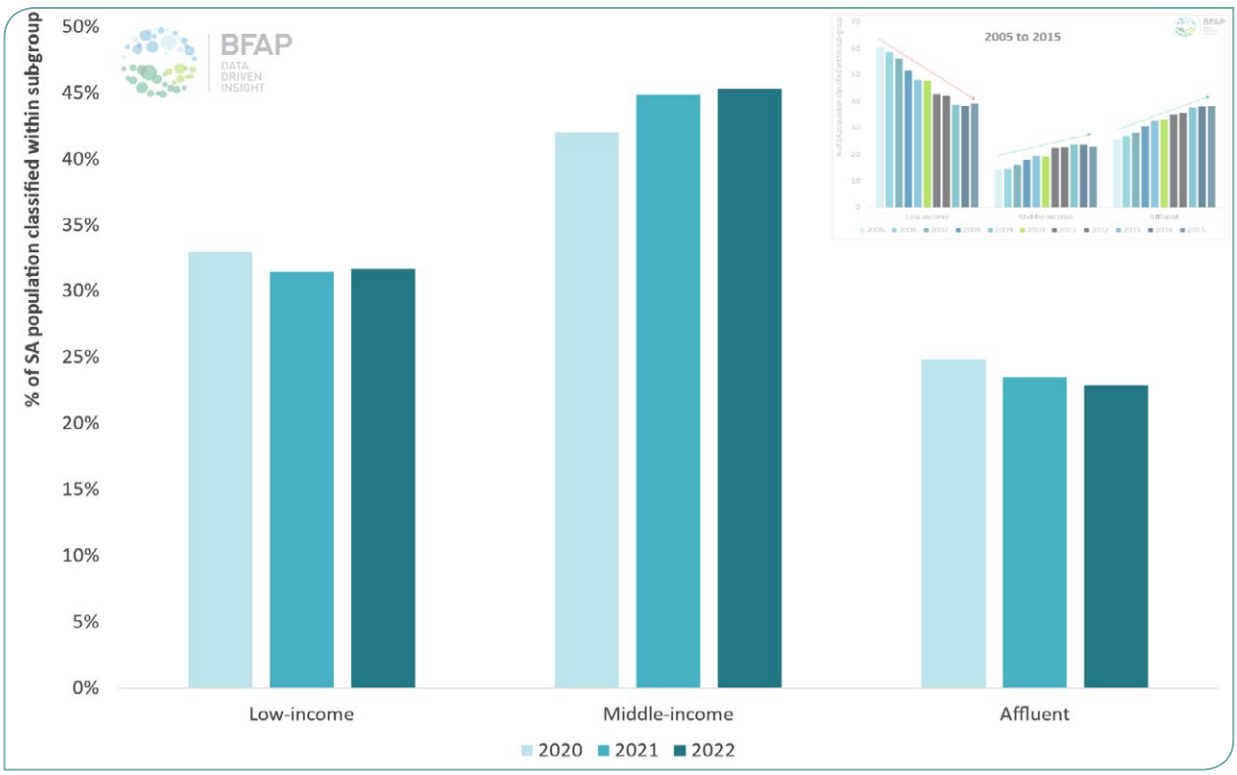


Figure 13: Class mobility in South Africa – 2020 to 2022

Sources: BFAP calculations based on Establishment Survey and Marketing All Product Survey (MAPS) data.

provinces such as Gauteng (3.0 people), Free State (3.1 people) and North-West province (3.2 people).

In general, larger households are more likely to experience food security challenges compared to smaller households. As illustrated in Figure 14 inadequate food access and hunger tend to increase with rising household size (Stats SA, 2023).

Considering household life stages, the MAPS survey of August 2022 (Marketing Research Foundation, 2022) reported the dominance of families with children (50%), followed by singles (without children) (41%) and couples (without children) (9%) (Figure 15). Understanding the food behaviour and preferences of households with different life stages is critical for targeted food marketing strategies.

For example, BFAP's research into dairy consumption (2022) showed that households with children had a significantly more frequent intake of sour milk / maas and a significantly less frequent intake of butter, compared to households without children. From a food security perspective the dominance of families with children coupled with socio-economic pressure puts a lot of pressure on social support structures especially related to child support grants.

Data on inter-generational household composition from Stats SA (2021) illustrates the dominance of double generation households (i.e. parents and children), which represented 42% of South African households in 2021. This was followed by single person households (23%), single generation and triple generation households (14% each).

Triple generation households (i.e. grandparents, parents and children) are more prominent in rural areas compared to urban areas. Over time the share of households within the double generation group increased, along with decreases for all the other groupings.

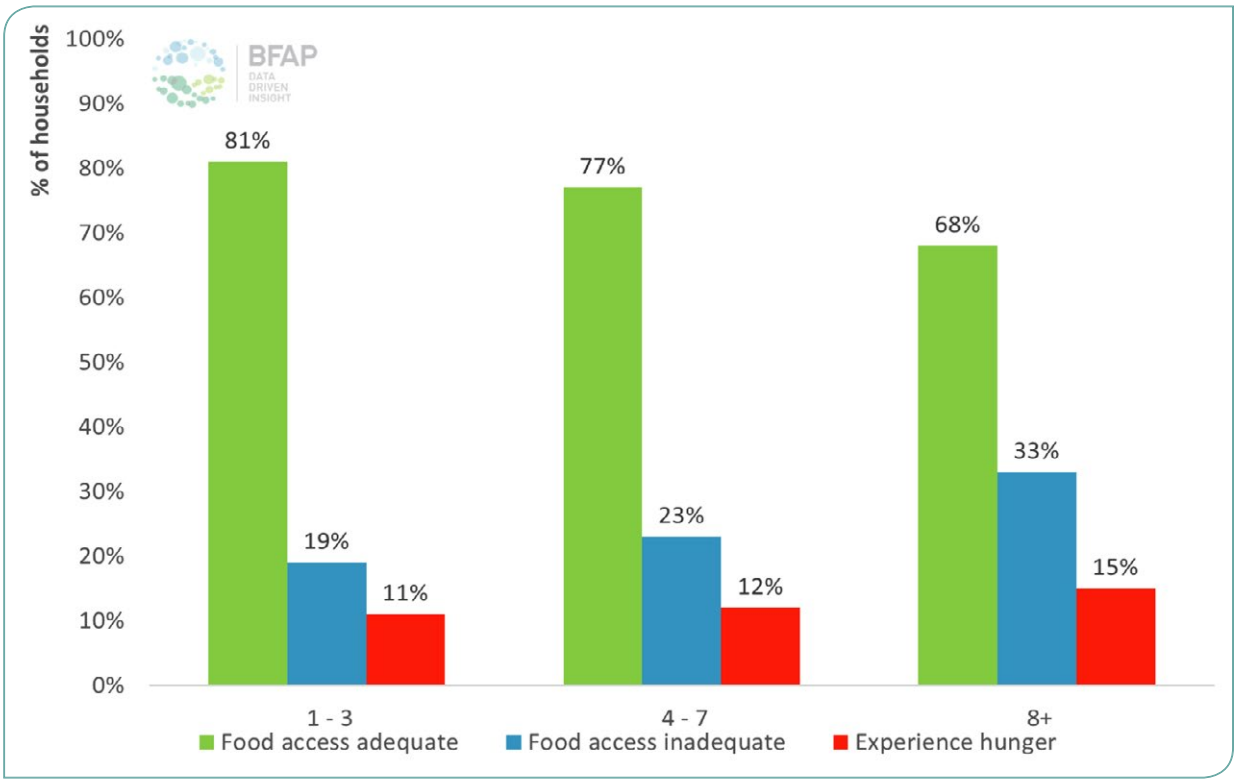


Figure 14: Food access and hunger by household size

Sources: Stats SA, 2023

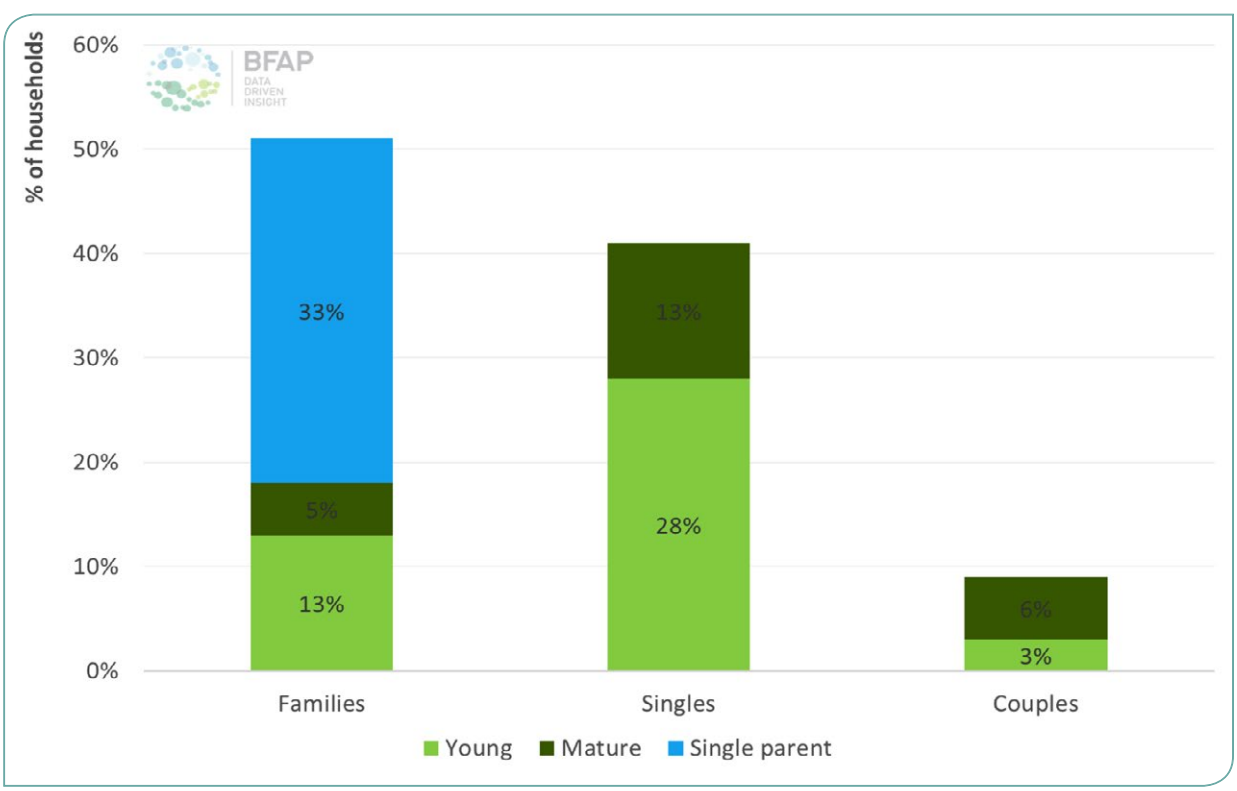


Figure 15: Life stages of households in South Africa

Sources: MAPS, 2022

URBANISATION

At national level, a trend of increasing urbanisation is observed over time – as is illustrated by the share of the population residing in urban areas:

2001: 58% *(Stats SA Census 2001)* → ***2022/2023:*** *68.6% (UN World Urbanisation Prospects)* → ***2032/2033:*** *73.1% (UN World Urbanisation Prospects)*

Provincial migration in South Africa

The provincial migration patterns from Stats SA's 2022 Mid-year Population Estimates also support the notion of continued urbanisation in South Africa. The most urbanised provinces have the largest positive net migrations from 2016 to 2021, for example Gauteng (+0.99 million people) and Western Cape (+0.29 million people), while the least urbanised provinces had the largest negative net migrations, for example the Eastern Cape (-0.32 million people), followed by Limpopo (-0.19 million people), and KwaZulu-Natal (-0.08 million people).

How does urbanisation in South Africa compare with the rest of the world?

According to estimates based on the latest UN World Urbanisation prospects (2018), the global urban population share is 57%, with the highest urban population share in high-income countries (82%) and upper-middle-income countries (70% including South Africa with 69%). The lowest urban share is found in low-income countries (34%) and lower-middle-income countries (43%) (Figure 16). From 2012/2013 to 2032/2033 the highest urbanisation rate is projected for low-income countries (+33% for the two decades), followed by lower-middle-income countries (+27% for the two decades) and upper-middle-income countries (+23% for the two decades).

Increasing urbanisation is linked to the nutrition transition and changing eating patterns (e.g. consumption of more animal-source foods, fats/oils and highly processed foods often containing high quantities of sugar and refined carbohydrates), which is in turn associated with the increased incidence of overweight, obesity and non-communicable diseases such as diabetes and heart disease.

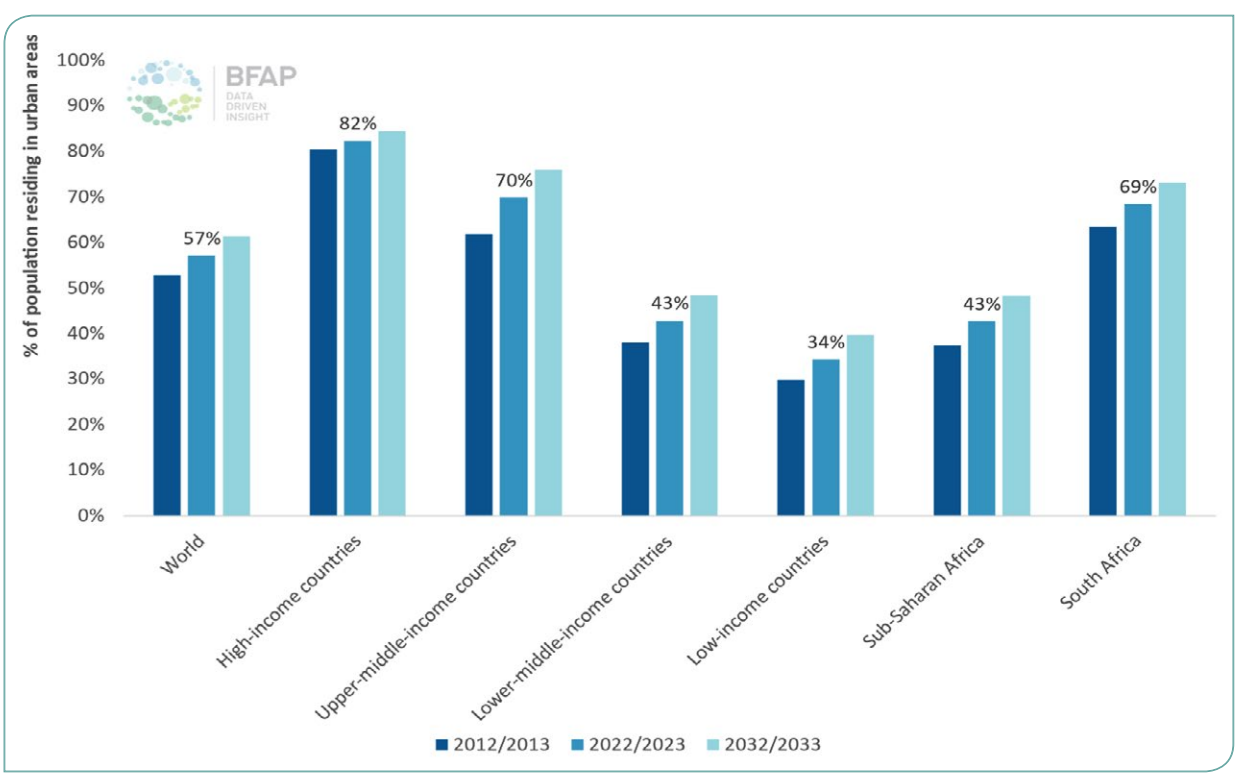


Figure 16: A global urbanisation comparison

Sources: UN Population Prospects, 2018

DID YOU KNOW?

Legume intake of low-income rural and urban consumers

According to the latest Stats SA Living Conditions Survey,* the least affluent 50% of rural households in South Africa spent approximately 2.3 times more per capita on dried beans than their urban counterparts, with dried beans representing the dominant legume food consumed by these households.

Canned baked beans is the most popular legume food, with the least affluent 50% of urban households, spending approximately 1.3 times more per capita on canned baked beans than their rural counterparts. These households also revealed higher per capita expenditure on other legumes such as dried lentils, canned peas and butter beans – thus indicative of the diversification of legume intake associated with urbanisation. However, lower-income urban households spent approximately 18% less per capita on legumes than rural consumers.
**Stats SA Living Conditions Survey 2014/2015*

AGE DISTRIBUTION

South Africa has a gradually aging population, with the median age rising from 24.6 in 2013, to 27.6 in 2023, and expected to reach 29.2 in 2032 (UN Population Prospects, 2022). The population ageing in South Africa is further evident from Figure 17, which illustrates the decreasing contribution of younger individuals (aged below 25 years) to total population composition for the past and coming decades. Population growth in South Africa is projected to slow over the next ten years, from approximately +14% (+7.6 million people) from 2013 to 2023, to +9% (+5.2 million people) in the next decade.

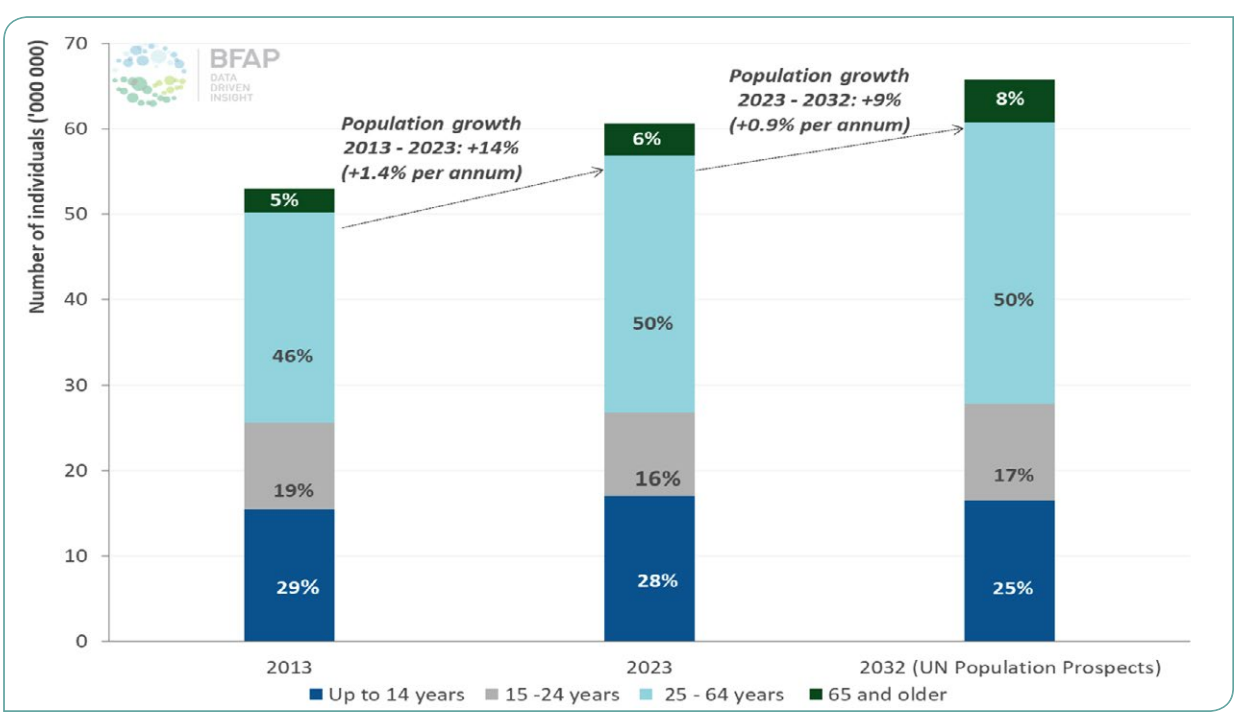


Figure 17: Age structure dynamics in South Africa –2013, 2023 and 2032 projections

Source: Stats SA, 2013 & 2022; UN Population Prospects, 2022

Figure 18 indicates that, from 2023 to 2032, the expectation is that the most significant growth (in terms of number of people) will occur among Generation X (aged 43 to 58 in 2023) followed by the older generations (aged 59 and older). The food choices and behaviour of generations often differ. For example, the growth in the mature Generation X could stimulate the need for more convenient food solutions that can save time, considering that they are in a life stage where they must cope with careers, caring for (often older) children and possible taking care of their own parents. From a food security perspective the growth in elderly generation, coupled with economic pressures in South Africa, could put pressure on social support resources in the form of old age grants.

DID YOU KNOW?

Meat intake and age-based generations

Considering food intake, a general tendency among elderly individuals is the reduced intake of animal-protein foods in the diet. This is linked to several factors, such as cost considerations, chewing difficulties, loss of appetite, etc.[1] From a nutritional perspective, the low intake of protein-rich foods is often linked to deficiencies in micro-nutrients such as iron, zinc and vitamins B1 and B2, which typically occur in animal-source, protein-rich foods.

In South Africa, the combination of a growing older population (with a tendency to consume less meat) and younger generations (with a tendency to reduce meat intake for sustainability considerations), could pose challenges for especially the red meat market in the next decades.

[1] *For example: Motadi et al., 2022*

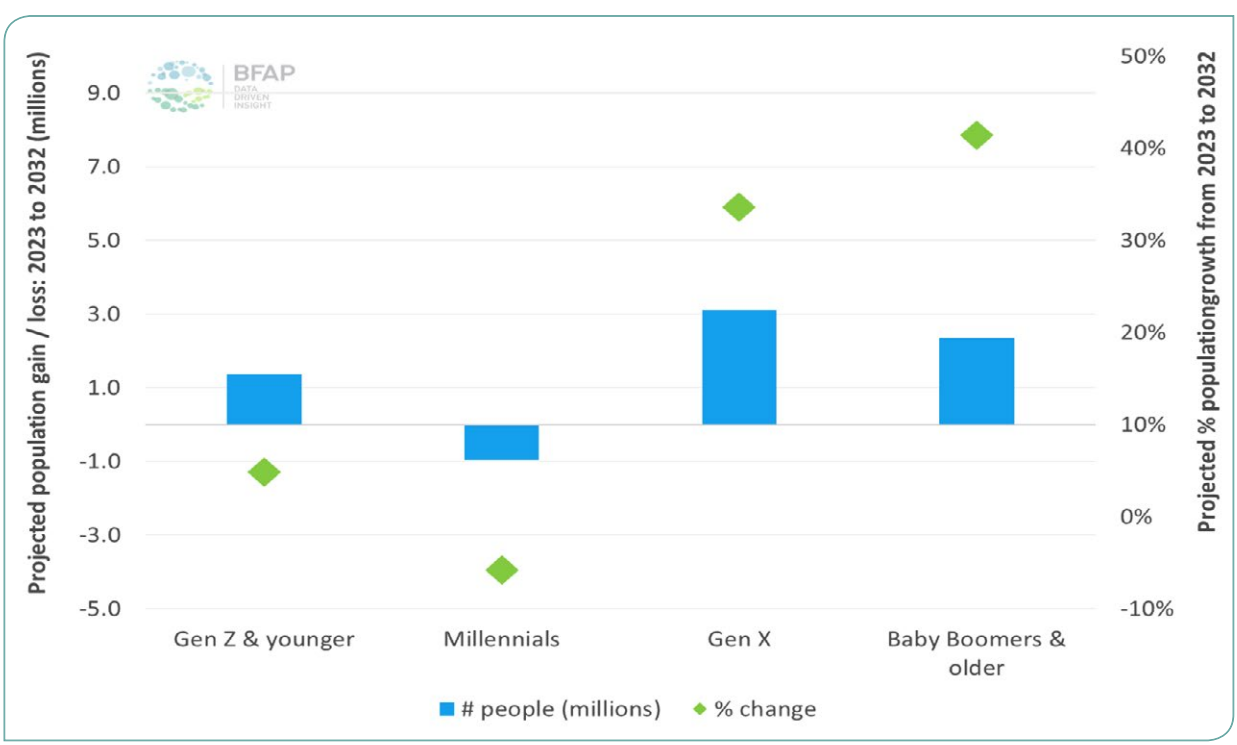


Figure 18: A generations perspective on population gains / losses over the next decade

Sources: BFAP calculations based on UN Population Prospects, 2022.

UNEMPLOYMENT

From the fourth quarter of 2012 to the fourth quarter of 2022, the South African labour force increased by 4.46 million individuals (+23.2%), while the number of employed individuals increased by only 1.41 million (+9.7%) and the number of unemployed increased by 3.04 million (+64.6%). The unemployment rate for South Africa, as reported by Stats SA in the fourth Quarterly Labour Force Survey of 2022, was 32.7%, having declined somewhat from the 35.3% reported in the fourth quarter of 2021. Table 3 presents further trends on unemployment in South Africa.

DEBT

For more than a decade, rising indebtedness has been a key feature of the South African consumer landscape (Figure 19 and Table 4). This trend is expected to continue when considering various pressure factors on households, such as rising interest rates, high food prices and household incomes battling to keep up with inflation.

The decrease in the number of accounts is likely the result of individuals' various credit accounts being consolidated when handed over to debt collectors.

Table 3: Disaggregated trends in South African unemployment –Q4 2012 vs Q4 2022

Category	Variable	Unemployment rate in Q4 2022		Ten-year increase in unemployment rate	
		Highest	Lowest	Highest	Lowest
Age	Unemployment rate among active working age population	25 – 34 years (40%) 35 – 44 years (28%)	55 – 64 years (13%) 45 – 54 years (20%)	55 – 64 years (+71%) 45 - 54 years (+65%) 35 – 44 years (+58%)	25 – 34 years (+34%)
Province	Provincial unemployment rate	EC (42%) NW (37%) MP (36%) FS (35%) GP (34%) KZN (31%)	WC (23%) NC (22%)	NW (+59%) GP (+45%) KZN (+43%) EC (+43%)	MP (+24%) FS (+6%) WC (-4%) NC (-22%)

Source: Stats SA Quarterly Labour Force Survey – Q4 2022

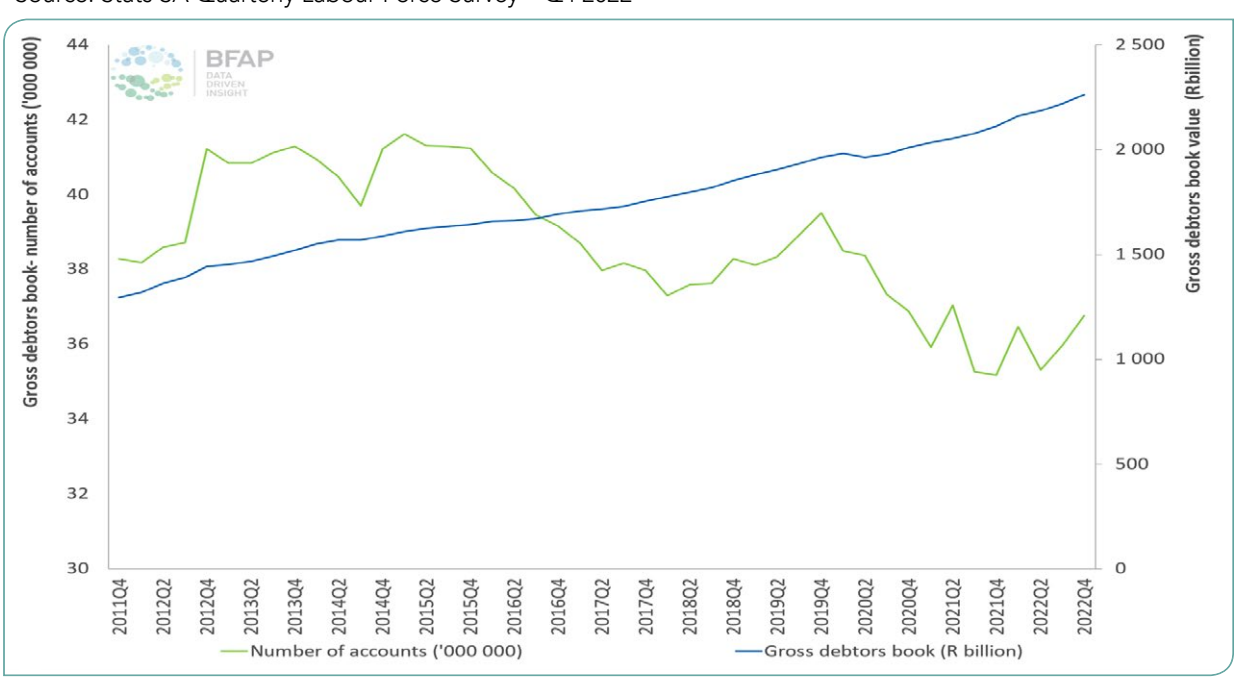


Figure 19: Consumer debt in South Africa from a gross debtor's book perspective

Source: National Credit Regular, 2023

Table 4: Trends in South African consumer debt – comparing 2012 to 2022

Measurement:	Average value – Q1 to Q4 2022:	% change – 2012 to 2022	Comments:
Gross debtors book - value (nominal))	R2 207.7 billion	+60.0%	• Increasing trends over time. • Q4 2022 highest value in time series.
Gross debtors book – number of accounts	36.14 million	-7.8%	• Increasing trend from Q4 2021 to Q4 2022.
Number of credit applications received	14.2 million	+38.2%	• Increasing trends over time, but Covid-19 impact visible in mid-2020. • Average 2022 value (14.2 million) highest value since Q4 2007.
Credit application rejection rate	67.8%	+30.0%	• Maximum rejection rate over the last decade observed in 2022.
Credit granted to consumers with an income of less than R5 500 per month as % of total value of credit granted	10.7%	-30.5%	• Increasing trend since Q3 2020.

Source: National Credit Regular, 2023

FOOD ACCESS

In the annual General Household Surveys, Stats SA measures food access with two indicators: the share of persons/households in South Africa that experienced hunger (referring to adults and children going hungry because there was not enough food in the household) and the share of people/households with limited food access based on a complex food access measurement that uses the Household Food Insecurity Access Scale. Up to 2019, both the 'hunger' indicator and the 'limited food access' indicator showed significant improvement over time, with the share of persons that experienced hunger decreasing from 29.3% in 2002 to a thirteen year low of 11.1% in 2019, while the share of people with limited food access decreased from 29.1% in 2010 to 19.5% in 2019 (Figure 20). From 2010 to 2021, the share of people with limited food access was consistently higher than the share of people experiencing hunger by about 12 percentage points per year. Unfortunately, both the 'hunger' indicator and the 'limited food access' indicator worsened towards 2021 (to 12.2% and 23.8% respectively), linked to consumer pressure factors such as the Covid-19 pandemic, household income pressure, high unemployment as well as high and rising food prices. In an assessment of food inadequacy and hunger in South Africa, Stats SA (2021) found that inadequate food intake was more prominent among urban households compared to rural households, and also more prominent among female-headed households compared to male-headed households.

Considering provincial dynamics, Figure 21 indicates that the largest number of households with somewhat inadequate or severely inadequate food access resided in Gauteng (0.99 million households), followed by KwaZulu-Natal (0.65 million households), Mpumalanga (0.46 million households), Eastern Cape (0.41 million households), North-West (0.40 million households) and Western Cape (0.39 million households).

In 2022, the Global Hunger Index (GHI) score for South Africa was 12.9, representing a moderate score (in the range of 10.0 to 19.9, which ranks 59th out of the 121 countries. The index improved over time by 5.2 index points, from 18.1 in 2000.

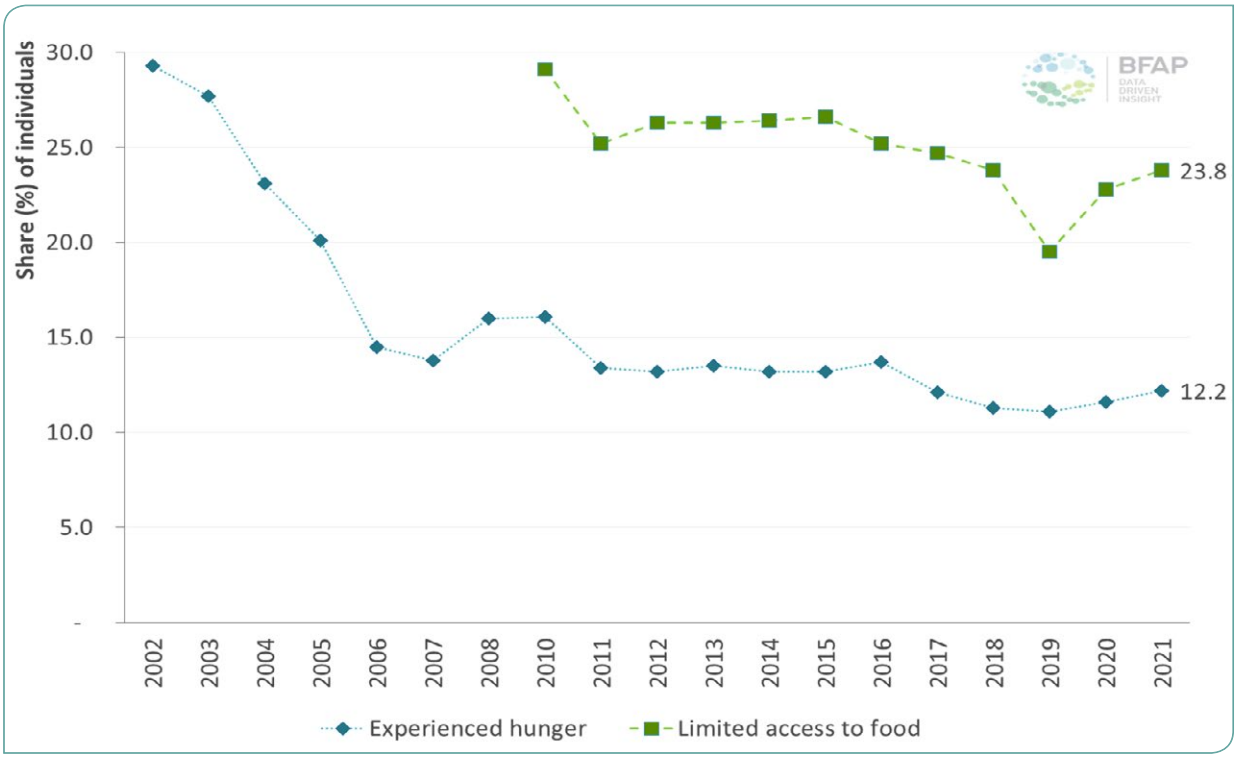


Figure 20: Individuals' vulnerability to hunger and access to food (2002 to 2021)

Source: Stats SA GHS, 2021* (NOTE: * Most recent data available)

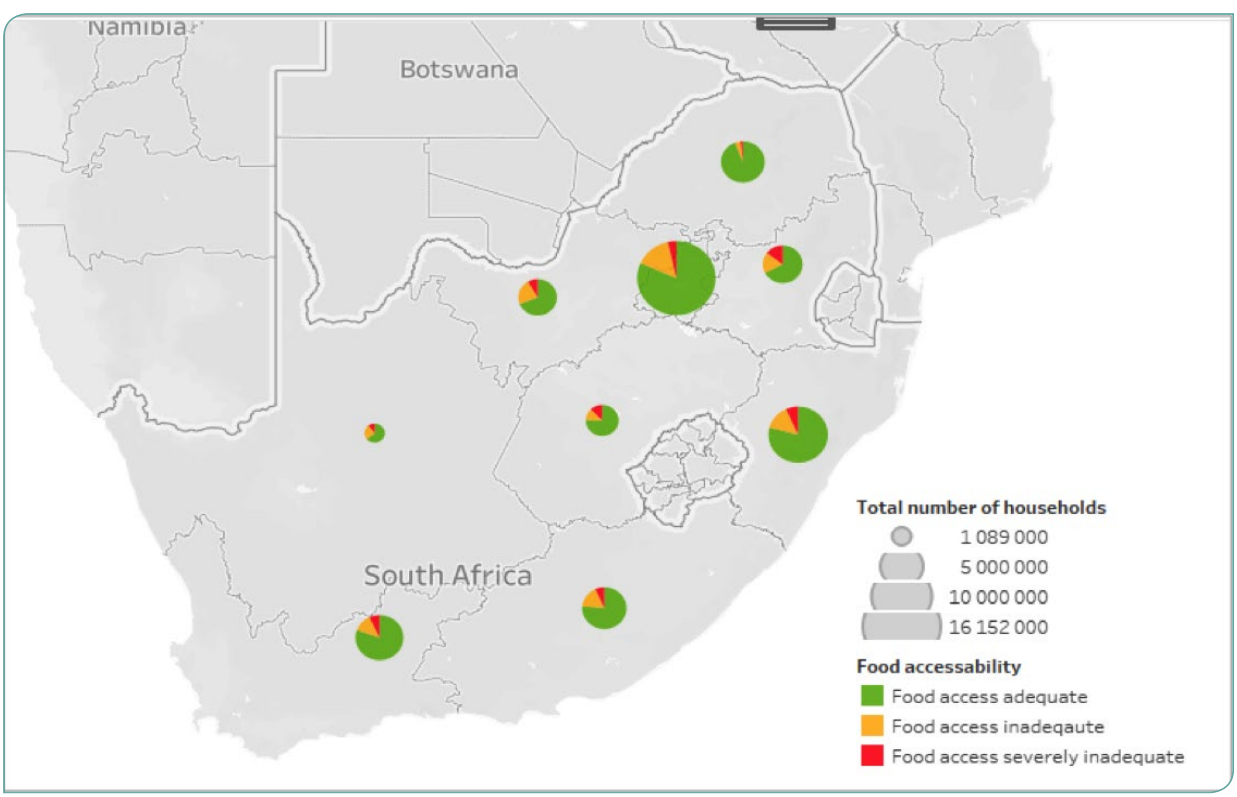


Figure 21: A provincial perspective on food access in South Africa (2021)

Source: Stats SA GHS, 2021 NOTE: the size of the pie chart in each province is indicative of the total number of households within the **particular province.**

OUTLOOK FOR FIELD CROPS

SUMMER GRAINS AND OILSEEDS

INTERNATIONAL MARKET SITUATION

THE PAST THREE YEARS have been amongst the most volatile to date in global grain and oilseed markets. The FAO Food Price Index, a measure of underlying agricultural commodity prices globally, reached unprecedented levels in early 2022, as Russia's invasion of Ukraine added further uncertainty at a time when supply was already constrained. Global stock levels have been trending downwards for many years, amid poor weather conditions that reduced output expectations in South America and delayed planting progress in the USA. These raised concerns about the Americas' ability to mitigate supply reductions from the Black Sea region.

The initiation of the Black Sea Grain Initiative, first signed in July 2022, brought some much-needed stability, enabling Ukraine to resume exports through its Black Sea ports. While the war has undoubtedly affected its productive capacity, the grain deal enabled exports of existing stock, which were high after a bumper 2021 crop, easing global supply constraints. The deal has been renewed a number of times for short periods, but this short term nature implies that its future remains inherently uncertain. Global grain and oilseed prices have declined consistently since the deal was brokered and the FAO Cereal Price Index reached pre-war levels in the first quarter of 2023. Early expectations by the International Grains Council (IGC) suggest that global maize production could rise by more than 5% year on year in 2023, following a weaker crop in 2022. Early season planting conditions in the USA have been good and Brazil is also expecting a record crop. This should support further softening of world prices through 2023 and 2024. Under the baseline, expectations of persistent uncertainty related to the ongoing war, combined with a focus on environmental sustainability, particularly in the EU, could result in prices finding an equilibrium at higher levels than those observed from 2015 to 2020 (Figure 22).

Oilseed and oilseed product prices have declined faster than that of grains, following a record harvest in Brazil that bolstered soybean supply, despite weather concerns in several other countries. Early projections by the IGC suggest that production could rise by almost 10% in 2023, replenishing stock levels and likely resulting in further reductions in prices. Similar to grain markets, expectations are that oilseed prices will reach an equilibrium at a higher level than had been observed

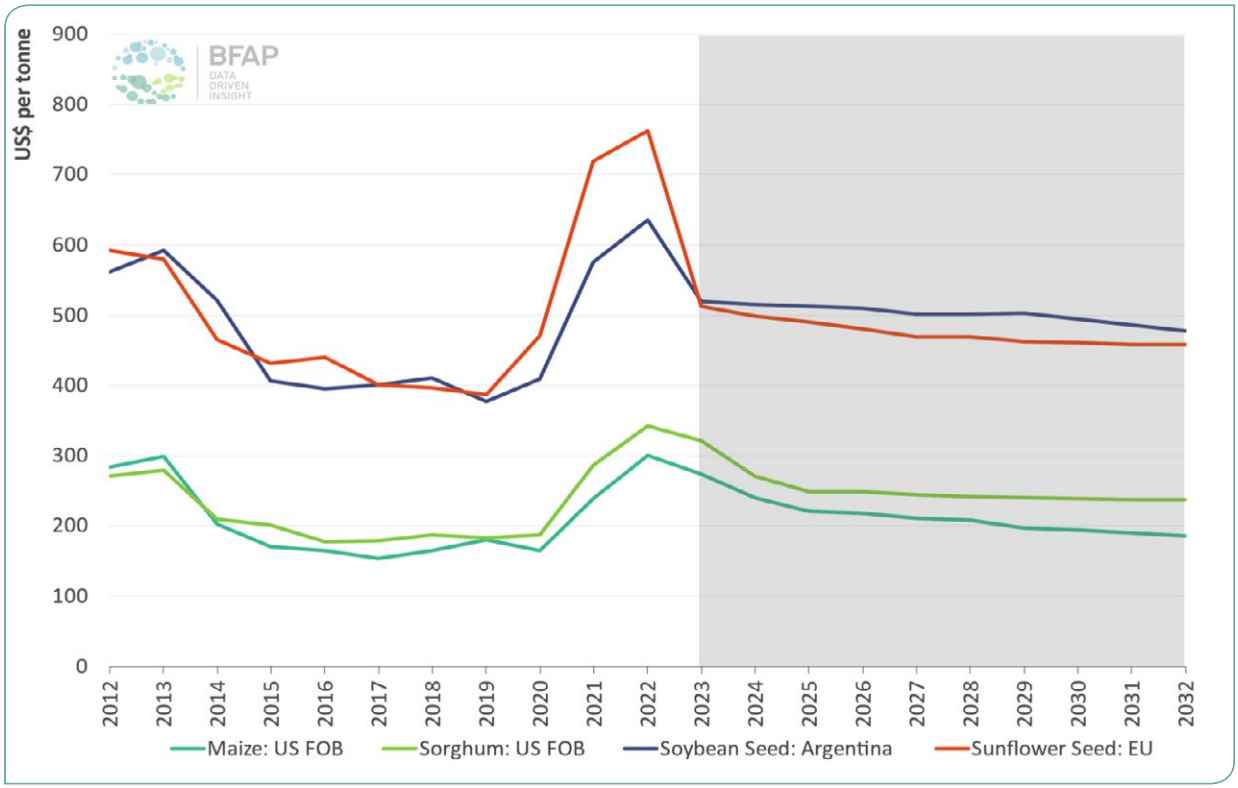


Figure 22: World prices for major summer grains and oilseeds: 2012-2032

Source: FAPRI & BFAP, 2023

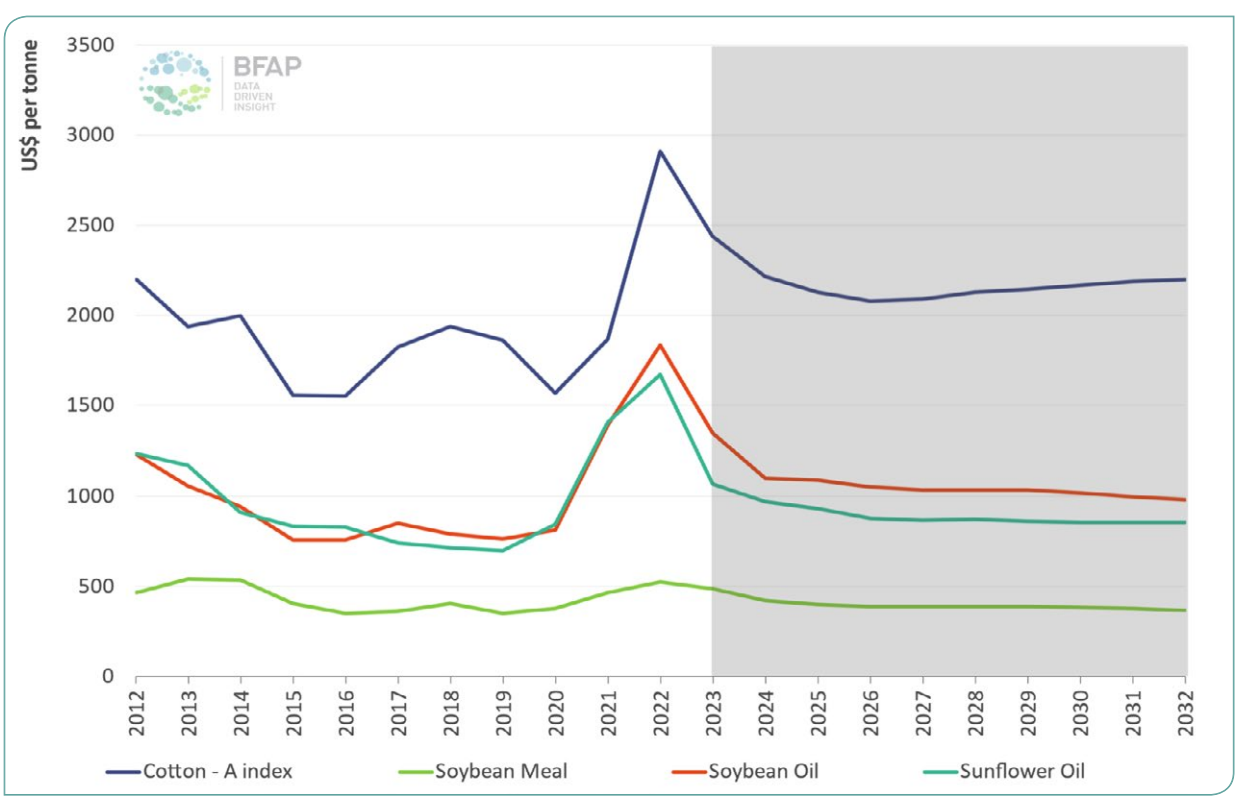


Figure 23: World prices for major secondary products

Source: FAPRI & BFAP, 2023

from 2015-2020, reflecting inherently higher production costs, demand from the energy sector and persistent ambiguity regarding long term production prospects in Ukraine amid ongoing war.

Cotton prices also increased sharply in 2022, due to a combination of strong demand early in the year as textile manufacturing gained momentum post Covid-19, weaker production due to drought conditions in the USA, particularly in Texas, and flooding in Pakistan. Growth in China and India was insufficient to offset the decline. Amid weaker economic prospects globally, prices are expected to decline in the short term, before reaching an equilibrium at levels close to those of 2014 (Figure 23). The medium term cotton outlook remains highly dependent on Asia, due to its dominance of global milling capacity and its strong textile industry. Global cotton use is foreseen to increase by 1.8% per annum over the coming decade, propelled mainly by demand growth in Vietnam and Bangladesh, with weaker growth in China, which has imposed stricter environmental regulations on its textile industry, while its labour costs have also increased relative to major competitors (OECD-FAO, 2023).

DOMESTIC MARKET SITUATION

Despite the global volatility, South African producers prospered; 2022 yielded the third successive bumper summer crop harvest, sold at unprecedented price levels derived from global dynamics. The 15.5 million tonne maize crop was sufficient to keep prices at export parity levels, despite firm demand as cash strapped consumers, particularly amongst lower income groups, traded down to more basic food staples. Early indications from the Crop Estimates Committee (CEC) suggest that 2023 will bring another 16 million tonne crop, despite an 80 000 hectare (3%) reduction in area planted following the sharp increases in input costs in 2022. This implies that exports could exceed 3.7 million tonnes for the third consecutive year in 2023.

The yields achieved over the past three years reflect favourable weather conditions, together with exemplary farming practices and investment into efficiency gains. Consequently, maize prices have traded well below export parity prices over the first few months of 2023. The fact that prices have remained below export parity for an extended period is contrary to what one would expect given that trade can occur freely, but the sheer volume of exports expected for both maize and soybeans, along with persistent delays in South Africa's ports has raised concern as to export capacity and how efficiently such volumes can be shipped, hence pushing prices below parity levels. Consequently, South Africa's maize prices are expected to decline by around 17% year on year, despite the weaker exchange rate. This reduction is critical to the expectation of slower food inflation over the second half of 2023 and ensures improved affordability of the most basic food staple for embattled consumers. At the same time, it implies that the gross production value (GPV) of white and yellow maize could decline by 12% and 15% respectively in 2023, despite higher production volumes than in 2022.

Oilseed production growth has been even stronger than maize, with a near 100 000 hectare expansion in soybean area propelling an expected 22% growth in production for 2023, following an 18% expansion in 2022. This implies that soybean production has more than doubled since 2020, to exceed 2.8 million tonnes by 2023. Expansion was fuelled by higher prices, in line with global dynamics, combined with exceptional yields as producers optimised seed variety choices, particularly in the drier Western parts of the country. The sharp increase in production, combined with aforementioned concerns on port efficiency pushed soybean prices below export parity in early 2023. Despite the projected year on year decline in prices of more than 15%, the gross value from soybean production is expected to rise for the 4th consecutive year, due to the substantial increase in production volume (Figure 24).

Growth performance in the sunflower industry has been more subdued. While production expanded by 25% year-on-year in 2022, this was the result of the first expansion in area planted since 2018 and in 2023, early expectations from the CEC point to a 6% decline in production volume. At the same time, prices are falling, in line with global market dynamics and in 2023, the gross value of sunflower production could decline by 24%. While above-average rainfall over the past three years has enabled remarkable performances from maize and soybeans, sunflowers tend to come into their own in drier years, and will remain a crucial risk diversification crop going forward.

Revenue performance from summer crops was nothing short of remarkable over the past three years, reflecting

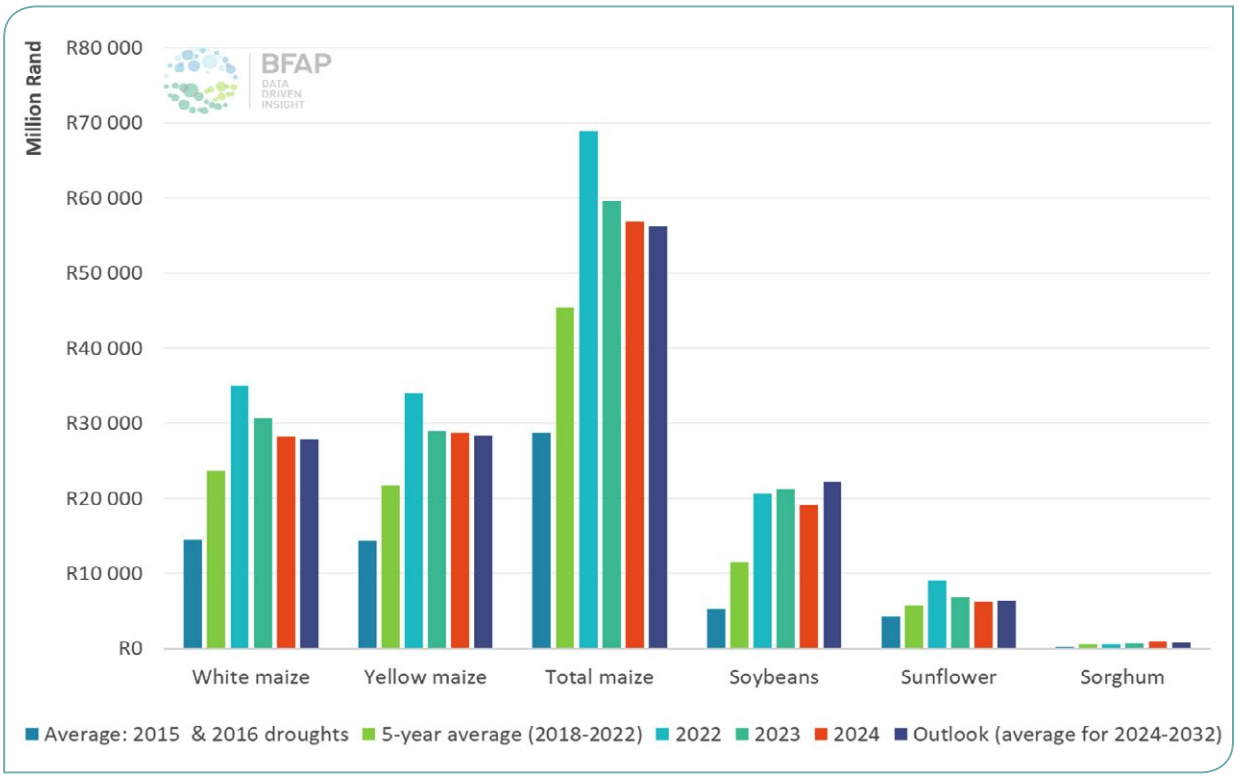


Figure 24: Gross value of production for selected summer crops in South Africa

the rare combination of strong yields and high prices. Though undoubtedly positive, revenue represents an incomplete measure of performance, as it does not yet reflect the sharp rise in input costs globally and in South Africa over the same period. Figure 25 presents an index of gross margins from major summer crops under dryland and irrigated conditions. It confirms the strong performance in 2022, although the average margin gains of 20% in 2022 relative to 2021 are smaller than was achieved in pure revenue performance. It also indicates that margins could decline drastically in 2023, as commodity prices have come down significantly faster than input costs. This suggests that, as prices continue to normalise, successful producers will be those that were able to re-invest some of the returns from the past three years to enable productivity gains over the leaner period that lies ahead.

The composition of the South African cotton industry has shifted over the past decade with dryland area constituting a higher share relative to cotton produced under irrigation (Cotton SA, 2023). Over the 2014 to 2023 period, dryland contributed 48% to total cotton area harvested compared to 37% for the 2005 to 2014 period. The shift was, to a large extent, underpinned by the observation that producers are seeking alternatives, especially noted in certain areas of the North West province, and further supported by robust prices over the past 5 years. Dryland area averaged 12 600 hectares from 2018 to 2022, a significant jump from the lows observed from 2010 to 2014, which averaged around 2 280 hectares. By contrast, area under irrigation trended sideways over the past decade, with significant volatility since 2017. Area under irrigation totalled 7 200 hectares in 2022, 15 500 hectares lower compared to 2019. Total seed cotton production in 2022 was 43 000 tonnes, with lint production at 15 300 tonnes (Cotton SA, 2023). According to Cotton SA's 5th production forecast, total area for 2023 is estimated at 17 994 hectares with production declining by 7.3%. Lower output is due to hectares contracting and dryland yields declining year-on-year.

DOMESTIC MARKET OUTLOOK

Prospects for demand growth amongst the various summer crops differ substantially, depending on typical

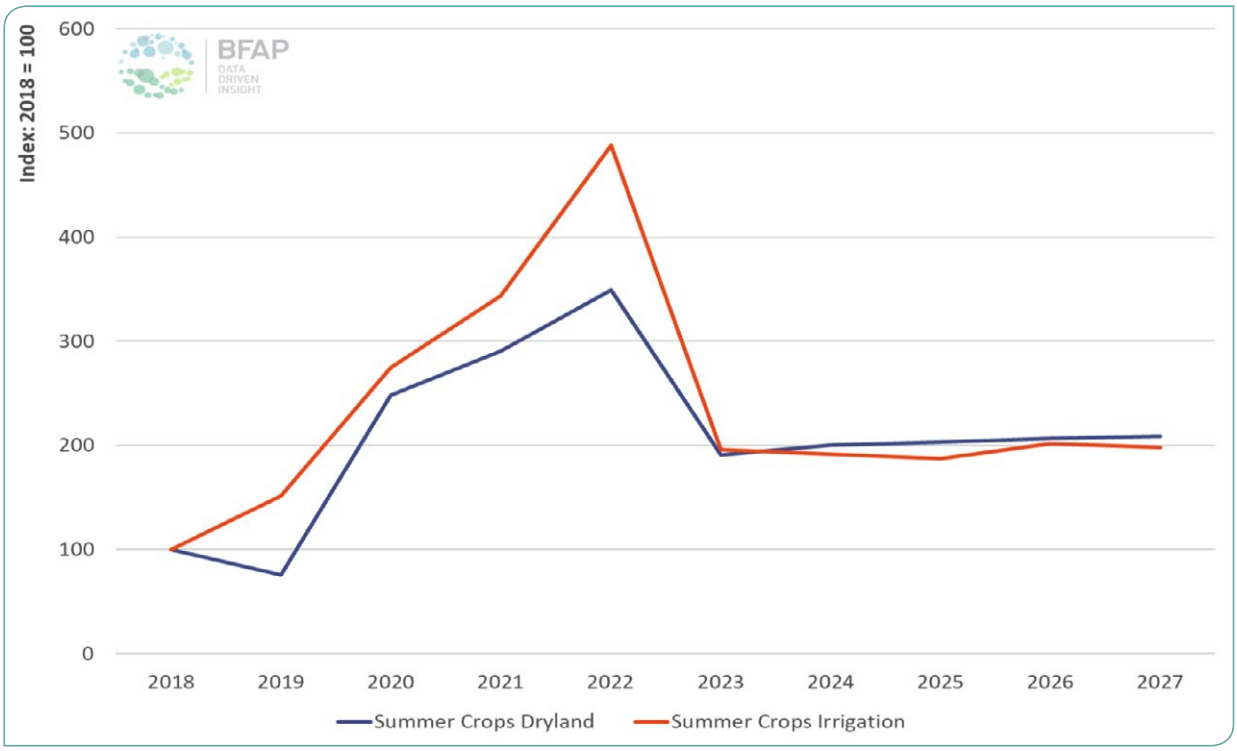


Figure 25: Gross margin index of major summer crops in South Africa: 2018 - 2027

use of the products. Grains such as white maize and sorghum are predominantly consumed as staple foods. Conversely, the bulk of yellow maize consumption is attributed to the animal feed industry, where it provides the primary energy source in most feed rations. When white maize prices fall far enough below yellow maize, white maize can also be used as animal feed. Oilseeds such as soybeans and sunflowers are crushed, producing both vegetable oil for human consumption and protein meal for inclusion in animal feed rations. Soybeans yield more protein meal, which is widely used in the animal feed market, whereas sunflower is a higher oil yielding seed and therefore more oriented to human consumption. In this market, it competes with competitively priced imported palm oil.

Figure 26 presents projected demand growth amongst the various summer crops by 2032 relative to the 2020-2022 base period. This medium-term view masks short term divergence, based on projected income growth and the current constrained consumer spending environment. This results in rising consumption of basic staples such as maize meal, whereas meat consumption comes under increasing pressure in the short-term. Over the latter half of the outlook however, as economic prospects start to improve, albeit slowly, growth in the demand for maize meal slows, though it does not yet return to a declining trend per capita, as was evident prior to the Covid-19 pandemic. Similarly, consumption of wheat products start to rise, along with meat – particularly affordable meat options such as poultry and pork, which also rely on intensive use of feed in the production system. The net effect is that by 2032, compared to the base period, maize used as food could increase by 7%, whereas maize used as animal feed is expected to rise by 17%.

Relative consumption trends for white and yellow maize reflect typical marketing channels, but also the relative substitutability in the animal feed market. This is particularly relevant in the 2020-2022 base period, when white maize consumption was abnormally high, firstly due to exceptional strain on consumer spending power and secondly due to its relative affordability compared to yellow maize, which resulted in large white maize volumes being consumed as animal feed, with yellow maize exported instead. As these factors normalise, white maize consumption could decline by 2032 relative to the base period, whereas yellow maize consumption could rise by 40%. This implies that a much smaller share

of yellow maize will be exported, whereas substantially less white maize will be consumed as animal feed, being prioritised in maize meal manufacture instead.

While meat consumption growth over the outlook is projected to be slower relative to the past decade, feed intensive production of poultry, pork and beef are expected to rise, based on investments made over the past 5 years. This will enable some import replacement in the poultry sector, hence production growth could outpace consumption growth, resulting in a disproportionate increase in crops used as animal feed.

Another sector that could benefit from rising poultry production is soybean processing, which is set to expand by almost 40% by 2032 compared to the 2020-2022 base period. This reflects a combination of additional use as a source of protein in the poultry sector and further replacement of traditionally imported soybean meal. It will also enable further import replacement of vegetable oil, although the smaller oil yield from soybeans compared to sunflowers suggest that the replacement of imported vegetable oil will be slower than that of protein meal.

Strong profitability in summer crop production in recent years (Figure 25) was a key factor that drove summer crop area expansion – to the extent that the total summer crop area in 2022 was the highest since 2000. Likewise, the reduction in producer margins over the outlook, as prices decline and yields normalise, is a key factor contributing to the expected consolidation in summer crop area over the next 2-3 years, when total summer crop area is expected to contract by roughly 200 000 hectares. The relative composition of summer crops over the total area will also reflect relative profitability amongst them, as well as the popularity of different cropping rotation systems in different parts of the country.

Grain area is expected to consolidate, while the oilseed area is expected to expand further, albeit at a much slower rate than the recent past. Most of the soybean area expansion in recent years occurred in the western parts of the country, replacing both white maize and sunflower. Within the norms of crop rotation systems, this area will likely remain under soybeans, where total area could expand further in the medium term following a brief consolidation as prices decline in the short-term (Figure 27).

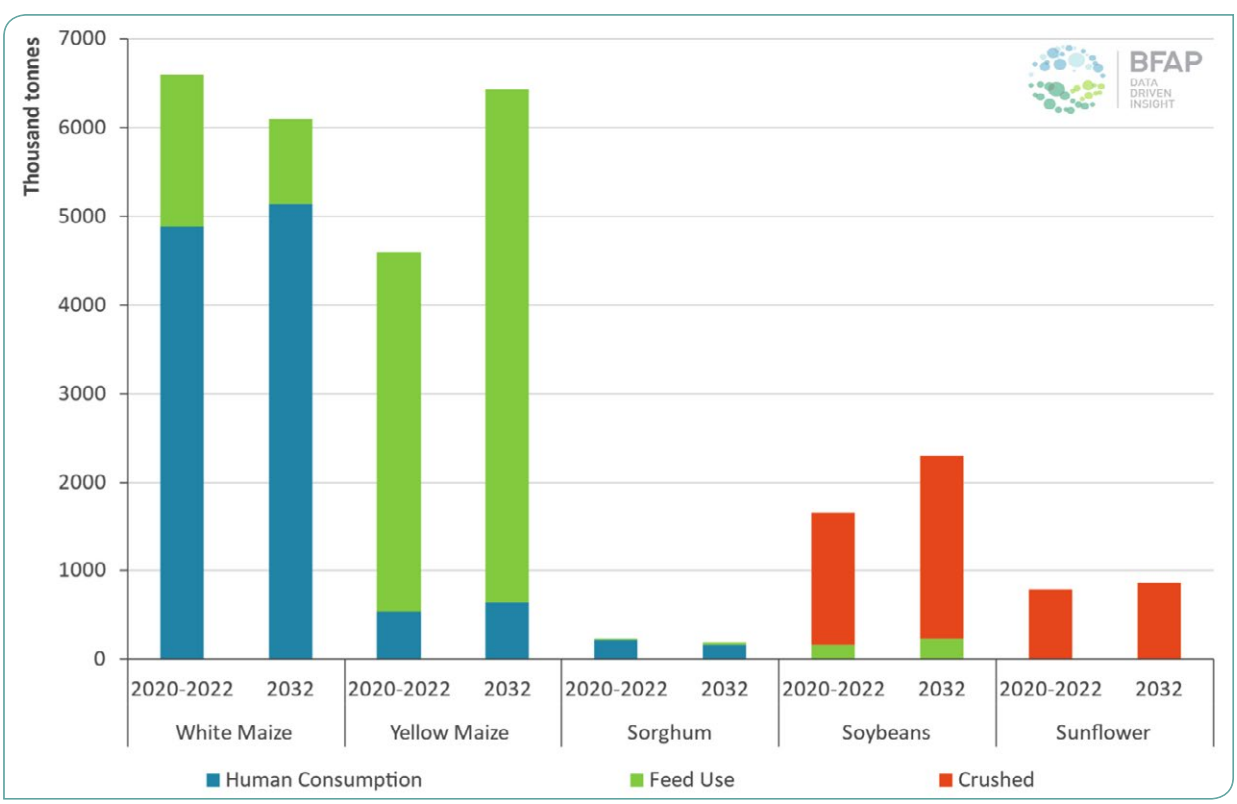


Figure 26: Demand for summer grains in South Africa: 2032 vs. 2020-2022 base period

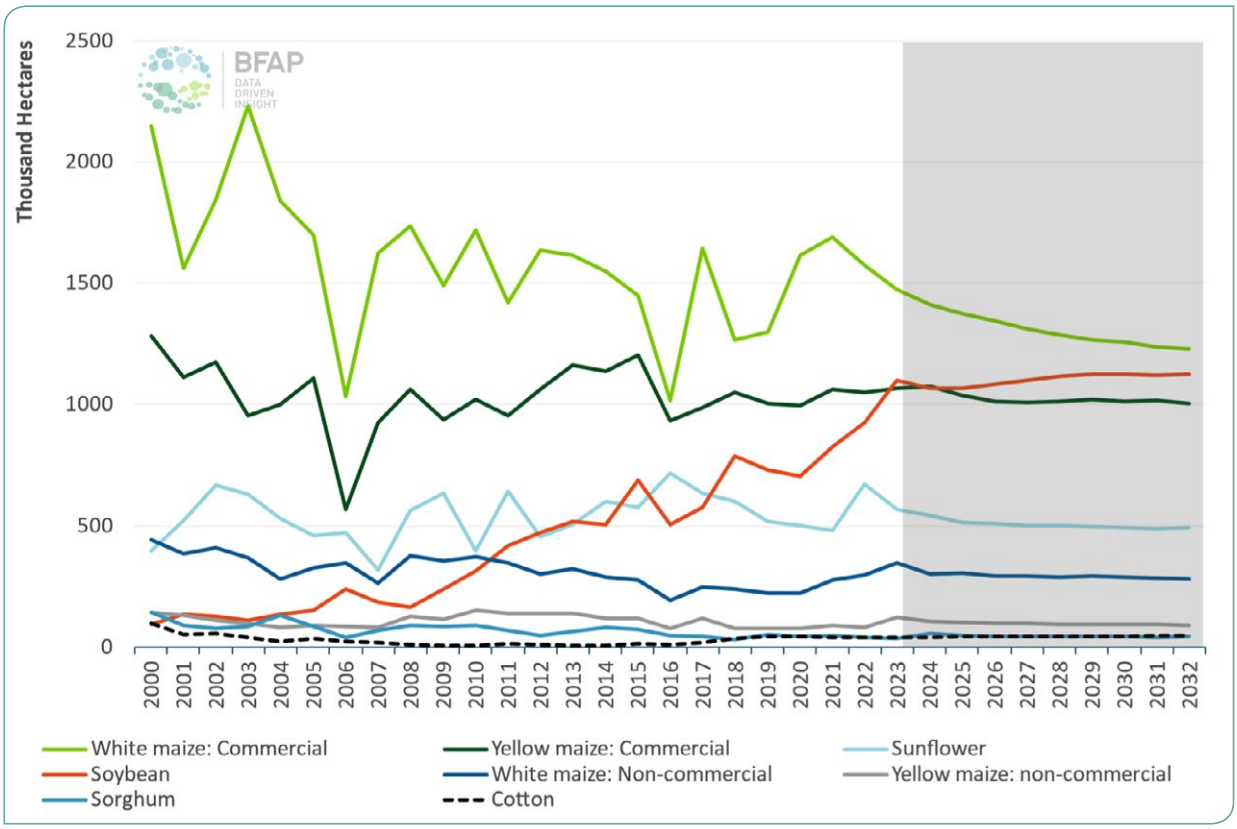


Figure 27: Area under major summer crops in South Africa: 2000 - 2032

Most of the decline in summer crop area over the next few years is attributed to white maize. Some white maize hectares will be replaced by soybeans, whereas others will likely return to pasture crops. Some of the more marginal areas will not be sustainable in the longer run at export parity prices once world prices normalise. At the same time, additional pasture will be required to accommodate the expansion in beef herds that occurred over the past three years. This will yield diversified enterprises better able to deal with relative swings in profitability between crops and livestock, which are often countercyclical. By 2032, the white maize area is expected to reach 1.2 million hectares, compared to a million hectares of yellow maize and 1.1 million hectares of soybeans. This provides a fairly equal split between the major crops, with a further 500 000 hectares expected to be planted to sunflower.

Following the sharp increase in the sunflower area in 2022, on the back of sharp price increases globally, some correction was already evident in a 15% contraction in area in 2023 to 568 000 hectares. Further reductions are expected in the short term as prices continue to come down, with the long-term equilibrium of 500 000 hectares well in line with the past decade. The rising prevalence of *Sclerotinia sclerotiorum*[1] is expected to remain a challenge, adding costs for producers and resulting in some area shifting to soybeans in affected regions.

Despite the normalisation in the sunflower area, production growth is supported by a projected 21% gain in yields over the coming decade, reflecting technological gains and continuous improvement in production practices. This will be sufficient to meet the growth in domestic demand, and in the long term the market will achieve balance, with equilibrium prices trading between export parity levels and the value derived from the oil and oilcake. Furthermore, the latest seed technology is providing promising results in high

[1] A plant pathogenic fungus that causes white mould under conducive conditions.

oil content cultivars without compromising significantly on yields per hectare. High oil content cultivars will support the relative competitiveness of local sunflower crushing plants.

Figure 28 presents changes in area over the coming decade relative to yield dynamics. While the relative comparison of 2032 to the three-year base period from 2020 to 2022 provides context on longer term drivers of supply, it is in some instances also skewed by the exceptional yields achieved from 2020 to 2022. This is particularly relevant for yellow maize, where projected yield gains of 11% over the ten-year period reflect an initial normalisation, in line with stable weather conditions in a baseline projection, before growth is achieved in the medium term. This is also the case for white maize, but to a much lesser extent, as white maize yields in 2022 were not as strong as that of yellow maize. At the same time, the loss of further, mostly marginal, area for white maize production, sees average yield levels rise faster than that of yellow maize, where area reductions will likely be small.

Soybean yields are expected to continue the rapid gains achieved in recent years, despite area expansion, reflecting the release of the latest seed technologies (improved germplasm and GM traits) following the introduction of the breeding technology levy. Planting of varieties most suited to specific areas has been instrumental to the improved performance of soybeans in the drier western parts of the country and producers have refined production practices, unlocking significant potential.

The combination of area and yield dynamics presented in Figure 28 will have different price effects for the various commodities. Maize and soybean prices have mostly traded at export parity in recent years and occasionally even below, so further price declines in the short term reflect international market dynamics, rather than South African supply and demand conditions. Over the outlook, maize prices are expected to remain at export parity levels in the short term, but over the course of the coming decade, as area declines, a smaller share of the total crop is expected to be exported. Some white maize exports will continue to flow into neighbouring countries, but beyond direct neighbouring countries such as Mozambique and Namibia, Zambia has become

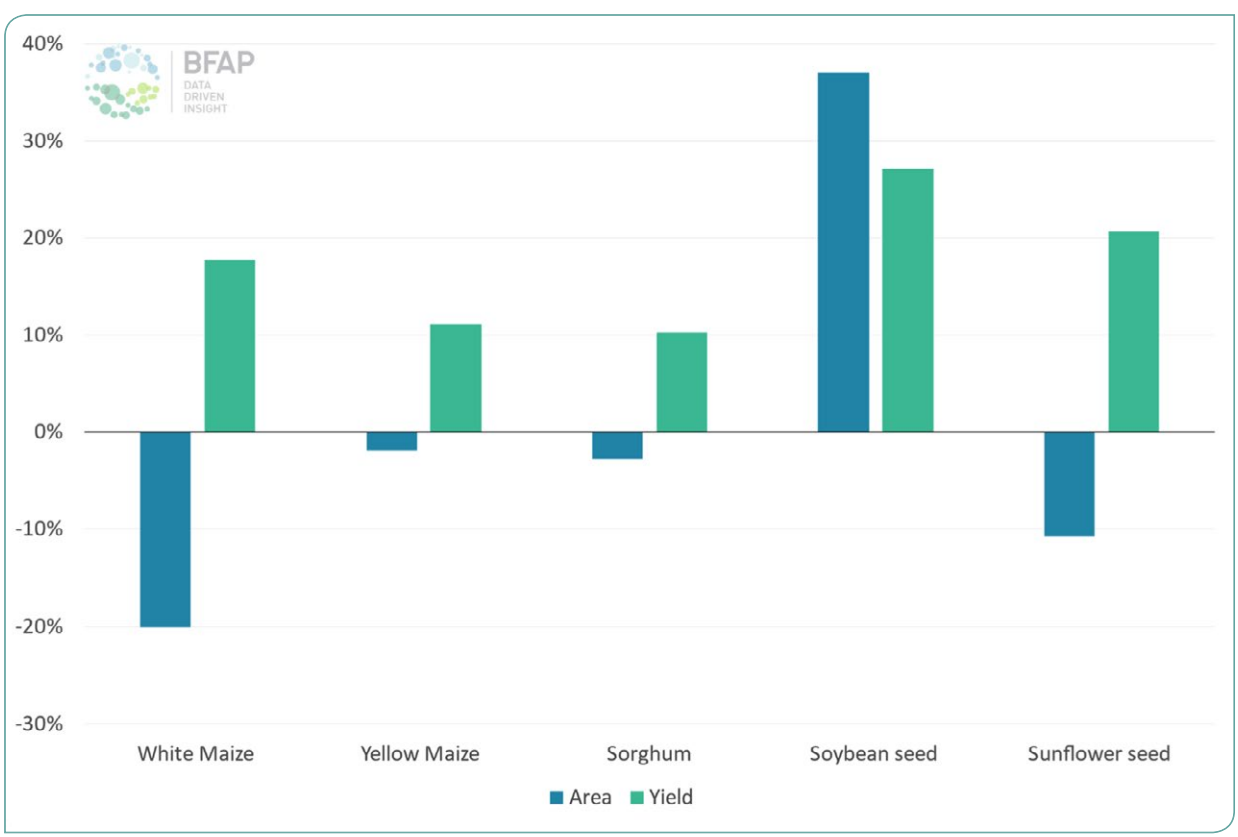


Figure 28: Percentage change in area and yield for major summer crops: 2032 vs. 2020-2022 base period

a more competitive exporter in normal weather years than South Africa. However, in years of reduced rainfall the Zambian authorities are prone to controlling the volume of exports, thus providing additional opportunities to South African exporters. When regional export opportunities are smaller, the white maize price will fall below that of yellow maize to induce additional widespread use in animal feed markets. This also implies that white maize prices will likely remain more volatile than that of yellow, which is traded more widely in the global market. Likewise, yellow maize exports will remain, but with a smaller share of the total crop moving through South Africa's ports, prices could trade more in line with export parity levels calculated from locations such as the Eastern Free State, rather than the SAFEX benchmark in Randfontein (Figure 29), as exports are unlikely to occur from areas that are not favourably located relative to the ports. Sorghum prices are expected to retain a premium over maize, given the lower yields.

Conversely, soybean production has grown to the extent that prices are expected to remain at export parity levels, as South Africa continues to export significant volumes (Figure 30). This is likely as the combination of area expansion and further yield gains will enable faster growth in production than the expansion in animal feed demand domestically. Despite these high export volumes, soybean processing capacity will likely need to expand by midway through the coming decade if projected volumes are to be processed (Figure 31). For investment into additional processing capacity to occur, the current electricity crisis would likely need to improve, and this is only expected in a few years' time, when current investment into private generation starts to contribute meaningfully to the national grid.

The sunflower market is finely balanced and this is expected to remain the case over the outlook. When the industry is in equilibrium, prices typically trade between export parity and the derived price from oil and oilcake. In years of surplus (deficit), often dictated by weather conditions, prices may move closer to export (import) parity.

Growth in oilseed processing has been a critical enabler of import replacement of both protein meal or oilcake, used in animal feed rations, and vegetable

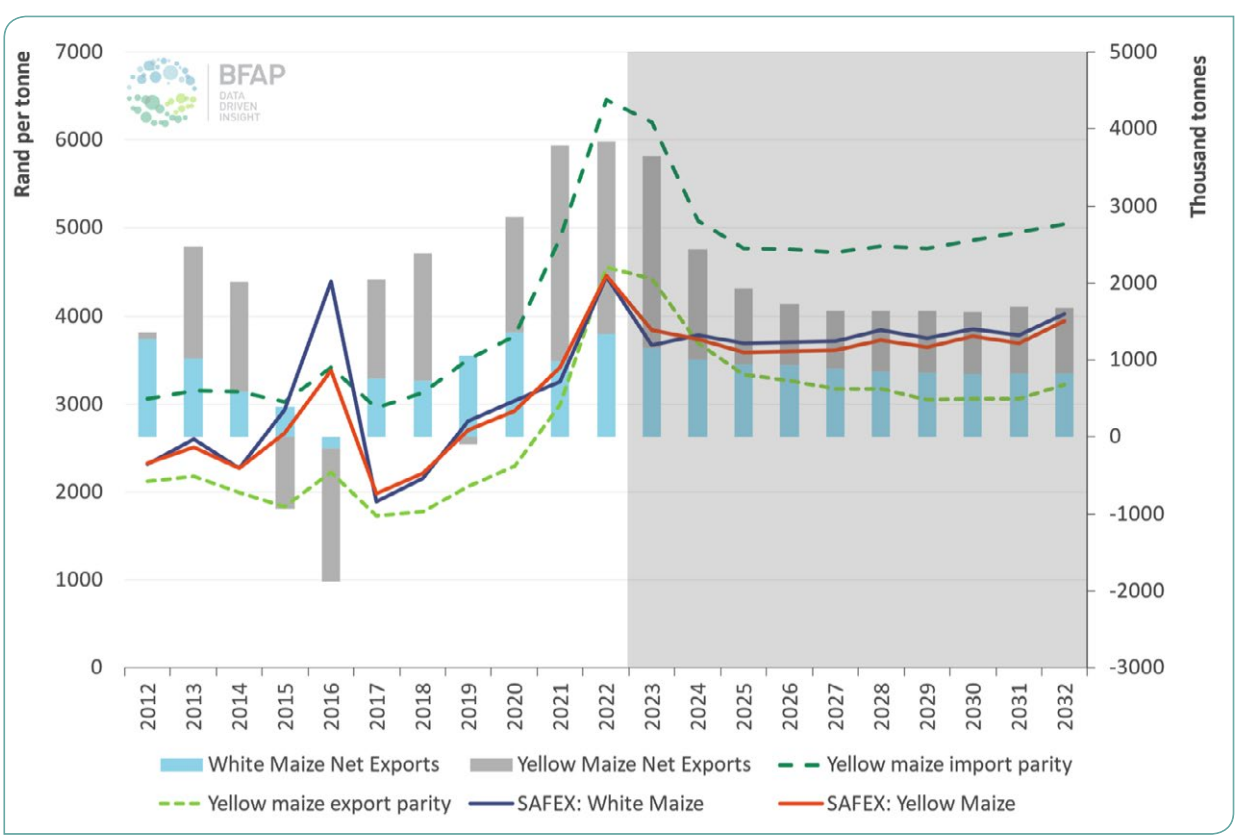


Figure 29: Maize net exports and prices: 2012 – 2032

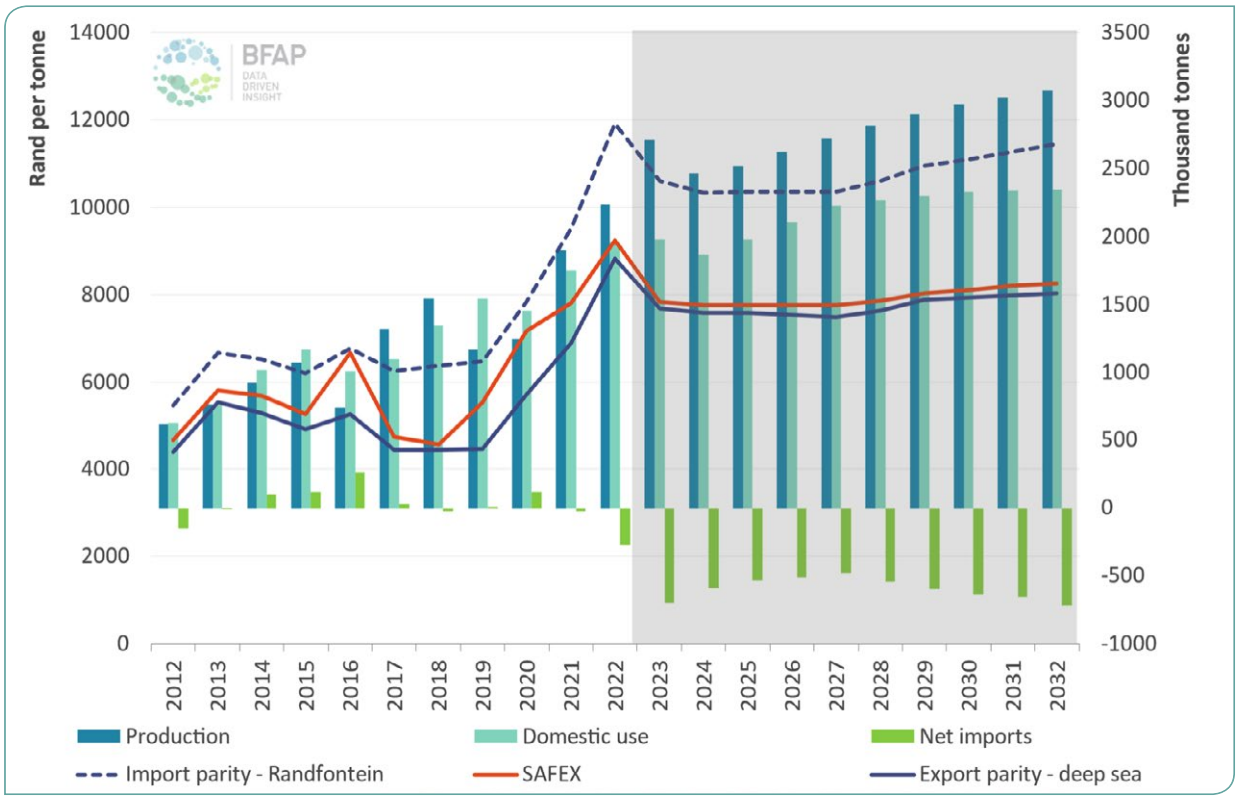


Figure 30: Soybean production, consumption, trade and prices: 2012-2032

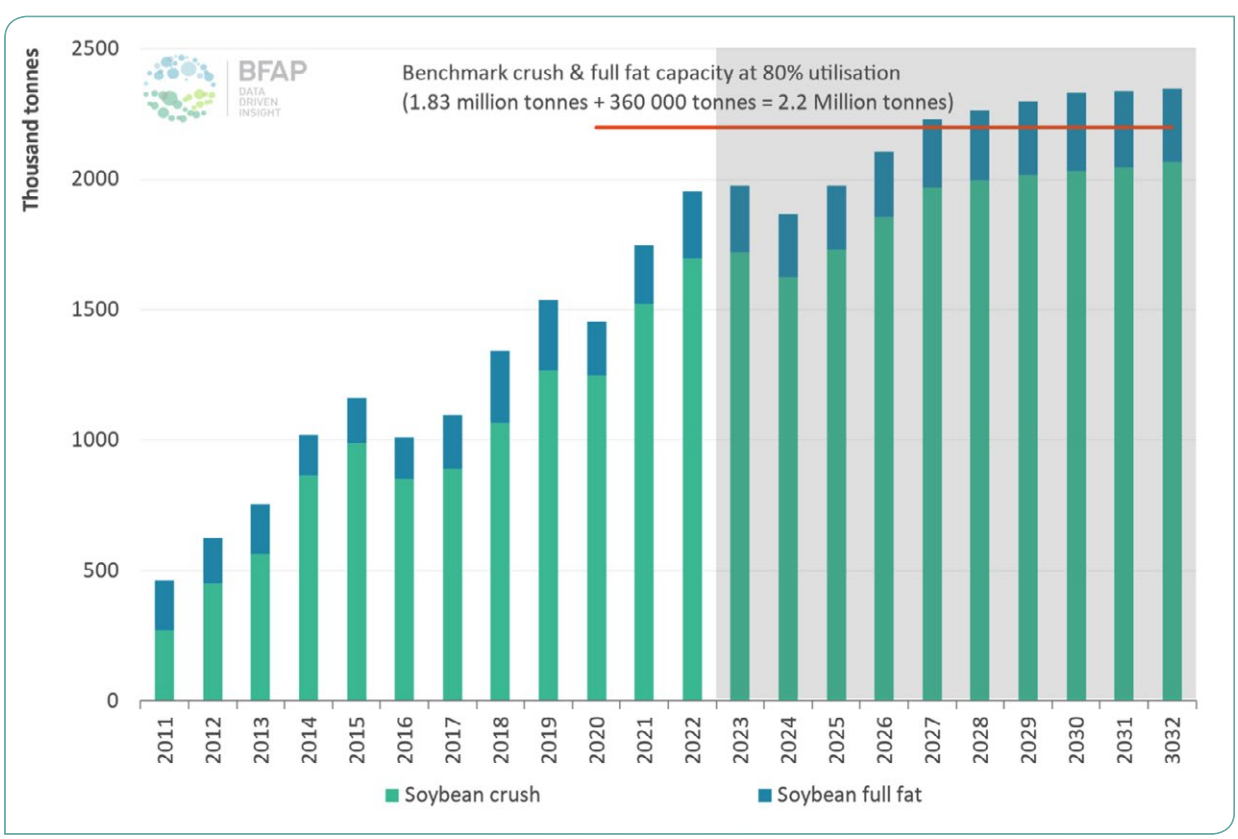


Figure 31: Soybean utilisation and crush capacity: 2012-2032

oils. To illustrate the extent of import replacement that has occurred, Figure 32 provides an aggregated summary of supply and demand for oilcake. It shows total consumption in 2012, 2022 and a projection for 2032, as well as the relative contribution of soybean, sunflower and canola oilcake production, and imported oilcake. Further replacement in oilcake imports is limited, firstly because of the extent that it has already occurred, given that soybean oilcake imports already fell below 200 000 tonnes by 2022. Secondly, the relative competitiveness of products processed in the interior (largely the Reef) is often still lacking in coastal markets, particularly the Western Cape, due to the high transport differentials. While some penetration occurred into coastal regions in 2023 when domestic oilcake was offered at a substantial discount to imported products, some imports are still occurring, with domestically produced cake exported cross border to neighbouring markets. Thirdly, the current energy crisis is not conducive to improved competitiveness of processing, due to the additional costs of running on alternative energy sources. This suggests that processing capacity may only expand once these challenges are solved. By 2032, oilcake imports are expected to remain close to the levels observed in 2022, with raw soybeans exported instead.

While sunflower and canola are crushed predominantly for the vegetable oil market, canola in particular provides an attractive alternative source of protein for animal feed, particularly in the Western Cape, where it is produced and processed. By 2032, canola oilcake production is expected to rise by almost 70%, but this growth is from a small base and therefore only equates to 60 000 tonnes. This will likely be taken up by dairy and pork producers in the Western Cape.

Vegetable oil consumption growth has slowed in recent years, due to the combination of limited spending power by consumers and sharp price increases. While consumer spending remains under pressure, prices are currently declining, which signals improved demand prospects in future. By 2032, total vegetable oil consumption is expected to rise by 22% from 2022 levels, but the biggest share of total use is attributed to imported palm oil (Figure 33). South Africa does not have the agro-ecological conditions to produce palm oil and its popularity in both the food service sector

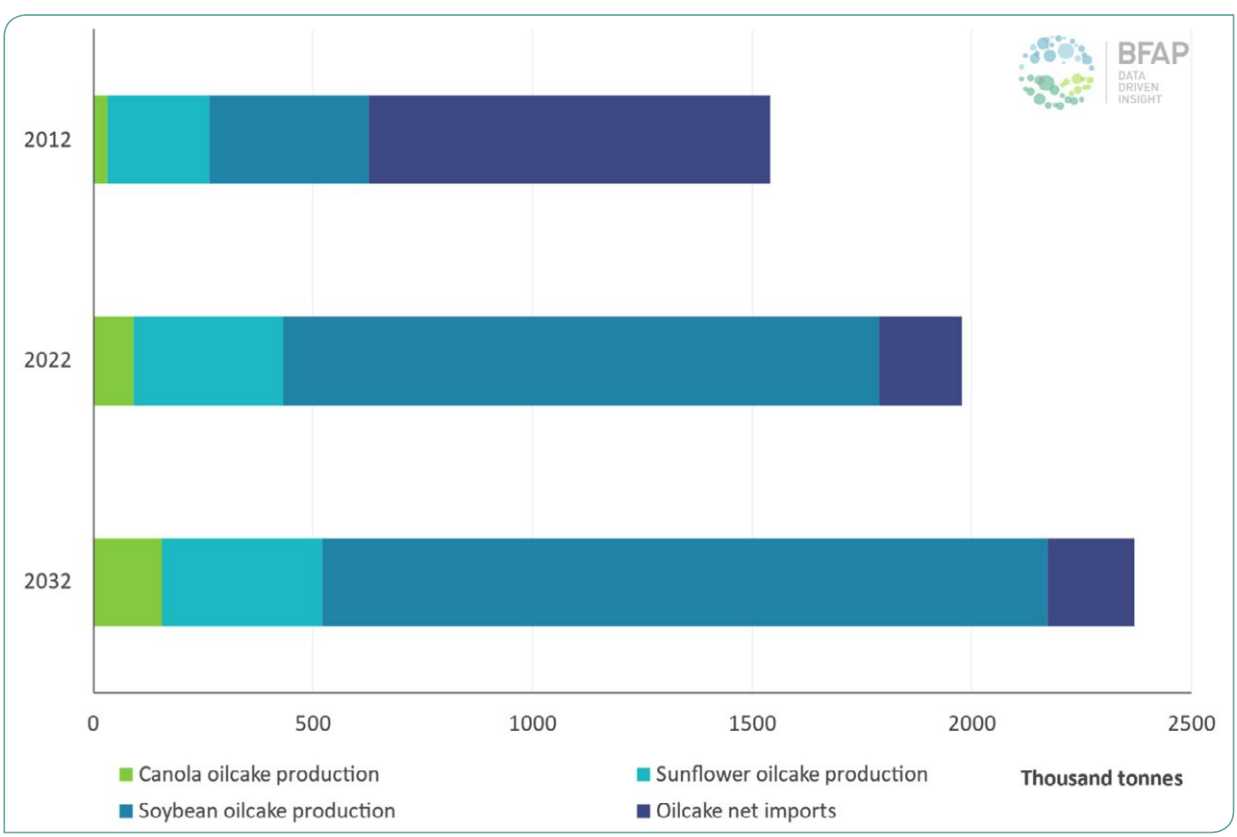


Figure 32: Oilcake supply and demand in South Africa: 2012-2032

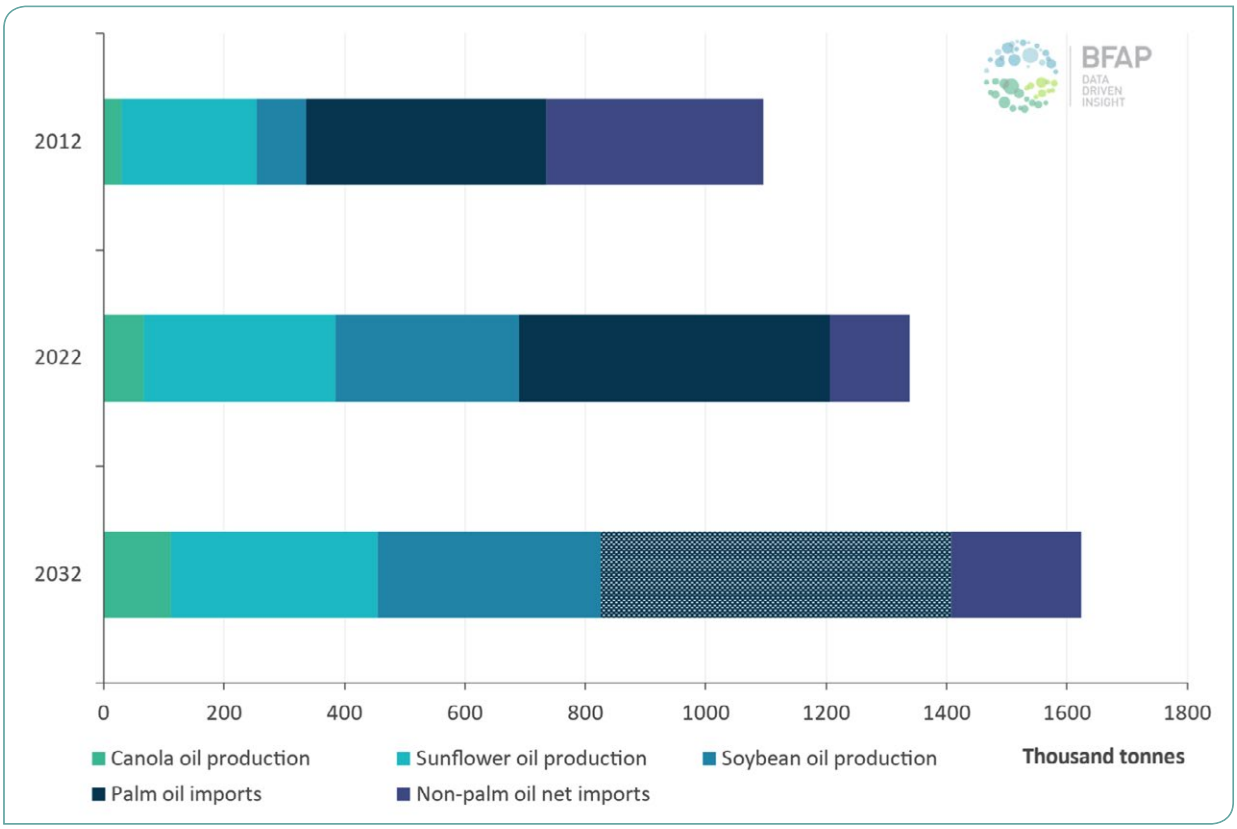


Figure 33: Vegetable oil supply and demand in South Africa: 2012-2032

and for industrial use is underpinned by its favourable relative affordability. Palm oil imports are expected to rise from just over 500 000 tonnes in 2022 to more than 580 000 tonnes by 2032. While South Africa's production of soybean, sunflower and canola oil is expected to rise, processing growth is substantially slower than in the past decade and so imported oils will still constitute around two thirds of additional vegetable oil consumption in South Africa by 2032 relative to 2022.

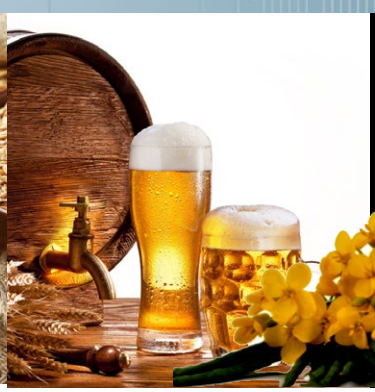
CONCLUDING REMARKS

The past three year have been amongst the best on record in South Africa's summer crop sector, due to the rare combination of large domestic crops and high prices, which emanated from international dynamics. Global prices have however moved into a declining cycle, which is also expected to spill over into South African markets, given surplus production of most major summer crops. This implies that margins will become tighter over the next few years, requiring continuous innovation to remain on top of the productivity curve. Significant investment through the successes of the past few years has the potential to improve resilience of producers in the next downward cycle, but the energy crisis in particular will also provide significant challenges across the value chain, which constrains competitiveness in the sector and has added significantly to capital and operational expenditure.

OUTLOOK FOR FIELD CROPS

WINTER GRAINS AND OILSEEDS






INTERNATIONAL MARKET SITUATION

WINTER GRAIN AND OILSEED markets have been exceptionally volatile over the past few years. This is due to a combination of unstable weather, challenges to the various supply chains as a result of Covid-19, and the on-going war between Russia and Ukraine. The Black Sea region is a significant global supplier of agricultural commodities and fertilisers and there are on-going concerns regarding export flows from Ukraine under the Black Sea Grain Initiative. At the start of the war, Ukrainian exports via sea routes were entirely cut off, but the inception of the Black Sea Grain Initiative enabled intermittent shipments to resume, with Turkey playing a key role in facilitating Ukrainian as well as Russian exports. At the same time, the European Union has become a key importer and serves as a transhipment point for Ukrainian commodities by means of 'Solidarity Lanes' (USDA, 2023).

The Black Sea disruptions, combined with factors such as economic sanctions that influence payment systems resulted in a shift in global trade patterns in 2022, especially for wheat. Global wheat trade declined, with Russian exports decreasing by 74% (more than 20 million tonnes) and Ukrainian exports by 72% (14 million tonnes) from 2021 levels (ITC, 2023). Constrained supply and ongoing uncertainty drove prices to record highs in 2022 (Figure 34). These high prices induced area expansion which, combined with improved yield levels, bolstered production in 2022/23. According to the IGC, global wheat output is estimated to increase by 3% in 2022/23, totalling 803 million tonnes. For 2023/24, the IGC projects supply to contract by 3%. Nevertheless, improved stock levels has brought more certainty to availability, which will put downward pressure on wheat prices over the next few years (FAPRI, 2023).

Favourable barley yields in 2022/23 boosted global output. Recent estimates from the IGC puts total production 5% higher year on year, to 154 million tonnes. Towards 2023/24, output is projected to decrease by 5%, mainly due to a reduction in Australian barley due to a smaller area planted (30% lower compared to 2022/23) and Russian and Ukrainian production decreasing by 3.5 million tonnes. During

the first five months of 2023, mixed weather occurred throughout the EU, with Spain experiencing a severe drought. Although more favourable weather was observed in western and central European regions, yields are estimated lower compared to the peaks of 2022/23. Global barley use is projected to decline by 3% in 2023/24, driven by reduced feed use in both China and the EU. Concerns about diminishing future demand from China and relative price competitiveness against maize are affecting barley markets. Over the short term, the global barley price is projected to decline, in line with most other agricultural commodity markets. Post 2025, barley prices are projected to reach an equilibrium at around $258 per tonne, well below the levels of the past 3 years.

Global canola production reached an unprecedented high in 2022/23, enabling total use to reach a new peak, whilst still accumulating stocks and record volumes were traded internationally (IGC, 2023). Total supply has increased by 13.1% from 2021/22. For 2023/24, production is projected marginally lower, however, but is set to remain well above 2021/22 levels. Canola production in Australia is projected to decline by 30% due to area reductions, over-supply on global export markets and the recent sharp drop in fob prices. Following record highs in 2022, canola prices are expected to follow the projected decline in other vegetable oil markets over the medium term. An equilibrium is projected to be reached by 2027 at price levels around $457 per tonne.

DOMESTIC MARKET SITUATION

The winter grains and oilseeds industry in South Africa has grown remarkably over the past decade, with the combined gross production value for wheat, barley and canola increasing by 9% per annum. Relative to the period from 2017 to 2021, revenue from the industry rose by 67% in 2022, adding an additional R7.7 billion (Figure 36). The increase was driven by robust performance in the wheat and canola industries, which added R6.0 billion (+69%) and R1.3 billion (+141%) respectively. Although much of this growth was underpinned by higher prices, volumes also increased due to a combination of area expansion and yield gains. Area under wheat production in 2022 reached its highest level since 2011, at 566 000

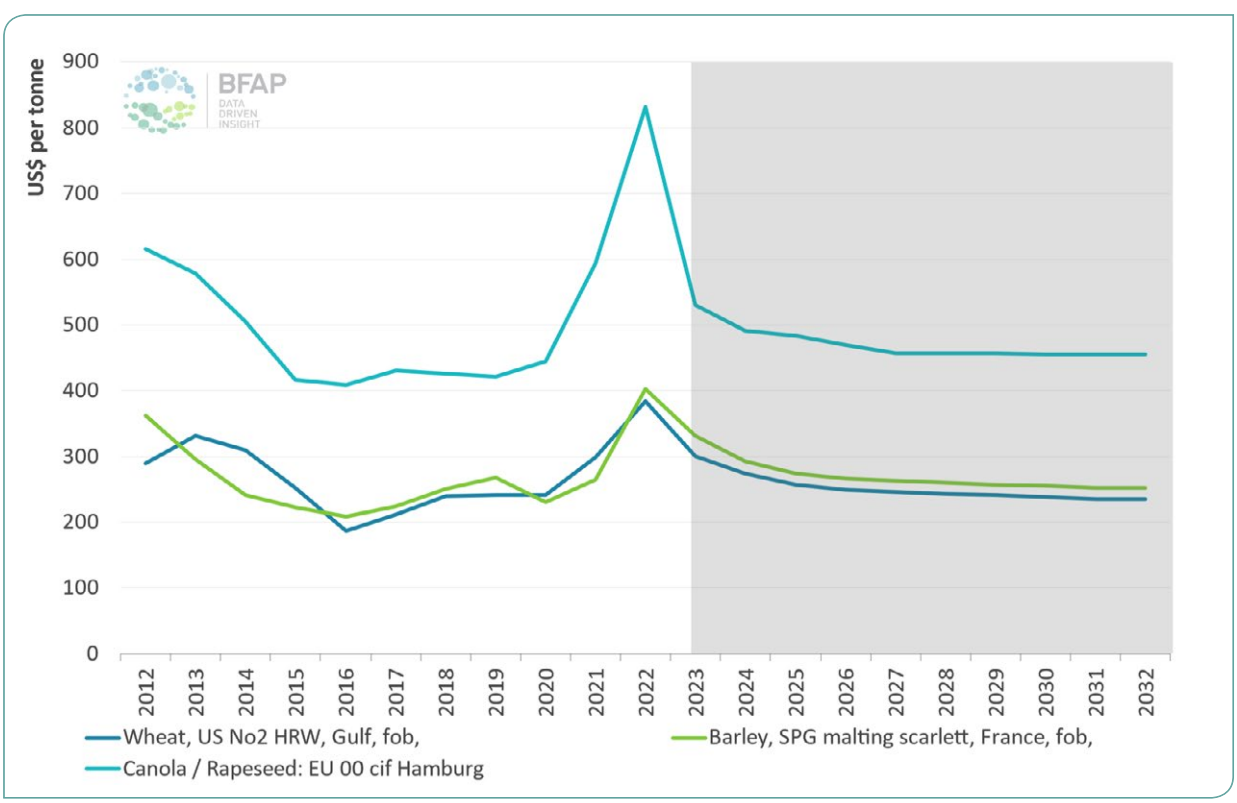


Figure 34: World prices for major winter grains and oilseeds

Source: FAPRI & BFAP, 2023

hectares. In the Western Cape, area under production expanded by 37 000 hectares relative to average levels from 2018 to 2020, while irrigated regions added 17 300 hectares from 2021 to 2022. Wheat production in 2022 totalled 2.1 million tonnes, 12% higher than the average of the preceding five years from 2017 to 2021, but still well below harvests of more than 3 million tons in the late 1980s.

Area under canola increased by nearly 42 000 hectares in 2022 relative to average levels from 2017 to 2021, with production volumes expanding by 60%. Total domestic production exceeded 210 000 tonnes in 2022, from just 93 468 tonnes in 2017. Although expansion was supported by high crop prices in 2021 and 2022, industry efforts to obtain improved seed varieties over the past decade propelled productivity growth, yielding significant improvements in profitability relative to alternative winter crops. Risks associated with barley production, particularly quality risks, further contributed to the shift to canola. Compared to average levels from 2017 to 2021, area under barley production contracted by nearly 15 000 hectares in 2022, with volumes decreasing by more than 90 000 tonnes.

South Africa imports about half of its annual wheat demand and therefore domestic prices tend to trade at import parity levels. As global grains and oilseeds prices are projected to decline over the baseline period, lower domestic prices will drive down GPV in 2024 and onwards (Figure 35). Despite the decline from the record levels achieved in 2022, industry revenue is projected to remain well above the 5-year average (2018-2022) over the coming decade.

DOMESTIC MARKET OUTLOOK

Following a sustained period of robust performance in the wheat, barley and canola industries, prices are projected to decline to more 'normal' levels over the next few years. At the same time, the cost of agricultural inputs remain elevated compared to the period before the war, resulting in reduced producer margins, which

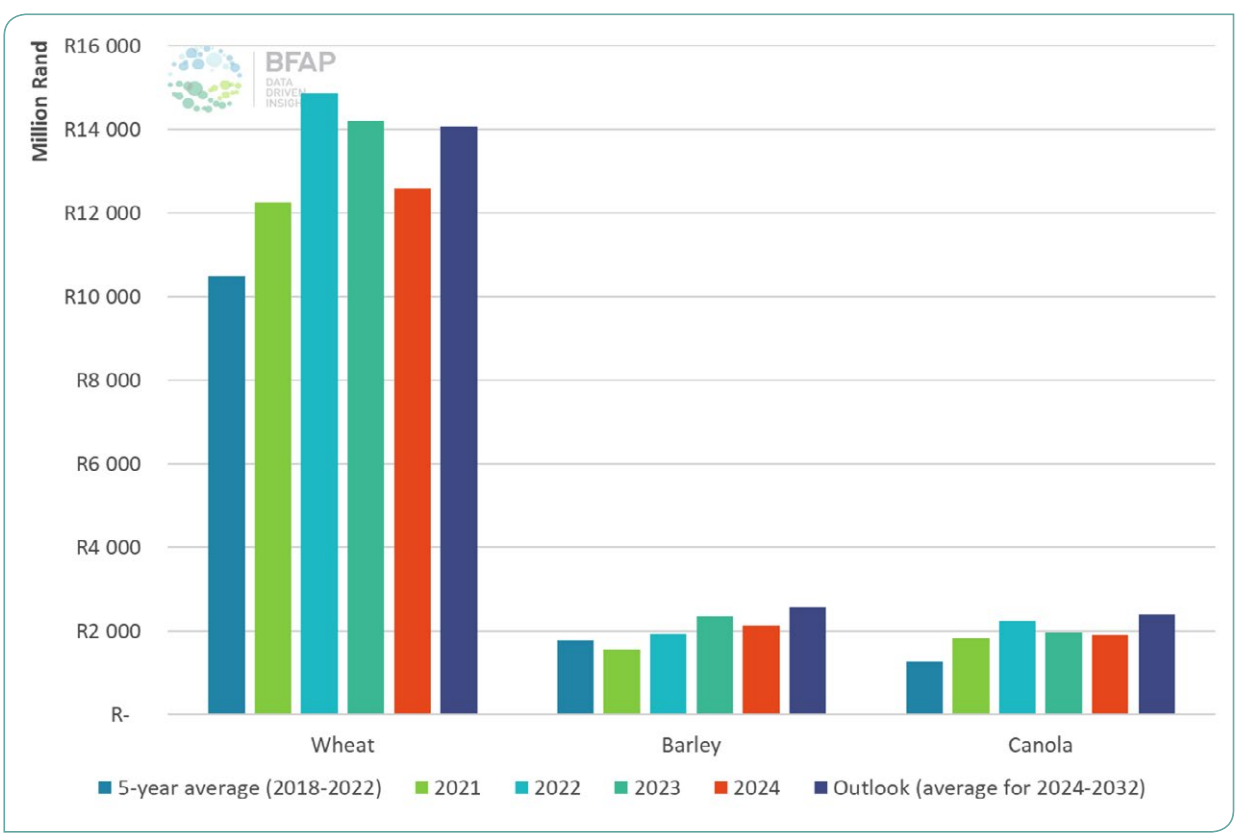


Figure 35: Gross value of production for selected winter crops in South Africa

should also result in some consolidation in crop area over the medium term. Wheat area in the Western Cape is projected to decline by 13 750 hectares in 2023 and 2024 and, over the medium term, contract by an annual average of 1% (Figure 36). The decline is underpinned by continuous competition for resources in the winter rainfall region together with improved relative competitiveness from canola, enabling it to account for a growing share of total winter crop area. Assuming normal rainfall, wheat area in the Western Cape is projected to decline by 40 000 hectares to reach 320 500 hectares by 2032. Although canola area is projected to stabilise over the next 2-3 years as prices decline, further expansion is projected over the second half of the outlook period. Assuming the introduction of new and improved seed varieties and continuous availability of these products, canola area is projected to reach 146 000 hectares by 2032, adding a further 56 000 hectares to current area. A recovery in winter barley area is projected over the outlook, underpinned by industry efforts to resolve value chain risks and other challenges faced in recent years. From the lows of 2021 and 2022, area under barley could expand by 20 000 hectares over the coming decade, to reach 107 300 hectares by 2032. This remains below 2019 and 2020 levels.

In response to high wheat prices and favourable soil moisture, area under wheat production in the summer rainfall regions, particularly in the Free State, increased in 2022. The expansion followed a period of large variability in area under production, fluctuating between 70 000 and 110 000 hectares since 2014. With increasing competition from soybeans, persistent risks associated with wheat produced under dryland conditions and declining commodity prices, wheat area in the summer rainfall region is projected to contract in 2023 and 2024 and stabilise around 85 600 hectares in the medium term. Similarly, wheat area under irrigation is projected to decline by 0.8% per annum over the baseline period to reach 89 700 hectares by 2032. This constitutes a decline of 3 500 hectares relative to the 2018-2022 average, as it faces continued competition for water from perennial crops in the Northern Cape in particular.

Despite an anticipated reduction in wheat area over the outlook period, total domestic production is projected to increase. This increase is induced by consistent yield growth, arising from continuous improvement

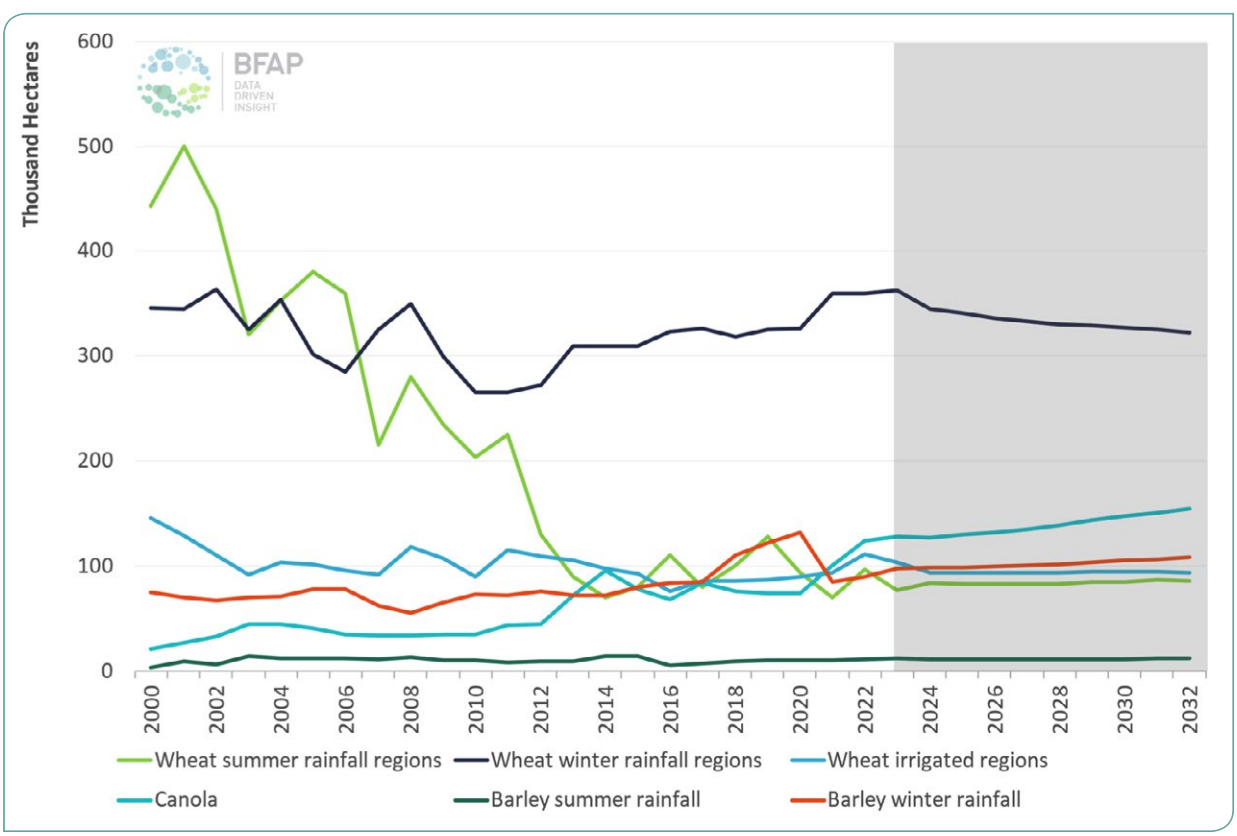


Figure 36: Area under major winter crops in South Africa: 2000 - 2032

in technology and production practices, assuming stable weather conditions. Compared to a 2020 to 2022 average, wheat yields in the winter rainfall region are projected to increase by 14%, while in irrigated regions a gain of 10% is projected. For summer rainfall regions, yields are projected to decline, mostly due to normalisation from the record levels achieved under ideal weather conditions over the past three years, which represent an inflated norm in the base period between 2020 to 2022. Following a contraction in the barley industry after Covid related lockdowns, barley area in the winter rainfall- and irrigated regions is projected to increase while yield gains are underpinned by the same technological improvements over the outlook.

The fastest growth over the outlook period is anticipated for the canola industry, with yields projected to increase by 18% and area by 47% by 2032. Although the small base tends to amplify these growth rates, the continuous introduction of improved varieties together with local efforts to boost supply (and availability) of seed will promote yield growth over the outlook. The outcome and successes of these industry efforts are already visible in the step change in yields since 2020.

The combination of productivity growth and area expansion is set to boost local canola production by 78% over the coming decade. By 2032, production could reach 341 400 tonnes, an increase of more than 190 000 tonnes from 2020-2022 levels (Figure 38). The expansion will require further investment in processing facilities, while exports are projected to increase over the outlook. Additional canola processing capacity can contribute towards additional replacement of presently imported vegetable oil and there also exists ample market opportunities for oilcake for the Western Cape dairy and pork industries.

Growth in wheat and barley production is projected to be much slower than for canola. Domestic wheat production is projected to reach 2.2 million tonnes by 2032, 34 500 tonnes higher compared to 2020-2022 levels, increasing on average by 0.5% per annum. Despite the recent boost in local production and anticipated

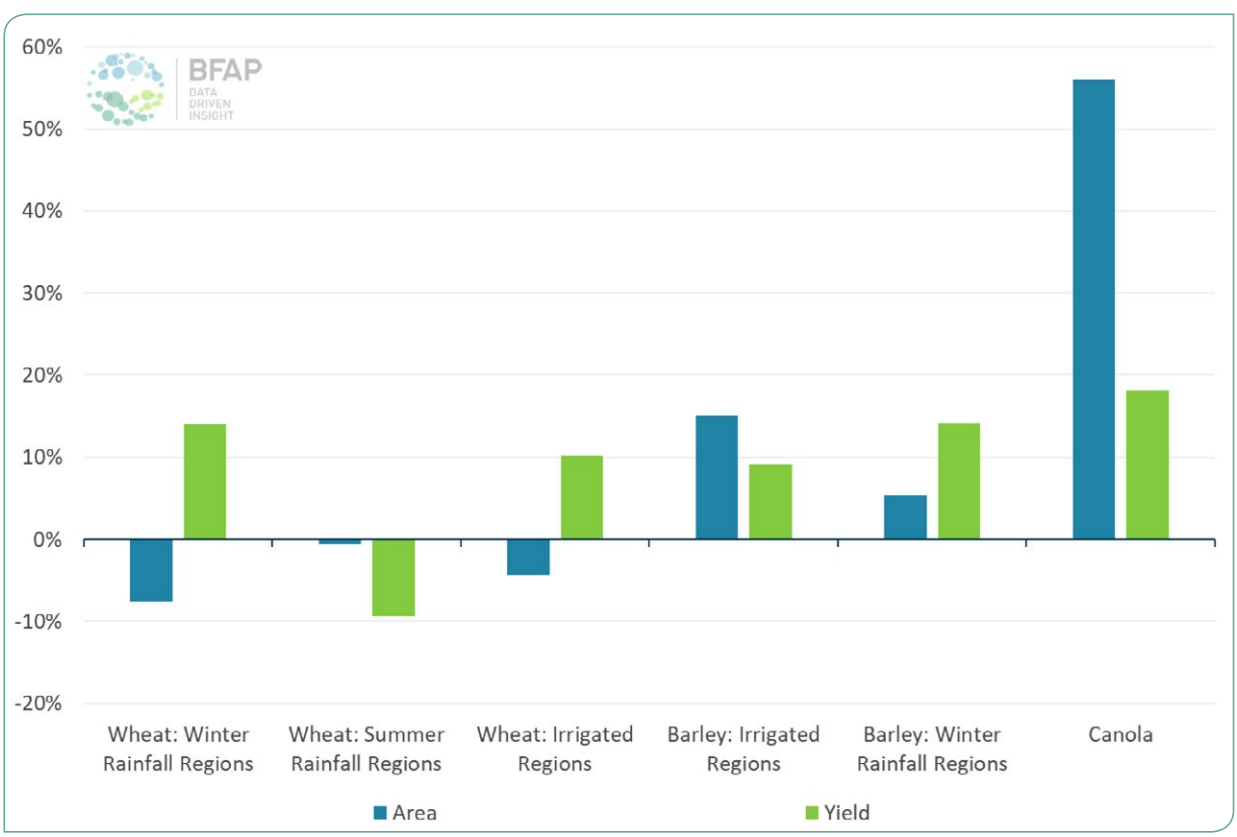


Figure 37: Percentage change in area and yield for major winter crops: Average 2020-2022 vs. 2032

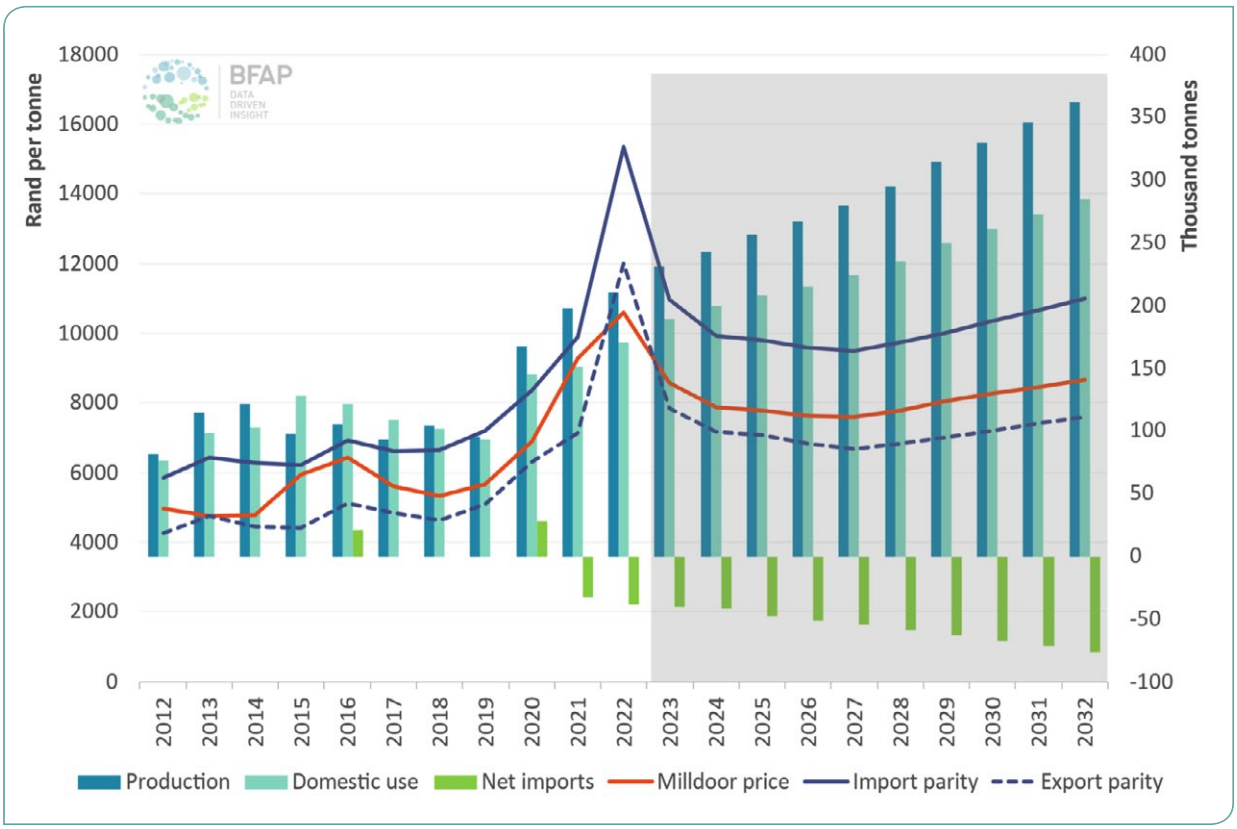


Figure 38: Canola production, consumption, trade and prices: 2012 - 2032

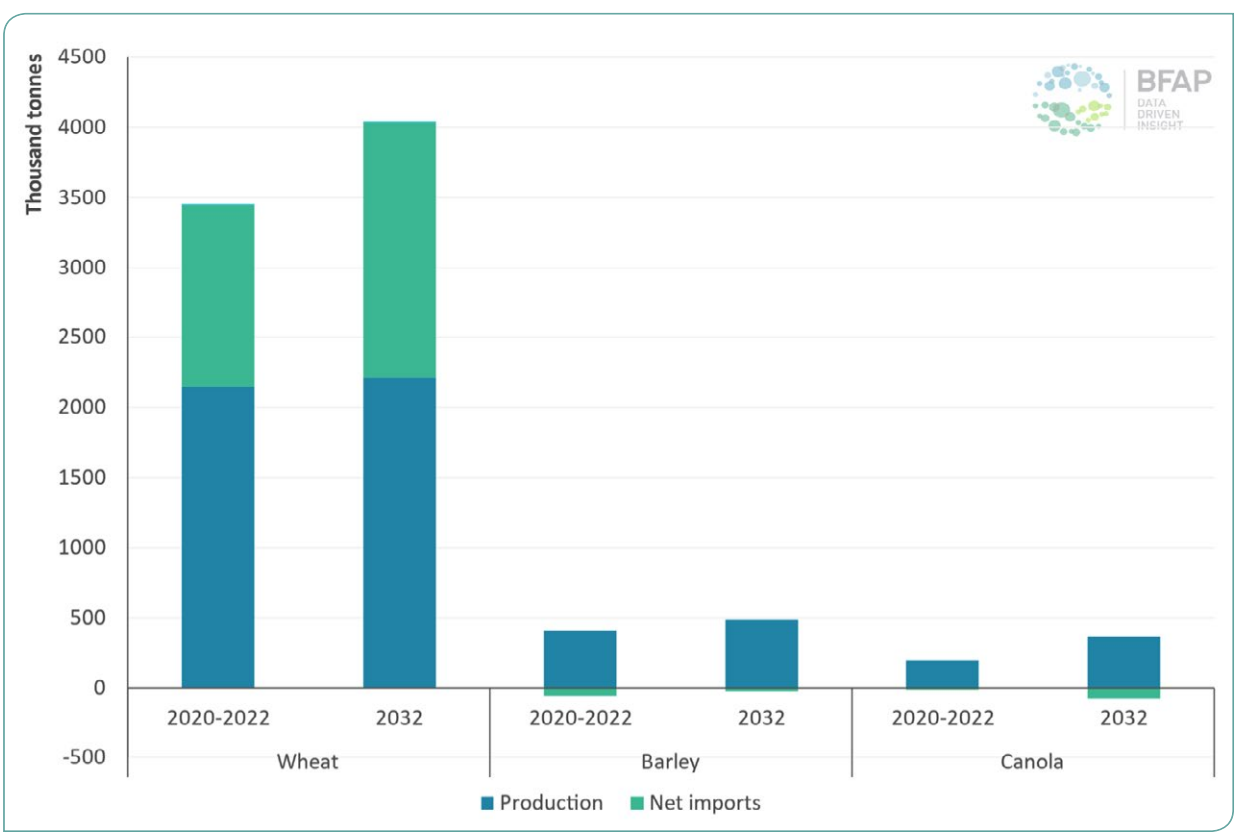


Figure 39: Demand for wheat, barley and canola: 2032 vs. 2020-2022 base period

growth over the baseline period, consumption is set to increase at a faster rate, suggesting that a growing share of domestic use will need to be imported by 2032 (Figure 39). In the case of barley, production is projected to increase from the levels observed from 2020 to 2022, reaching 487 000 tonnes by 2032, but this remains well below the 2020 crop and minimal exports are expected due to AB InBev's local procurement commitments.

With South Africa importing a major share of domestic wheat use, prices will continue to trade at or close to import parity. This implies that domestic prices are subject to global market dynamics, exchange rate fluctuations and domestic trade policy. Figure 40 illustrates the outlook for domestic prices over the period from 2012 to 2032. Under the baseline projection, policies are assumed to remain in the current state, implying that the variable wheat tariff is triggered when the price of Hard Red Winter wheat falls below the reference of $279. Under current world price assumptions, this suggests that the tariff will again come into play from 2024 onwards, essentially providing a floor to international prices. It also accounts for the retention of the current quota of 300 000 tonnes that can be imported free of this duty from the European Union under the Economic Partnership Agreement (EPA). Consequently, following the initial decline in 2023 and 2024 as world prices normalise from current peaks, the primary factor driving wheat and barley prices post 2024 will be the exchange rate. Resultant prices are expected to rise by just over 3% per annum from 2024 to 2032, which is less than general inflation over the same period.

Figure 41 presents a gross margin index for winter crops produced under dryland and irrigated production systems in South Africa. Following suboptimal performance in 2018 and 2019, gross margins across all winter crops performed exceptionally well in 2020 and 2021. Since mid-2021, pressure started to mount as a result of escalating agricultural input costs. Consequently, margins fell in 2022, with input cost increases further exacerbated by lower yields than in 2021. Towards 2023, most margins are expected to remain fairly constant, provided weather conditions enable normal yield levels. With costs set to remain well above the levels seen prior to the war, risks associated with weather conditions rise, particularly given that

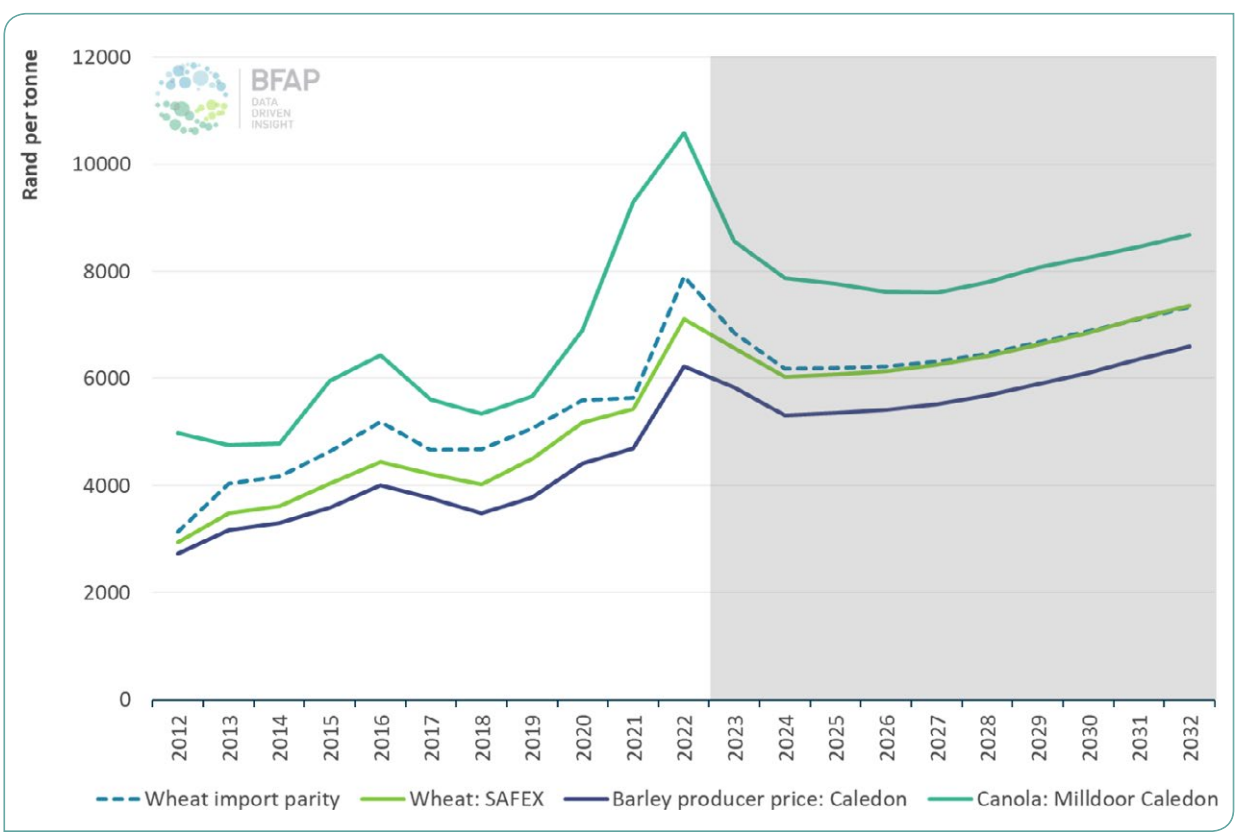


Figure 40: Winter crop prices: 2012-2032

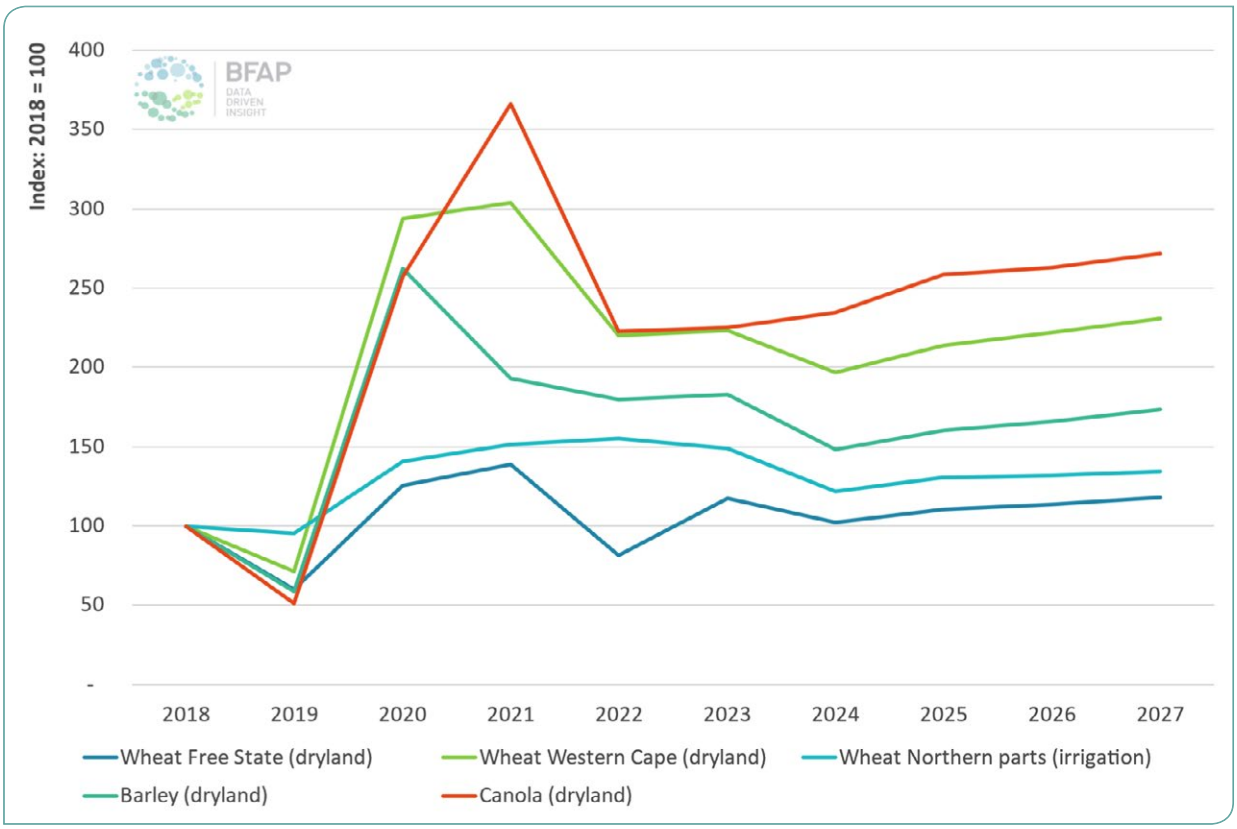


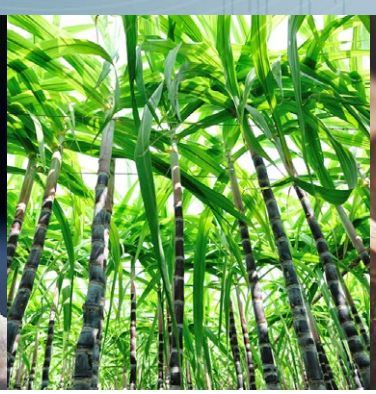
Figure 41: Gross margin performance index for winter crops: 2018 - 2027

winter crop prices don't typically rise when domestic crops are smaller, but instead will continue to follow international prices lower, despite some mitigating impact from the weaker exchange rate. From 2024 and onwards, input costs and commodity markets are projected to stabilise with gross margins projected to outperform the lows observed during 2018 and 2019, but remain well below the peaks of the past three years.

CONCLUDING REMARKS

Prices of most winter crops are typically derived from import parity levels, hence global dynamics also resulted in sharp domestic price increases over the past two years. Contrary to summer crops, the Western Cape did not benefit from the same abundance of rainfall and high prices were not combined with record yield levels, particularly in 2022. This implies that margins have tightened earlier for winter crops, but these are expected to stabilise well above the levels observed in 2018 and 2019. Given that input prices are still high, production over the next few years will be subjected to a high-risk environment, as yields required to break even are higher at current input cost levels. Consequently, area is expected to consolidate in the medium term, with the exception of canola, where growth remains more robust. As crop prices come down, innovation and competitiveness will be critical, but the electricity challenges will influence the cost structure, at primary production, agro-processing and retail levels, which could keep prices higher for longer for cash strapped consumers, and constrain competitiveness and further investment to expand capacity.

SUGARCANE AND SUGAR

INTERNATIONAL MARKET SITUATION

ACCORDING TO THE OECD-FAO (2023), sugar is projected to remain the most consumed sweetener over the next decade, accounting for around 80% of the global sweetener use. High fructose sweetener is expected to continue as the main alternative caloric sweetener, representing about 8% of total consumption, while the remaining proportion is represented by low-calorie or calorie-free sweeteners including saccharin, sucralose and aspartame. Caloric-rich sweetener consumption in high-income countries, largely in North and Latin America, Europe and Oceania, is expected to decline, while population growth, urbanisation and income gains in low- and middle-income countries is expected to drive increased demand for sugar.

Productivity gains are expected to be the main drivers of production growth in India, Thailand and the European Union, as production area in these countries is projected to remain relatively stable. In Brazil, production growth is likely to come from both area expansion and yield improvements. Brazilian sugar producers are able to switch easily between sugar and ethanol production and are foreseen to continue to allocate more sugarcane to ethanol production over time. Constant real international crude oil prices will favour sugarcane-based ethanol production, while Brazilian sugar production will remain competitive in international markets, even if the Real is assumed to appreciate in real terms. Over the next ten years, ethanol is projected to become more attractive relative to sugar (OECD-FAO, 2023). India has reached an average blending rate of 10% and has a 2025 target of 20%; this will reduce the availability of sugarcane for sugar production.

In mid-2022 the OECD-FAO projected that in real terms international sugar prices are foreseen to trend downwards on account of productivity gains, slowing demand growth and declining crude oil prices (making ethanol less competitive). However, 2023 saw a substantial increase in the sugar price, which rose by more than 30% from January to April to prices levels last observed in 2011/2012. The run in sugar prices is driven largely by concerns over reduced global volumes for the 2022/23 season, with the newest projections

more negative for production and output forecasts for India, China, Thailand and the European Union. Above average rains in Brazil delayed the start of the harvest, adding additional support to prices (FAO, 2023). Prices are projected to come down amid a likely improvement in global export volumes, but downward pressure is expected to be partially offset by constant real international crude oil prices, encouraging the use of sugar crops for ethanol production (OECD-FAO, 2023).

The current high international sugar price will no doubt be welcomed by South African sugar producers who are facing increased input costs and considerable institutional uncertainty around marketing their cane and the future of the South African sugar industry. The cane area is nevertheless projected to decrease by 4% in 2023 and another 5% in 2024. A slight recovery is expected to start in 2025 due to an expected normalisation in input prices and a favourable domestic cane price, before a gradual decline into 2032, with the industry expected to shed about 30 000 hectares over the 2022-2032 period.

This outlook assumes, amongst the other macro and micro economic factor, and normal weather assumptions, that:

- The Sugar Act 9 of 1978 with its marketing and surplus removal arrangements remains in place.
- The level and scope of the current Health Promotion Levy (HPL / sugar tax) is not adjusted.
- No additional "front of pack" sugar content warning labelling regulations are enforced.
- Sugarcane is not diverted to alternative uses.

These are necessary assumptions as there are current uncertainties, investigations and initiatives that could, or aim to, change the status quo. Tongaat Hulett and the Gledhow Sugar Company's financial woes and seeming inability to meet their responsibilities under the Sugar Act are threatening the functioning of the SA sugar marketing system and has raised questions around the future of the Act and the single channel export scheme. With regard to local demand for sugar, Government has delayed adjustment of the HPL to 2025, citing the difficult operating environment the sugar industry

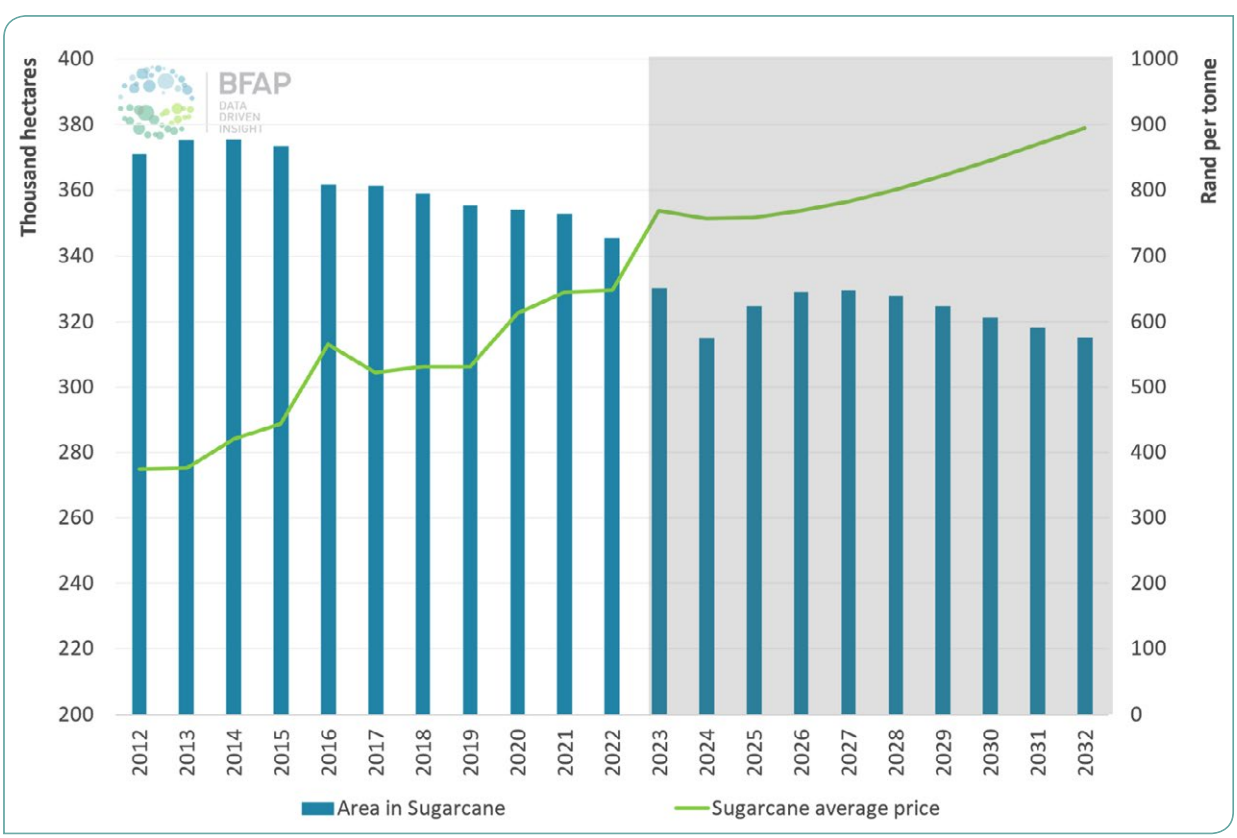


Figure 42: Sugarcane area and price: 2012-2032

has faced following the flooding and social unrest in KwaZulu-Natal in 2021, but it remains possible that the level and or the scope of the levy will be increased in 2025. Government has also gazetted new regulations pertaining to labelling and advertising of foodstuffs, which will mandate that any prepacked foodstuffs with more than 10 gram per 100 gram added sugar for solids or 5 grams per 100 ml for liquids will have to carry a high-in-sugar warning label. How consumers will react to these warning labels is not clear, but any further reduction in domestic demand for sugar will not be good for the sugar industry. These market uncertainties are forcing cane farmers to look at alternative markets for their cane, and also to reduce the area planted to cane.

Research by BFAP (commissioned by the South African Sugar Association) showed that a local sugar demand reduction of 160 000 tonnes between 2023 and 2025 can result in cane area loss of 27 400 hectares and the loss of 1 975 permanent jobs, 2 076 seasonal jobs and put 1 630 small scale cane farmers at risk. With duty free imports from Eswatini and prevailing high input costs, the industry was projected to lose a total of 53 800 hectares and a resultant 6 172 jobs, and for 2 979 small scale farmers' livelihoods to be threatened.

Despite the area decrease into 2023, sugar production is expected to increase due to improved yields and an increase in the cane to sugar conversion ratio. As the national cane area declines, yields are expected to increase, with marginal cane areas going out of production. The increased cane to sugar ratio can partly be attributed to increased throughput at operating mills due to the closure of the Umzimkulu and Darnall mills in 2020, even though the remaining mills in the Midlands seem to be struggling to mill carryover cane as well as the current season's crop. Unconfirmed industry speculation suggests that the efficiency of some mills has increased in the last year due to increased off-crop maintenance in light of potential sales taking place.

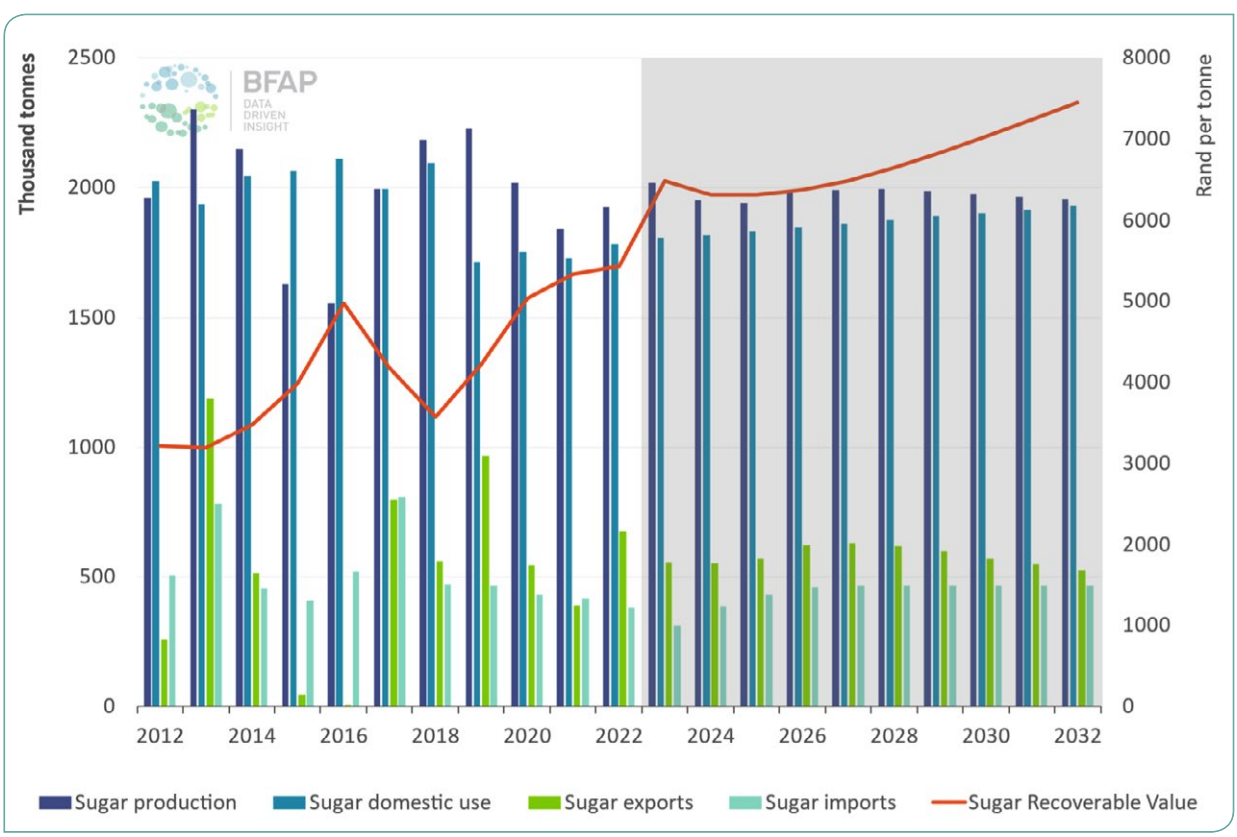
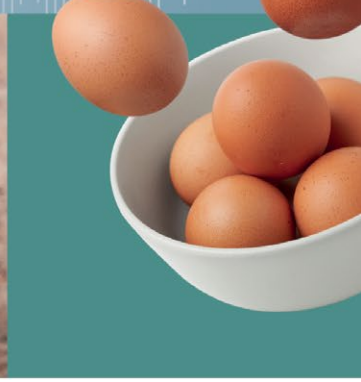


Figure 43: Sugar production, consumption, trade and recoverable value

OUTLOOK FOR ANIMAL PRODUCTS

MEAT, EGGS AND WOOL



MEAT: GLOBAL MARKET SITUATION

IN THE AFTERMATH OF THE COVID-19 PANDEMIC, unstable crop production and animal disease outbreaks, particularly in the Northern Hemisphere where Avian Influenza caused havoc, and amid ongoing war in Ukraine, the FAO Meat Price Index increased by 8% in 2022. Meat prices peaked in June 2022, before declining steadily since. Most prices are anticipated to soften further through 2023, bottom out in 2024 and then increase modestly over the coming decade. This rise is however insufficient to outpace general inflation and by 2032, real inflation adjusted meat prices are expected to be 10-14% lower than in the 2020-2022 base period.

Despite rising prices, meat production expanded globally by just 2% in 2022, curtailed by factors such as animal diseases, increasing input costs, particularly feed, and extreme weather conditions. Most of the expansion emanated from a surge in pork production in China, as it continues to recover from the African Swine Fever (ASF) outbreak that devastated its pork industry in 2018. The latest edition of the OECD-FAO outlook suggests that meat production could rise by 14% by 2032, propelled by herd expansion in upper middle-income countries, together with continuous improvements in animal breeding, management, and technology. Most of this growth occurs in the latter years of the Outlook, as persistently high input costs and consumer spending power constraints will limit profitability in the short term. The biggest contribution to meat production growth is expected to come from intensive industries such as poultry and pork, which benefit most from the expected decline in feed grain prices.

Short term meat demand growth is expected to remain constrained by rising costs for consumers and weak income growth in many countries. Consumer spending patterns are expected to shift, reducing expenditure on meats, but also substituting to cheaper meat types or cuts, as well as reducing out-of-home food expenditures. The OECD-FAO (2023) projects that global average per capita consumption of meat will increase by 3% from the 2020-2022 base period to 2032. This growth will mostly be derived from middle-income

countries. Global meat trade is projected to grow at a much slower rate compared to the previous decade, due to reductions in Chinese imports as its production recovers fully from the ASF impacts, as well as rising domestic production in several other countries.

DOMESTIC MARKET OUTLOOK

Similar to the global situation, profitability in South Africa's meat sectors has come under severe pressure in recent years. While meat prices increased post Covid-19, it was insufficient to cover spiralling feed costs, which were largely driven by global factors such as weather conditions and the ongoing war in Ukraine. Amid a myriad of additional challenges such as persistent loadshedding, animal disease outbreaks and haphazard municipal service delivery, the sector's resilience has been tested to the extreme.

Meat consumption in South Africa is sensitive to consumer spending power, as well as prices of the various meat products. Consumers have access to a wide range of products, across various price points and the consumer profile that buys these various products can differ quite significantly. While total meat consumption has grown over the past decade, this was mainly driven by the more affordable products, such as poultry and pork. Per capita consumption of both poultry and pork increased, by 4% and 21% respectively, over the past ten years, reflecting their relative affordability. In the case of pork, this growth occurred from a low base and on average between 2020 and 2022, per capita consumption was still just below 5kg per capita per year, compared to almost 36kg of poultry. Beef consumption growth was constrained by significant increases in beef prices, particularly over the past five years, when supply was limited following herd reductions through the 2016 drought. In per capita terms, beef meat consumption declined by 7% over the past decade. Sheep meat is the most expensive in the meat basket, and per capita consumption declined by almost 30% to less than 2kg per person per year on average between 2020 and 2022.

Affordability will remain a key factor driving consumer decisions in terms of quantities consumed and product mix over the coming decade. The past three years have been amongst the most difficult to date from a consumer spending power perspective, as economic restrictions through Covid-19 were followed by the

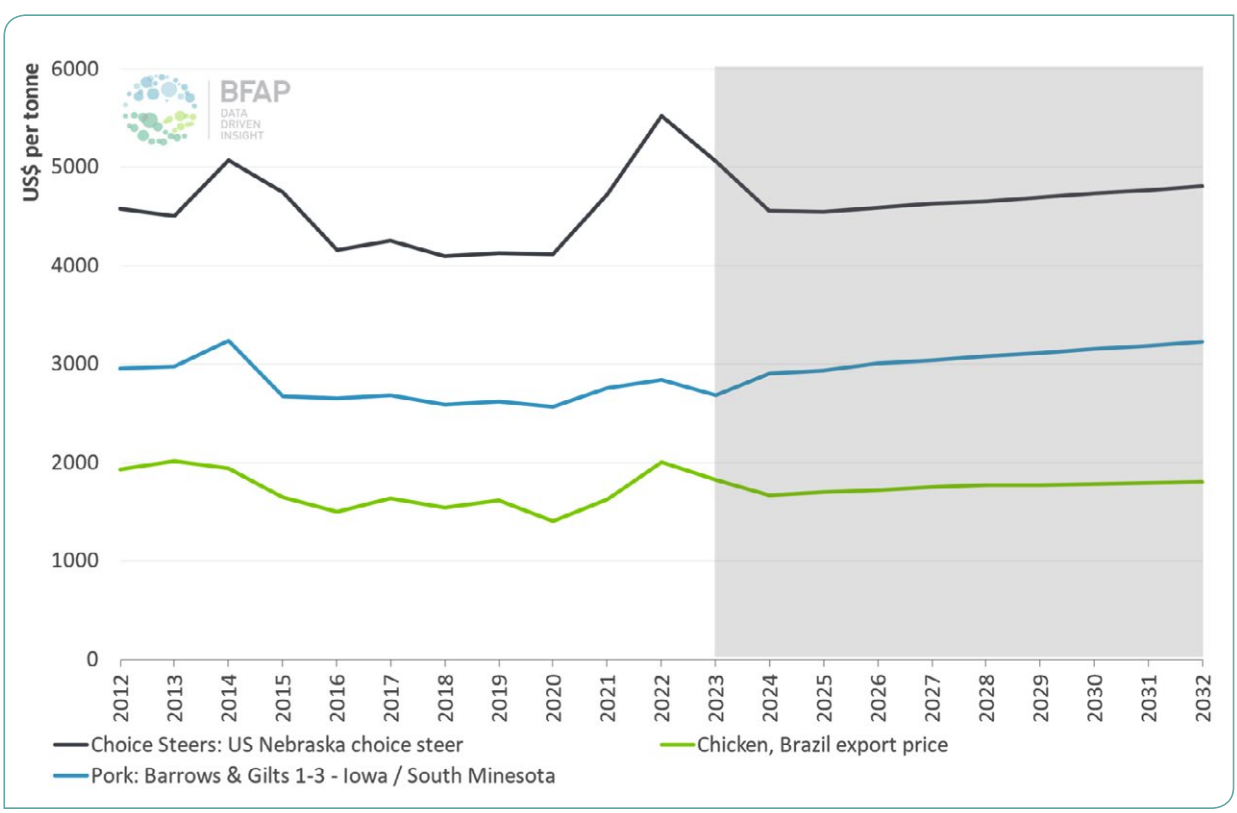


Figure 44 International meat prices: 2012 - 2032

Source, OECD-FAO & BFAP, 2022

energy crisis and rampant inflation amid ongoing war in Ukraine. Consumer incomes are expected to remain under pressure, particularly in the short term, owing to the combination of weak economic growth, persistent inflation and monetary tightening in an attempt to control inflation. Consequently, meat consumption per capita is expected to decline over the next 2-3 years before recovering somewhat in the medium term as economic prospects improve, albeit only modestly. Most of the projected growth in meat consumption occurs in the second half of the outlook period on the back of small improvements in income growth and lower real prices.

Consumption trends for the various meat types will also reflect relative price movements over the coming decade. As the most expensive meat type, per capita consumption of sheep meat is set to decline further, by 6% by 2032. This is slower than the past decade, due to a significant decline in real prices as global output rises over the next few years. Similarly, the real decline in beef prices as additional supply enters the market supports a turnaround in per capita beef consumption, which could rise by 4.1% by 2032 relative to the 2020-2022 base period. Amongst the more affordable meat types, pork consumption growth is expected to be the fastest, rising by 11.4% in per capita terms by 2032, to reach 5.5kg per capita, whereas per capita poultry consumption is expected to rise by 3%, or 0.7kg per capita per year by 2032 (Figure 45). These relative growth rates reflect already high poultry consumption in the 2020-2022 base period, as well as changes in relative affordability, as the real price decline projected for pork, which is sensitive to domestic production volumes, is larger than that of poultry, which is strongly influenced by world price and exchange rate dynamics due to a more prominent share of imports in domestic consumption.

Further to economic drivers such as income and prices, the persistent loadshedding in South Africa could potentially influence consumer buying patterns, as meat products require consistent refrigeration. Lower income consumers in particular are not able to afford backup power, thus prolonged power outages may induce a reduction in meat purchases to limit spoilage, while purchasing fresh products for immediate consumption often entails higher prices.

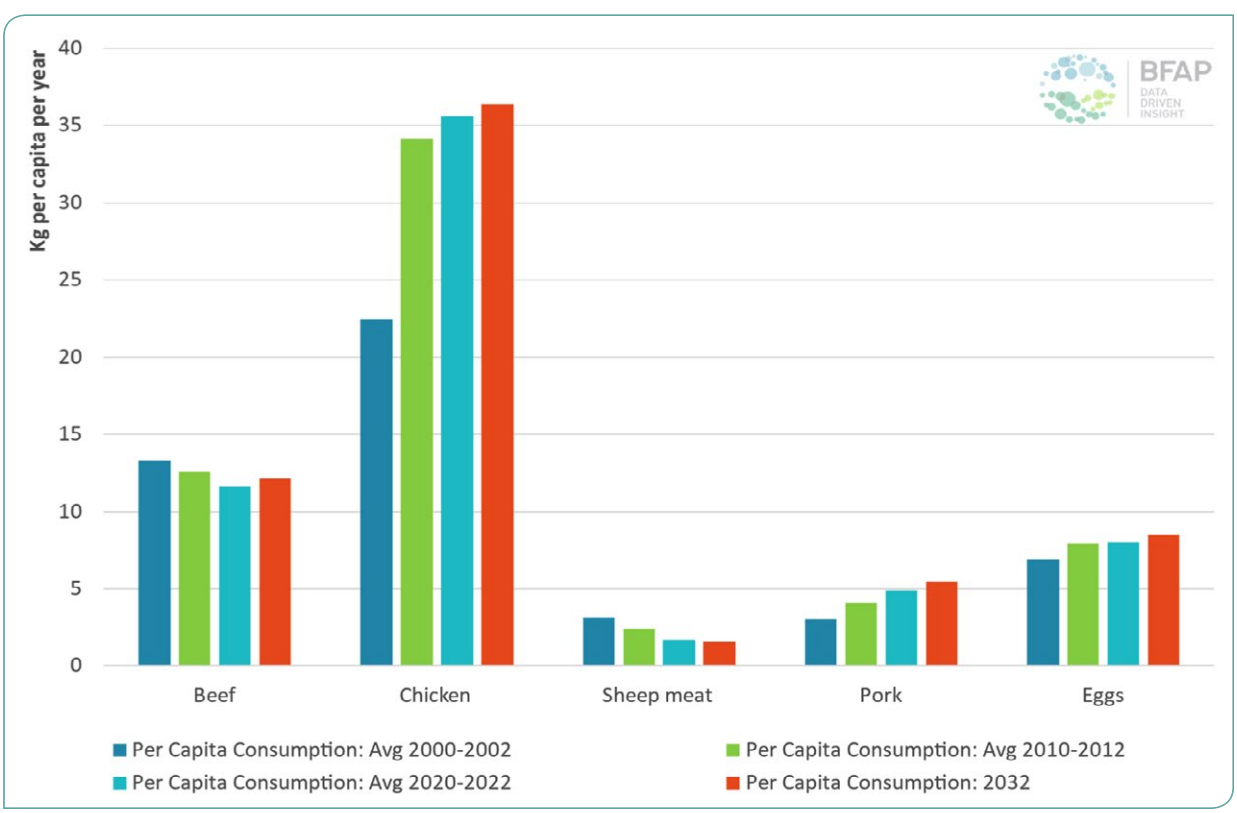


Figure 45 Growth in per capita meat demand: 2032 vs. current and history

BOX 1: RELATIVE AFFORDABILITY OF PROTEIN RICH FOODS FROM PLANT AND ANIMAL-BASED SOURCES

Growing environmental concerns have resulted in global pressure to reduce protein intake from animal-source foods, while increasing the intake of protein from plant-source foods. The South African Guidelines for Healthy Eating (http://www.nutritionweek.co.za) suggests the following options to ensure adequate daily protein intake:

- Option 1: One single serving unit (SSU) of legumes and two SSU's of meat/fish/eggs.
- Option 2: Two SSU's of legumes and one SSU of meat/fish/eggs.

But, how does the cost of protein-rich foods from plant and animal sources compare in South Africa?

Product group 1: Plant-based and most affordable overall

A SSU of dried beans, soya mince or canned baked beans cost as little as R1.69 to R3.63, representing some of the most affordable protein-rich food options in South Africa – up to 80% less expensive than a SSU of IQF chicken.

Product group 2: Animal-based and most affordable animal-source foods

Food such as canned pilchards, eggs and IQF chicken pieces occupy the next product level in the affordability continuum with SSU costs of up to R9.

Product group 3: More expensive animal-source foods

With a cost of R14/SSU products such as beef mince and fresh chicken portions are about 65% more expensive than IQF chicken, being considered as 'everyday' animal-protein food choices for many middle-income and affluent households in South Africa.

Product group 4: High-end luxury protein-rich foods

The most expensive protein-rich foods include options such as lamb chops, beef steak and high-end imported plant-protein foods such as vegetarian sausages and pea protein mince – up to 250% more expensive than IQF chicken per SSU.

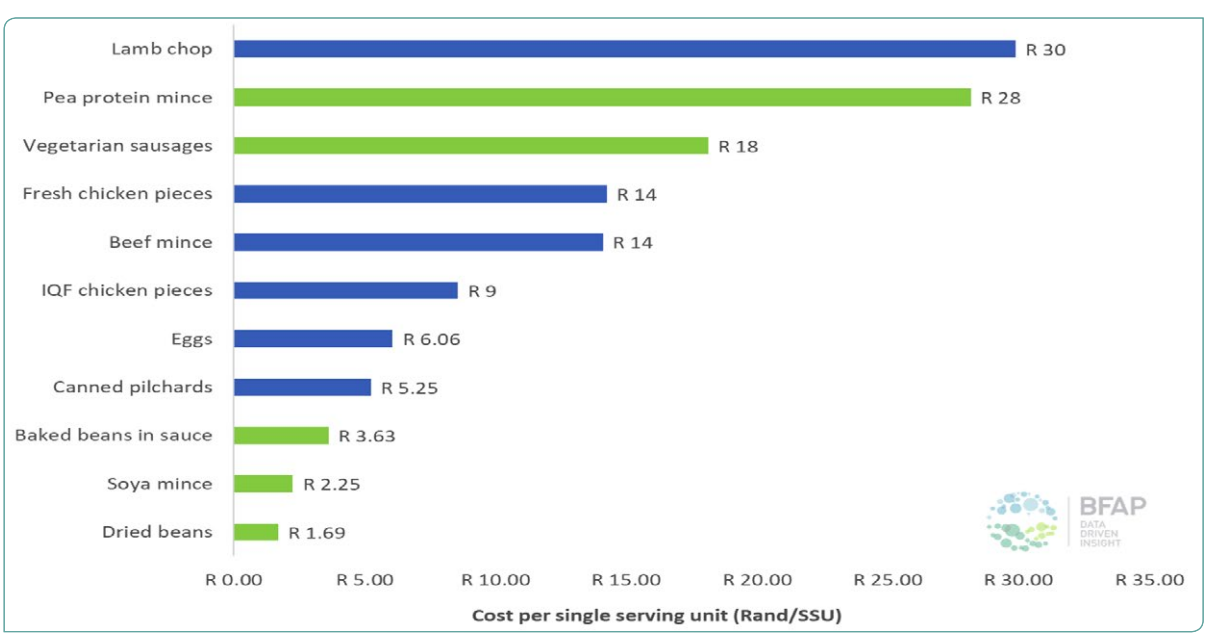


Figure 46: Comparing the relative affordability of protein-rich foods from plant and animal sources

Source: BFAP calculations based on Stats SA urban retail price observations and 'spot-check' retail price observations at major retailers for soya mince, vegetarian sausages and pea protein mince

BOX 1: RELATIVE AFFORDABILITY OF PROTEIN RICH FOODS FROM PLANT AND ANIMAL-BASED SOURCES (CONTINUED)

'Budget' plant-protein foods such as dried beans, soya mince and canned baked beans thus represent affordable sources of protein in the diet, which could be combined with animal-source foods to yield an improved intake of quality protein. However, imported plant-based foods aimed at the affluent consumer segments such as pea protein mince and vegetarian sausages are priced at a significant premium – out of the financial reach to many households in South Africa.

While income and prices are critical drivers of per capita consumption, total volume growth is also driven by population dynamics, with population growth and urbanisation key determinants. Whereas per capita consumption growth is expected to be slow, rising population numbers imply that total consumption growth is projected to be faster (Figure 47). While the expected rate of growth is fastest for pork products, at 23% for the ten-year period to 2032, this is from a small base and poultry products will comprise the bulk of additional meat consumption in absolute terms by 2032 relative to the 2020-2022 base period. Total chicken consumption is expected to grow by 14%, while beef consumption could rise by 15%, sheep meat consumption by 9% and egg consumption by 17%.

As South African meat products are well integrated in global markets, due to the prominence of imports to supplement domestic production in the case of poultry and pork, and the role of exports in the case of beef, production prospects reflect both domestic and international dynamics, as well as the relative competitiveness of South Africa's producers. The bulk of additional chicken consumption is expected to be produced domestically, following investments made by major producers to expand production in recent years as part of the poultry industry masterplan and supported by projected improvements in profitability as feed product prices decline in the next few years. Despite these investments, the extent of import replacement over the outlook is limited by the deterioration of South Africa's relative competitiveness amid persistent loadshedding, rising costs of backup power generation and poor municipal service delivery. Consequently, imports are still expected to account for 19% of total consumption by 2032, from 21% on average between 2020 and 2022.

This deterioration in relative competitiveness is also reflected in the declining share of total beef production exported by 2032 to 4%, from 5% on average between 2020 and 2022. Historic growth in beef exports is one of agriculture's success stories, but these gains have stalled in recent years and the industry is faced with numerous challenges. Issues of animal disease management, particularly recent foot-and-mouth disease (FMD) outbreaks, have impacted significantly on the performance of the industry, particularly in the weak domestic consumer environment. Over the outlook, beef production is expected to grow at an average annual rate of 1.6%. This reflects significant additional supply entering the market from 2023 to 2025, as the herd rebuilding that has been ongoing through the past five years starts to reflect in slaughter volumes. In the current weak consumer environment, and with slow exports due to persistent FMD issues, this expansion is expected to result in lower prices in the early years of the outlook (Figure 48). This decline in prices is also a major factor supporting projected consumption growth, despite slow consumer income growth.

Between 2011 and 2021, beef exports grew at an average annual rate of 18%. However, volumes have stagnated in recent years, and in 2022 beef exports dropped by 6% compared to 2021. As a response to the on-going FMD challenges in South Africa, China closed its market to South Africa's beef exports in May 2022. Since then, increasing quantities of South Africa's beef exports have been destined for the Middle East – Kuwait, the United Arab Emirates and Jordan. In October 2022, the Department of Trade, Industry and Competition signed an agreement with Saudi Arabia for South Africa to export between 500 and 1000 tonnes of meat to the Middle Eastern country per annum. Despite these efforts to increase beef exports, growth is projected to remain slow over the coming decade, with exports growing at an average annual rate of 1%, hampered by animal disease management challenges and the associated market access implications.

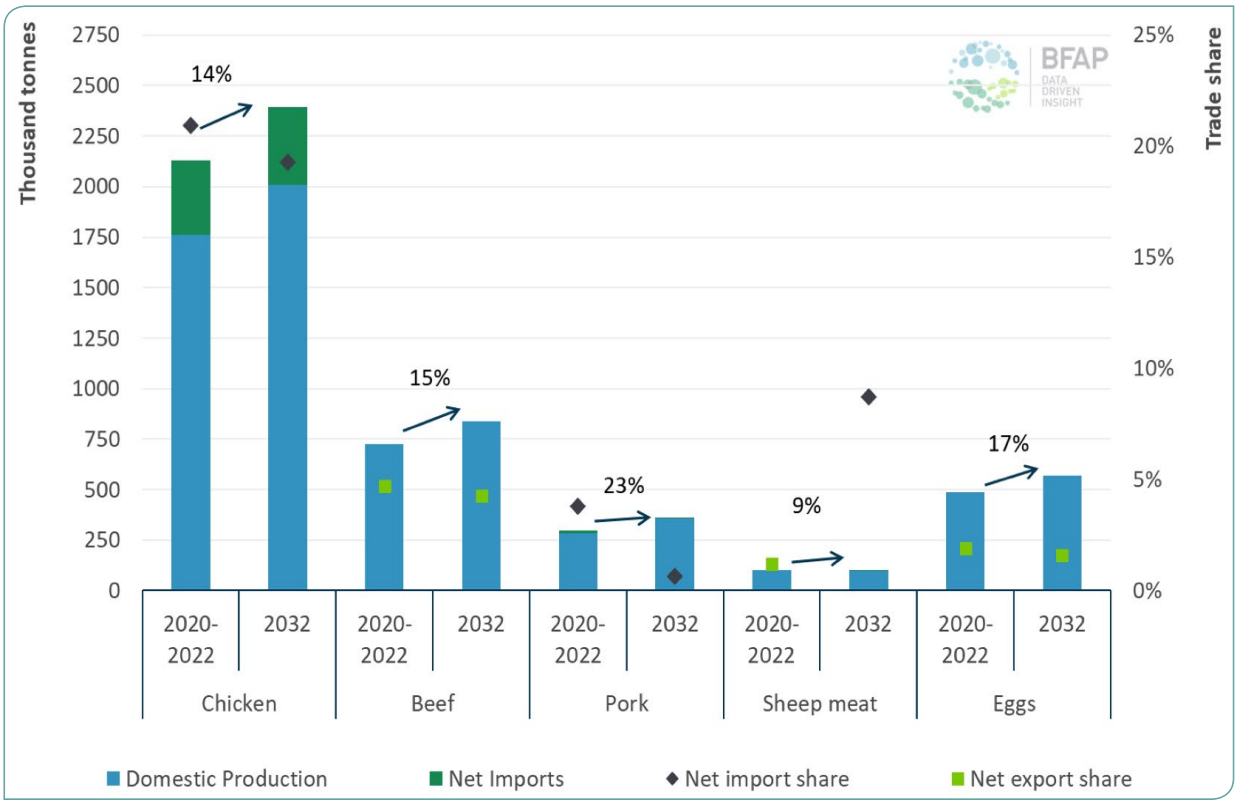


Figure 47 Meat Consumption growth: 2032 vs. Average 2020 - 2022

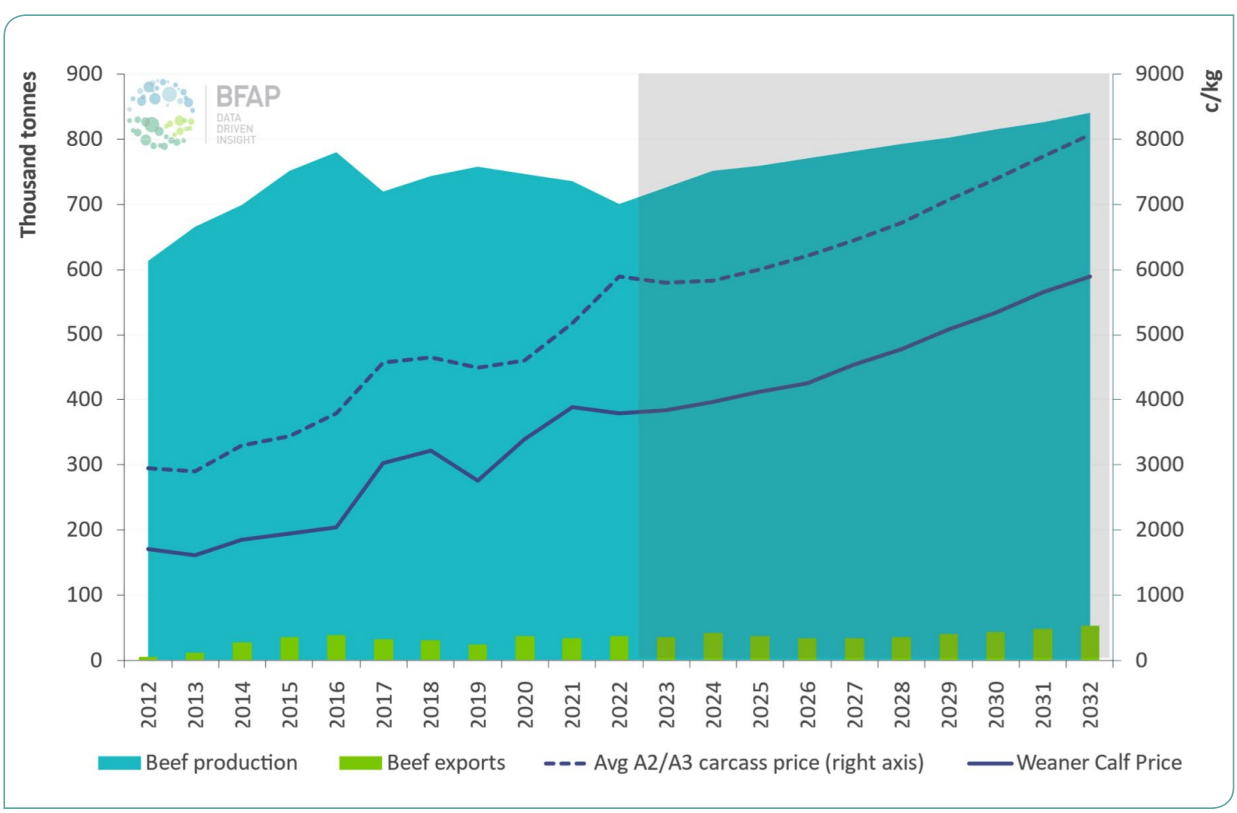


Figure 48 Beef production, exports, carcass, and weaner prices

The poultry industry has long been challenged by competition from imported products, which are often delivered at highly competitive prices into South African markets, due to differences in consumer preferences in various parts of the world. Over the past 4 years, however, import volumes have declined consistently, due to a combination of Avian Influenza challenges in the Northern Hemisphere, which curtailed imports from these countries, protection of South African producers in the form of higher tariffs and investments by domestic producers to expand production. The sustainability of these investments, however, is coming under increasing pressure as deteriorating municipal infrastructure, rising input costs and persistent loadshedding have added significant cost burdens, which cash strapped consumers are unable to absorb. Rising production costs are rendering several products too expensive for many low-income consumers. In an attempt to reduce the impact of high inflation on low-income households, government postponed anti-dumping duties against Brazil and some European countries. Although the decision was made to limit price increases and improve affordability for consumers amid poor economic conditions, it exposes domestic producers to imports.

The persistent increases in the prices of animal feeds pushed the chicken to maize price ratio significantly lower in 2022, to levels seen during the drought years of 2015-2017. As maize is the major source of energy in poultry feed rations, the ratio presents a basic indicator of profitability. As feed grain prices decline on the back of improved supply globally and softer international prices, profitability is also expected to start improving from 2023 onwards. As a result of these improvements, poultry production is expected to grow by 1.1% per annum over the coming decade.

Loadshedding has been particularly impactful on intensive livestock industries, adding to production costs and exacerbating financial pressures. While most producers already have backup power installed, due to the high risk of power failures in production systems that rely on a controlled environment, an increasing reliance on these systems adds significant cost and, in some instances, has also necessitated investments into secondary backup systems. At abattoir level, the use of generators again adds to costs, while the alternative of not running them reduces capacity, forcing producers to keep birds for longer at a time of high feed costs. While most large abattoirs have invested in generators

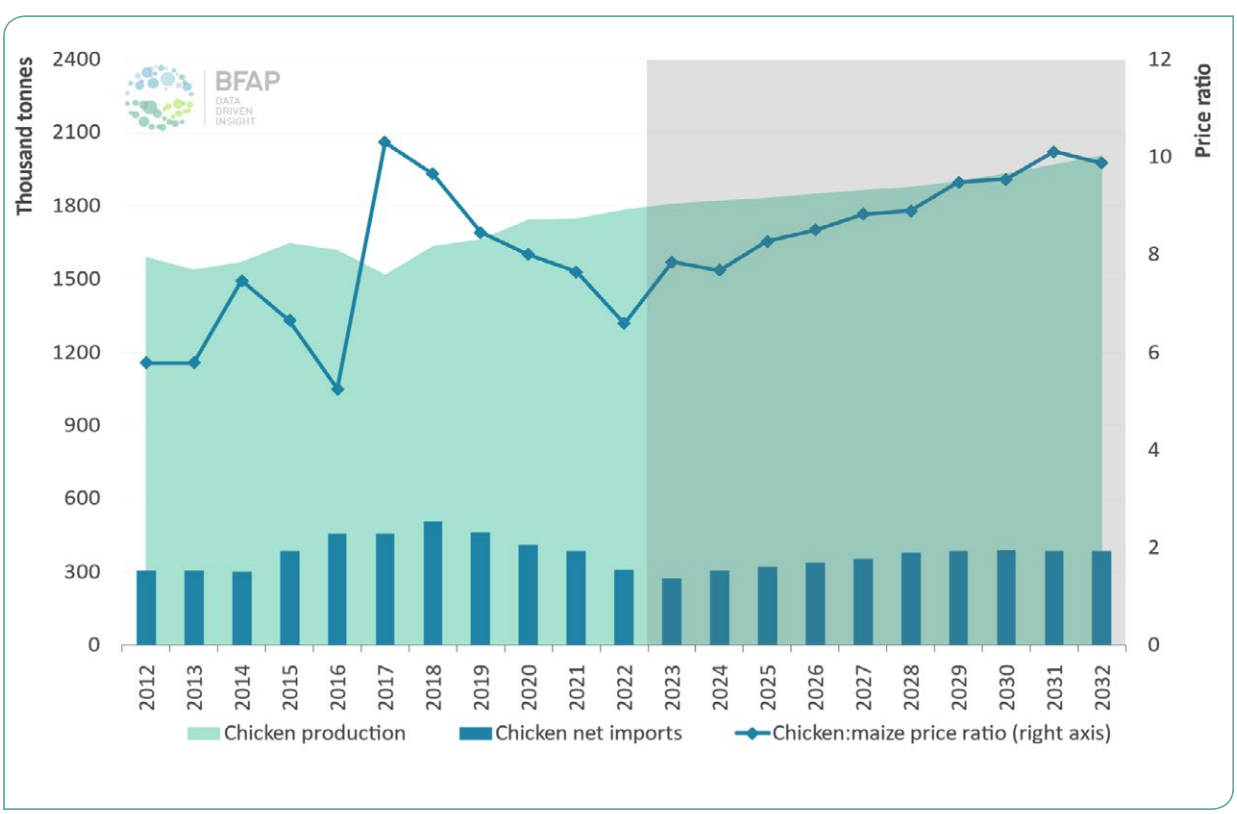


Figure 49 Chicken production, net imports, and profitability: 2012 – 2032

to avoid capacity limitations, the additional cost burden is estimated to be at about R0.9/kg. For smaller producers that do not have access to backup power, the risk of exiting the industry is increased exponentially in this environment. This may hamper the implementation of plans agreed on in the Poultry Sector Master Plan. The increased cost burden and high-risk production environment is also a key contributor to the stagnation in production growth in the short term, despite improvements in profitability indicators. Under the Baseline, the extent of loadshedding is expected to improve over the second half of the coming decade, as investments into private generation start to bear fruit. This enables production growth to accelerate over the latter years of the projection period.

BOX 2: COMPETITIVENESS OF SOUTH AFRICAN BROILER PRODUCTION

Poultry imports into South Africa peaked in 2018, following a prolonged period of consistent increase. Since 2018, this trend has reversed, as import volumes declined steadily and by 2022, reached levels last seen in 2014. Numerous factors contributed to the reduction in imports including:

- The outbreak of Highly Pathogenic Avian Influenza (HPAI) in the EU, which curtailed imports from the region.
- Increased general duties and imposition of anti-dumping duties on several countries.
- The effect of Covid-19 and the restrictions imposed to curb its spread, which resulted in logistical challenges that hampered imports.
- Depreciation in the value of the Rand, which increased the cost of imported products.
- Rising international prices as HPAI spread across the Northern Hemisphere and the war in Ukraine reduced exports from the region.
- Increasing freight rates, which increase the cost of trade.
- Improved competitiveness of South African producers and investment to expand production.

While the entire decline in imports is not attributed to improvements in competitiveness, it was a contributing factor, as illustrated in a report by BFAP in 2022 which evaluated the competitiveness of South African production relative to leading global producers, based on the 2021 financial year. While it must be acknowledged that the assessment based on 2021 data does not yet include significant global events such as the war in Ukraine, or domestic events such as the escalation in frequency and intensity of loadshedding, it does provide the opportunity to compare competitiveness over time, as it represented the third iteration of similar assessments. The assessment was conducted in collaboration with Dr Peter Van Horne, from Wageningen University and Research.

In line with leading poultry producers globally, the poultry value chain in South Africa is highly integrated and hence competitiveness also depends on other sectors, such as feed. While feed costs have increased sharply in recent years, this was the result of global events that impacted all major producing countries. From the evaluation, it was clear that South Africa's relative competitiveness has improved over time. Figure 50 presents the percentage deviation in total production costs in selected leading producing countries from South Africa. In Europe, poultry production is more expensive than in South Africa, whereas in Brazil and the USA, it is cheaper. Figure 50 shows that South Africa's production costs have moved closer to Brazil and the USA over time and in 2021, was at a similar level to the USA, while remaining around 12% more expensive than in Brazil.

Improvements in relative competitiveness were based on further technical efficiency gains over time, which enabled improvements in feed use efficiency. Feed costs comprise the bulk of total production costs and consistent surplus maize production, combined with rapid growth in soybean processing into protein meal, no doubt contributed to improvements. The increase in South Africa's feed costs from 2017 to 2021 was far less than in Brazil and the USA. Nevertheless, if South Africa is to export competitively in future, it has a further gap to close to reach the level of Brazil.

BOX 2: COMPETITIVENESS OF SOUTH AFRICAN BROILER PRODUCTION (CONTINUED)

While the relative improvement in competitiveness is good news for an industry striving to grow exports and increasingly replace imported products, the events of the past two years provide a significant caveat. Rising incidence of higher stages of loadshedding has added immense cost pressure on South African producers and, while significant progress has been made, the reality is that their relative competitiveness is declining for every additional hour that diesel generators have to step in when Eskom power is down. In an assessment completed for the Western Cape Department of Agriculture in 2023, BFAP estimated that the cost of running diesel generators is more than double that of Eskom power. Despite the small share of electricity in total production costs, the need for generators under stage 6 loadshedding was found to add R0.9 per kg chicken produced to total costs. Considering the size of the industry, this equates to additional spend of R1.55 billion per annum, which suggests that the current situation is severely restrictive for an industry striving to attain further improvements in competitiveness and not only replace further imports, but also grow exports.

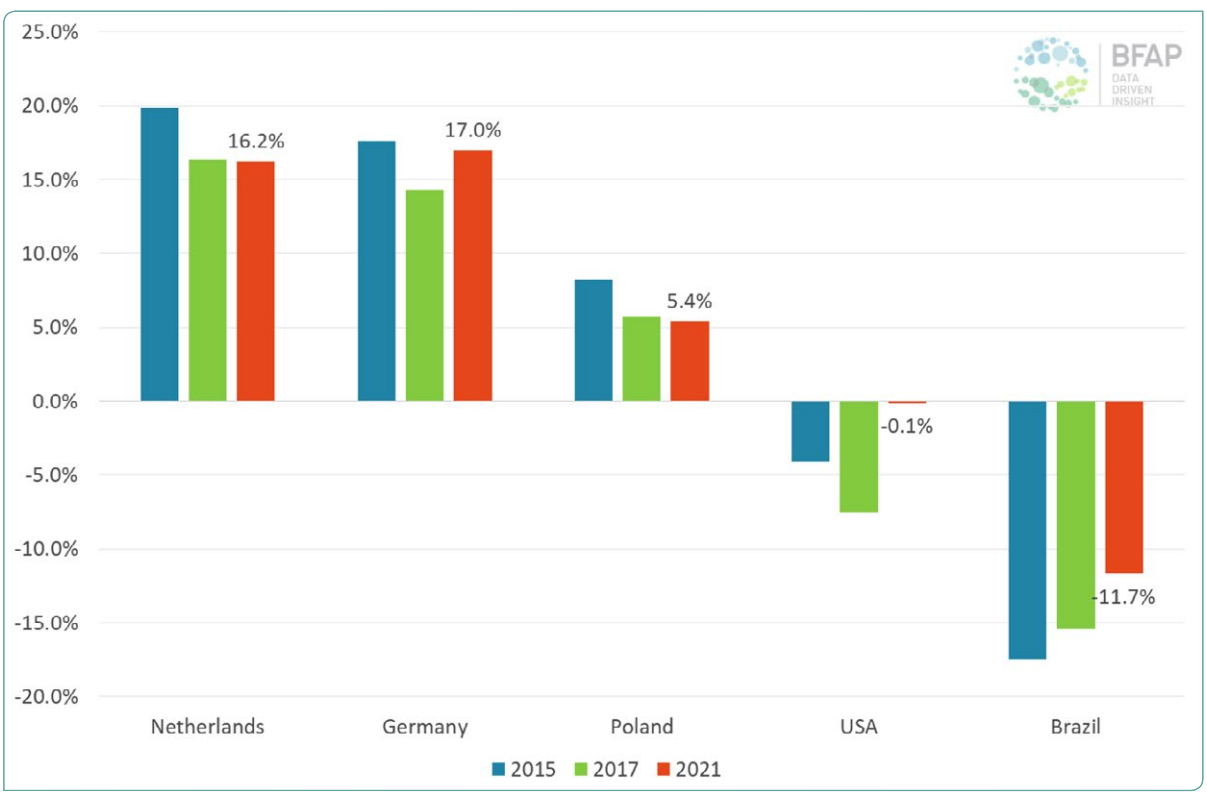


Figure 50: Deviation in total production costs in selected countries relative to South Africa

Source: BFAP, 2022

The egg industry is the fourth largest animal production industry after poultry, beef and milk production. As an affordable source of protein, the egg industry forms an important part of the South African consumers' food basket. Given its feed intensive production systems, the egg industry has also been hard hit by rising feed costs. The industry was also severely impacted by the Avian Influenza outbreak in 2017 and, while production rose significantly between 2019 and 2021 following the massive culling of birds in 2017, the current situation with AI globally is a major risk to the sector. Investment in biosecurity by large producers is an efficient mitigation measure, but AI is spread by wild birds and the longer lifecycle of layer hens compared to broilers increases the risk of an outbreak to egg producers. With one case reported in the Western Cape already in May 2023, biosecurity measures are more critical than ever. Nevertheless, egg production is projected to increase steadily over the outlook period, at an average annual rate of 2%, from an average of 486 000 tonnes in the base period to 569 000 tonnes in 2032.

The pork industry has expanded significantly over the past decade, but particularly since 2020. From 2012 to 2019, production grew at an average annual rate of 4%, accelerating to 9% from 2020 to 2022. Over the coming decade, growth is projected to slow to an annual average of 2%, which includes some contraction in the short term and a recovery post 2025. While significant investments have occurred in the industry, profitability of these enterprises have come under immense pressure, as additional production volumes limited price gains in an environment where consumer spending power is constrained, while input costs have increased rapidly over the past 2 years. The pork to maize price ratio reached an all-time low in 2022, falling below the levels observed at the height of the 2016 drought. Through the last quarter of 2022, pork prices did improve and amid continued declines in feed grain prices, profitability is expected to improve consistently over the outlook, but is not expected to reach the peaks of 2017.

African Swine Fever (ASF) remains a concern, which adds additional risks for the South African pork industry. Although the commercial sector practices strict biosecurity measures, the state of biosecurity at a national level remains a risk, due to poor disease management. The share of net pork imports is projected to decline from approximately 4% in the baseline period to 1% in 2032, with imports comprising mainly ribs.

Despite the challenges of the 2022 season, the pork industry continues its marketing campaign to inform consumers about the health and nutritional value of

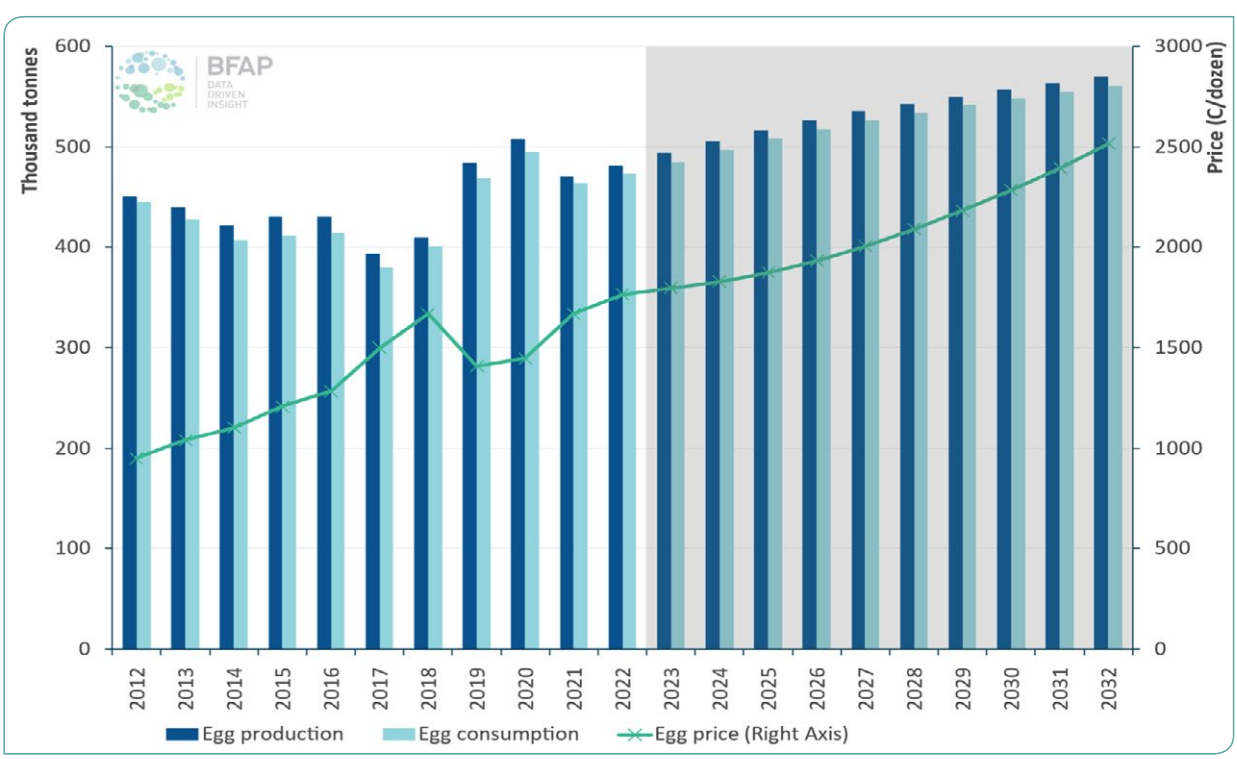


Figure 51 Egg production, consumption, and price: 2012 - 2032

pork products, which also provide exceptional value for money at current levels. Previous campaigns have been critical to consumption growth and although pork is one of the more affordable animal proteins, it is still not widely consumed across all communities in South Africa, thus consumer awareness could be instrumental to further increasing pork sales.

Although high mutton and lamb prices have been favourable for producers, such high prices have resulted in consumers opting for cheaper sources of animal protein. With the South African consumer under increasing spending pressure, the growing sheep meat exports to the Middle East could potentially offer a cushion to sheep producers, while exports of live animals into the same region have also increased rapidly.

2022 was one of the most difficult years for the South African wool industry. The spread of FMD and subsequent ban on wool exports, logistical challenges as well as the strike by Transnet were just some of the hurdles the industry had to overcome. Despite these challenges, it remains one of the largest producers of natural fibre globally. The high-quality wool produced through the Sustainable Cape Wool Standard ensures that South Africa has an increasing share of the global wool market, whilst fetching a premium for the products. However, amid increasing animal disease challenges, the lack of vaccines provided by the Onderstepoort Biological Products (OBP) is a great threat to the industry as outbreaks of diseases such as bluetongue and rift valley fever may not be adequately prevented or combated.

CONCLUDING REMARKS

The growth witnessed in many animal production industries over the last decade is expected to slow in years to come. Despite agreements made in the Agriculture and Agro-processing Master Plan, as well as the Poultry Sector Master Plan, livestock industries are functioning in a very challenging environment, making it difficult to implement the necessary interventions. While feed prices are expected to decline, resulting in some improvements in the short term, several other challenges remain.

The rolling blackouts experienced at high levels since September 2022 are placing increasing pressure on the production systems of intensive industries as well as threatening the safety of the meat produced due to affected cold chains. Disease management remains a great deterrent to the growth of meat producing sectors, particularly those with export driven growth strategies. The growth of these meat industries in the coming years will require more innovation on increasing productivity gains in order to navigate this challenging environment.

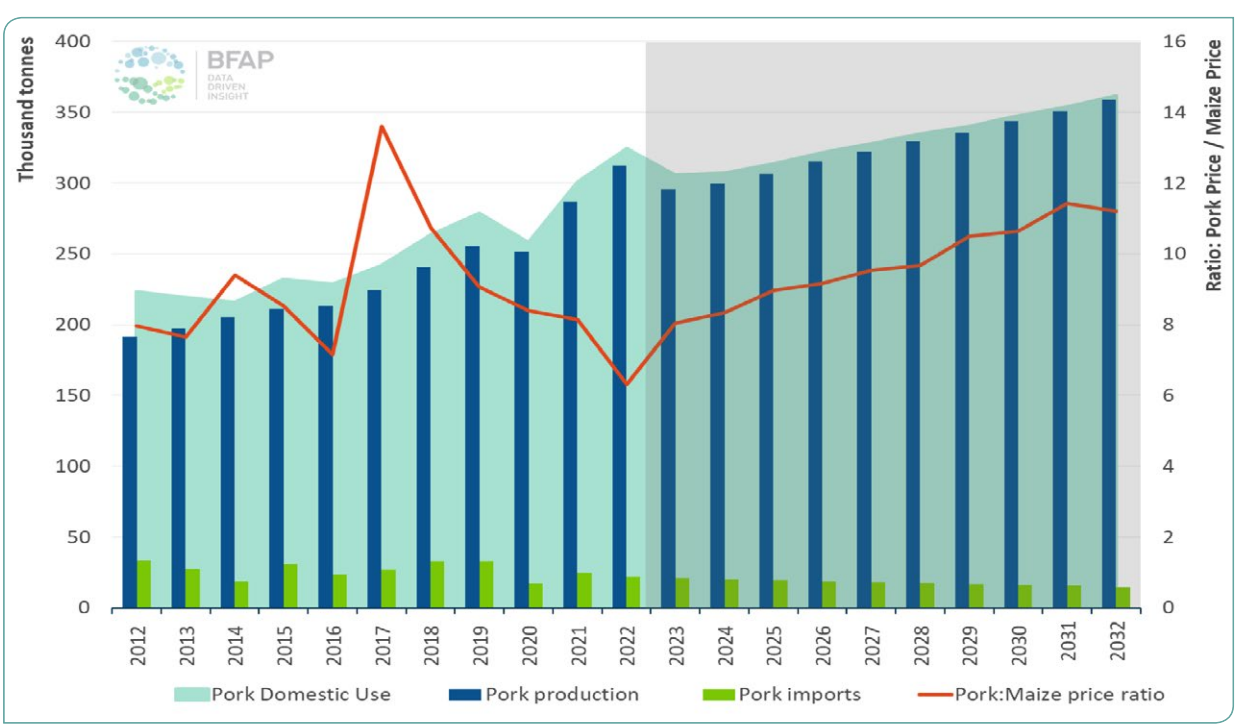


Figure 52 Pork production, consumption, imports, and profitability: 2012 - 2032

MILK AND DAIRY PRODUCTS




INTERNATIONAL MARKET OVERVIEW

INTERNATIONAL DAIRY PRICES reached record highs in 2022, with the composite FAO Dairy Price Index increasing by 20% year on year. Most dairy product prices reached their peak in mid-2022 and have been declining steadily since (OECD-FAO, 2023). By April 2023, the FAO Dairy Price Index had fallen more than 15.1% compared to the same month in 2022, driven mainly by lower prices of milk powders, arising from persistently weak import demand globally (FAO, 2023) and increased supplies of skim milk powder (SMP) from Western Europe. Amongst other dairy products, cheese prices were also lower in 2023 due to high export availability in Western Europe, while butter prices remained stable as supplies were sufficient to meet import demand for near and long-term deliveries.

International dairy markets are often represented by the prices of processed products from the main dairy exporters in Oceania and Europe. The main reference prices are butter - the reference for milk fat, and SMP, which is the reference price for other milk solids. Most product prices are expected to bottom out in 2023 and trend upward in nominal terms over the next decade. Price trends of butter and SMP will be determined by supply responses to price incentives while whole milk powder (WMP) and cheese prices are typically affected by trends in butter and SMP prices (OECD-FAO, 2023). The price gap between butter and SMP has widened significantly since 2015 (Figure 53), propelled by increased demand for milk fat. Given the structural shift in demand for fat as opposed to other milk solids, the gap between the two products is expected to be sustained over the outlook (2023-2032), with butter trading at a substantial premium above SMP (OECD-FAO, 2023).

Most domestic dairy markets are only loosely connected to the global reference prices due to the small share of products traded internationally, and only a small share of milk is processed as compared to that which is pasteurised or fermented to be consumed fresh (OECD-FAO, 2023).

The OECD-FAO Outlook for agricultural markets suggests that global milk production could grow at 1.4% annually over the coming decade, to reach 1.04 billion tonnes by 2032. This projection puts milk amongst the fastest growing agricultural commodities. Gains will be mainly supported by yield growth, underpinned by factors such as improved genetics, optimisation of milk production systems, improved animal health and feed-use efficiency improvements.

Most of the milk produced globally is consumed as fresh dairy products, particularly in developing regions. The share of fresh dairy products in global consumption is anticipated to grow by 0.8% per annum up to 2032, slightly faster than the past decade, driven by higher per capita income growth mainly in India and Pakistan (OECD-FAO, 2023).

The share of processed dairy products in total consumption, especially cheese, will move in relation to incomes, although country-specific variations in preferences will likely increase in the next decade. Per capita consumption of cheese, the second most consumed dairy product, is expected to continue to grow in traditional consuming countries - Europe and North America (OECD-FAO, 2023).

DOMESTIC MARKET OVERVIEW AND OUTLOOK

In line with global trends, South Africa's dairy market also exhibits significant volatility. Local raw milk production is seasonal, with high production in summer and lower production in winter. Production volumes also tend to fluctuate based on the intensity of feed use, which can vary based on feed costs. Total raw milk production decreased by 1.6% in 2022 to 3 350 000 tonnes (Sampro, 2023). The reduction emanated from a combination of factors. Firstly, weaker demand for major dairy products as consumer purchasing power declined in the face of the economic downturn and high food inflation; secondly, high input costs due to loadshedding, persistently high feed costs and other supply chain disruptions; and thirdly unfavourable weather conditions in major producing regions (Sampro, 2023).

As with the primary dairy industry (raw milk production), the secondary dairy industry (milk processing) has been facing increases in prices of crucial inputs such as fuel, electricity, transport, packaging materials, chemicals, and capital equipment. These price increases are linked to developments in the international market, as well as events that occur in the domestic space, for example, damages to infrastructure as a result of the riots in July

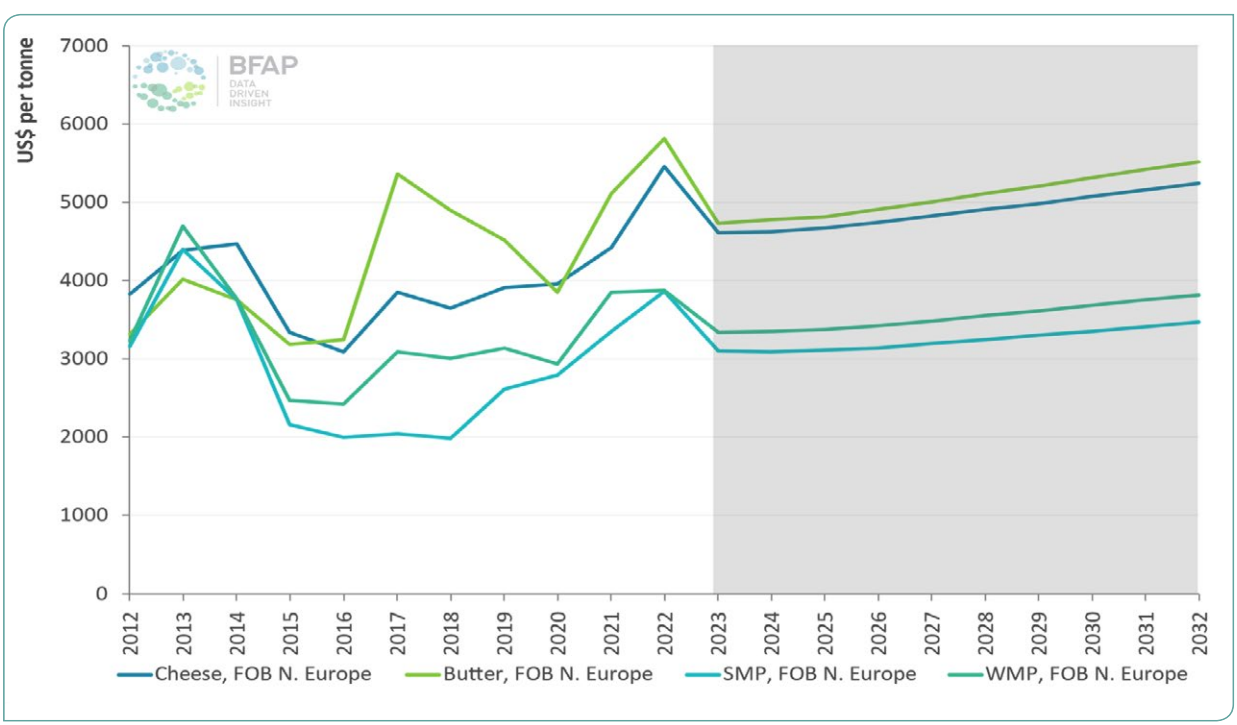


Figure 53: Dairy product prices: 2012 - 2032

Source: OECD FAO, 2023

2021, flooding in the KZN region in 2022 and haphazard municipal service delivery with respect to water, electricity and the maintenance of roads and security.

With the expected reduction in feed grain prices in 2023 and 2024, the profitability of milk production could improve and it is likely that the milk to maize price ratio, a basic indicator of profitability, bottomed out in 2022 (Figure 54), following a consistent decline over the last 5 years (2017-2021). The ratio was 30% lower in 2022 than the average over the 5 preceding years. It is expected that the milk to maize price ratio will improve by 50% by 2032, compared to 2022 levels. This improvement comes from an all-time low and by 2032, it will be similar to the levels observed in 2018. This improvement in the milk to maize price ratio will encourage production, enabling growth by 2.3% per annum over the next decade to reach 4.2 million tonnes (Figure 54).

Though the local dairy industry has seen a substantial move from zero grazing production systems that rely on concentrate feeding in the interior of the country to more coastal pasture-based milk production, maize remains a key energy source. The projected supply growth over the coming decade is driven by profitability improvements (as measured by the milk to maize price ratio), enabled by sustained fresh milk demand and projected higher demand by the local secondary dairy sector. This includes increased demand for cheese, butter and milk powder projected (Figure 55).

Raw milk production is mainly used in the domestic market (98%), split into fresh milk consumption (56%) and factory use or processing (42%). Of the concentrated dairy products, cheese is by far the biggest share of consumption, followed by butter, WMP, and SMP (Figure 55). The impact of rising dairy product prices has led to lower retail sales of most products in 2022 (Table 5) - retail sales of six of the nine dairy products available in the local market were lower. Retail sales quantities for fresh and flavoured milk, yoghurt, cream cheese, butter and cream were down whilst purchases of UHT milk, mass and pre-packaged cheese grew (Table 5).

It is expected that the local consumption of dairy products (cheese, butter, SMP and WMP) will trend higher in 2032 compared to the 2020-2022 base period (Figure 55). The consumption of cheese will grow the fastest (53%), followed by WMP (51%), butter (33%), and SMP (25%). The consumption of dairy products is closely related to income and product prices, and the anticipated growth in dairy product consumption occurs mostly in the second half of the outlook when consumer purchasing power starts to improve.

Despite improved profitability as feed grain prices

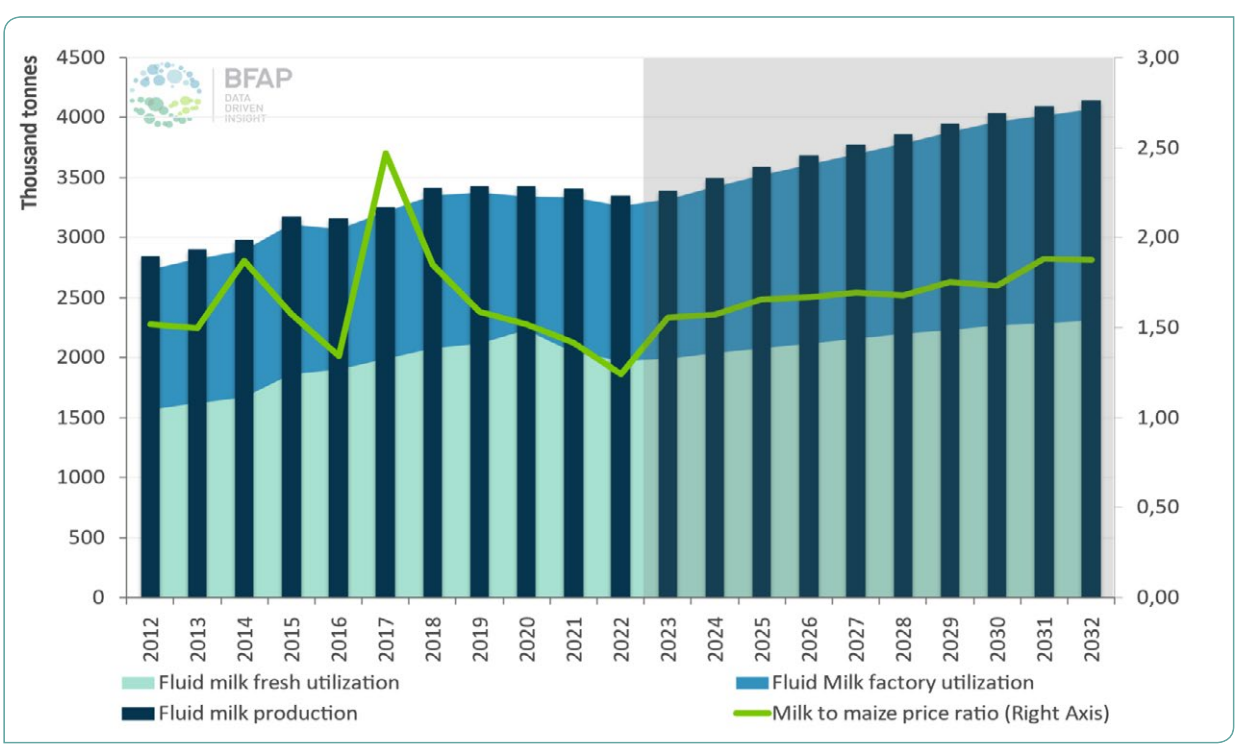


Figure 54: Milk production, use and profitability: 2012 - 2032

Table 5: Dairy products retail sales quantities – 2022 vs 2021

Dairy products	Retail sales volumes 2022 vs 2021
Fresh milk	-7.7%
Flavoured milk	-4.3%
Yoghurt	-3.5%
Cream cheese	-2.8%
Butter	-2.1%
Cream	-6.5%
UHT milk	+0.05%
Maas	+0.5%
Pre-packed cheese	+1.2%

Source: Sampro, 2023

decline and the subsequent projected supply growth over the baseline, particularly the latter years when the consumer environment improves, the short term reality faced by the industry remains challenging and highly uncertain. This emanates from the current electricity crisis, which is assumed to improve in the latter half of the outlook as private power generation comes online, as well as highly uncertain economic and political prospects, both in South Africa and internationally. These uncertainties include global tensions (such as the invasion of Ukraine by Russia) which have a negative impact on international trade and trade relations; as well as economic growth which impacts demand and ultimately affects global and local dairy product prices. Locally, uncertainties include the economic environment, which affects consumer purchasing power, political uncertainty in the lead up to the 2024 elections, persistent loadshedding and deterioration of water and transport infrastructure - all of which contribute to high production costs, which influence relative competitiveness of South African producers and will test the sector's resilience. While the baseline outlook reflects the assumption of stable weather conditions, it is acknowledged that significant volatility will occur around the projected trends due to erratic weather conditions which can impact supply.

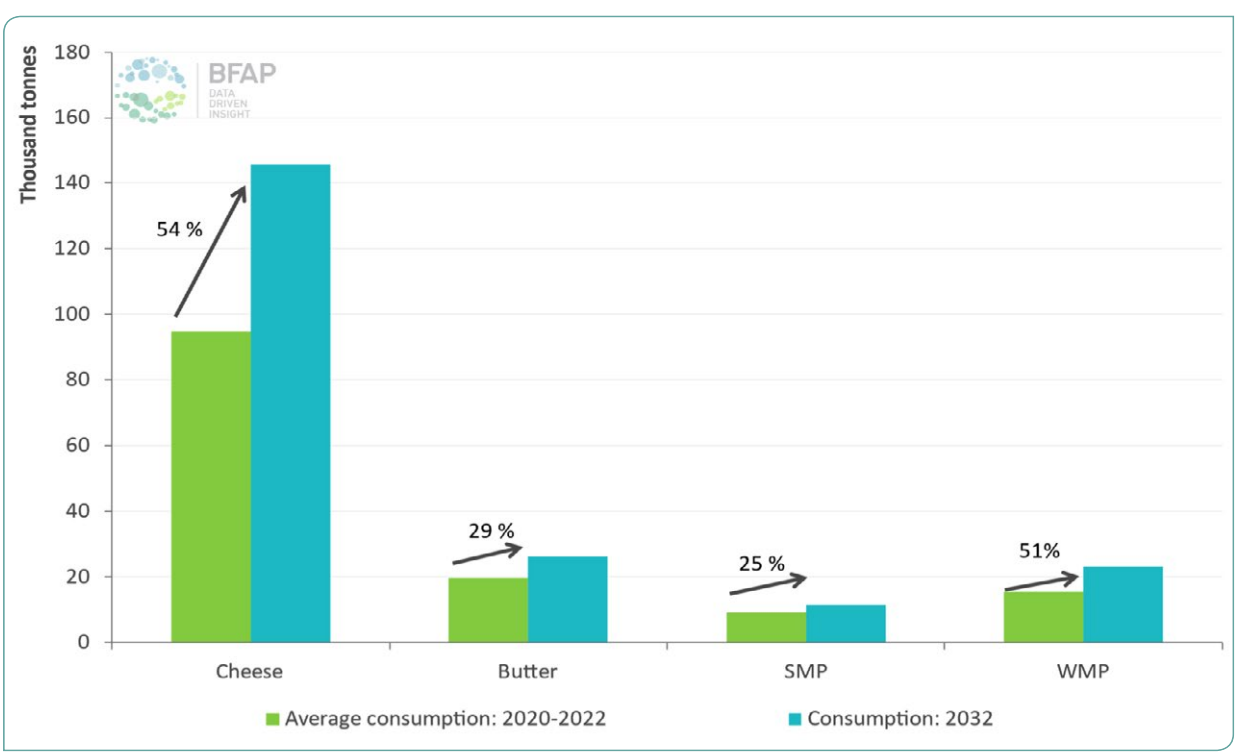


Figure 55: Consumption of concentrated dairy products: 2032 vs 2020 – 2032

OUTLOOK FOR HORTICULTURAL PRODUCTS

POTATOES




INTERNATIONAL OUTLOOK

WORLD POTATO PRODUCTION increased for the third consecutive year in 2021, expanding by 1.3% to reach 376 million tonnes. China (25.0% of world production), India (14.4%), Ukraine (5.6%), the United States (4.9%) and Russia (4.8%) were the top potato producers in 2021 (FAOSTAT, 2023). Potato production systems are input-intensive and the decrease in global fuel and fertiliser prices seen at the end of 2022 and through early 2023 should provide relief for potato producers' bottom line worldwide, enabling further expansion. Potatoes are highly perishable once harvested, which limits the opportunities for international trade and storage. South Africa is no exception, with local exports accounting on average for only 7.5% of production. This implies that South Africa's potato market is sensitive to domestic supply and demand conditions, with limited impact from global market dynamics.

DOMESTIC OUTLOOK

South Africa's potato market exhibited exceptional volatility over the past few years, due to a combination of supply related factors, such as weather, and large swings in demand as consumers navigated the impacts of Covid-19, weak economic growth and high inflation amid the ongoing war in Ukraine.

In 2023, potato production is projected to increase by 1.7% to 2.57 million tonnes. Being input cost intensive, potato producers are sensitive to cost increases and hence the relief in input costs towards the end of 2022 contributed to an almost 1% increase in area cultivated in 2023. International energy prices (natural gas and Brent crude oil) softened significantly towards the end of 2022, supporting reductions in the costs of fertilisers and fuel globally. South Africa is a net importer of inputs such as fertiliser, fuel and chemicals, hence these reductions did filter into domestic markets, but the decline was much smaller locally, as global price movements were mitigated by the sharp depreciation in the exchange rate in early 2023. The net effect was a 21% decrease in domestic fertiliser prices by April 2023 compared to November 2022 levels. This will continue to influence planting decisions in the coming season, with a further 2.5% expansion in area projected in 2024.

Potatoes are seldomly planted in isolation, with most producers following a rotation system that also includes other crops. Commodities such as maize and wheat

are suitable crops for some potato production regions and therefore compete for the same natural resources. Driven by international commodity price trends, local prices of these commodities increased substantially in 2022 (by an average of 34%) (Figure 56), contributing to a decrease in potato area and consequently also supply. In 2023, these substitute crop prices are foreseen to decline, while potato prices are expected to rise by 12.3% year-on-year. These price dynamics, in conjunction with the decrease in input cost, could entice potato producers to return more maize and wheat hectares to potatoes in the next two years.

South Africa's potato production has increased by an average of 1.3% per annum over the past decade. During this period, potato area has remained relatively constant at an average of 52 500 hectares, while yield improvements of 1.5% per annum on average fuelled production growth. The rate of area expansion is expected to increase marginally over the outlook, such that total area cultivated could reach almost 55 000 hectares by 2032 (Figure 57). This is a critical component of the 1.5% per annum increase in production through the outlook. Yield growth is also expected to persist on a fairly linear trend, implying that productivity gains of 1.2% per annum could be achieved, to reach an average 54.5 tonnes per hectare by 2032. Yield gains are assumed to be primarily driven by factors such as research, cultivar development, better production practices and better plant protection products. While projected yields reflect the assumption of stable weather conditions, the reality is that actual yields will remain volatile around the projected trend.

The domestic consumer environment, particularly the growing strain on disposable income and spending power, has significant implications on the demand and ultimately the price of potatoes. Substitute product prices can also influence the demand for fresh potatoes. Fresh potatoes are one of the main staple sources for South African consumers, besides grains such as maize and wheat products. Constrained consumer incomes typically result in a shift towards more affordable staple products.

With the 2023 GDP growth rate expected to come in at only 0.2% and high prevailing inflation, consumer spending power will be severely limited in the short term. As a result of consumers' financial squeeze, and high prices of wheat products, where processing costs have increased sharply due to loadshedding, consumers are expected to substitute some higher-priced starches for potatoes. Potatoes are relatively expensive on a serving size unit basis, but consumer decisions are frequently based on per kg prices, where potatoes are very competitive and consumption (fresh, processing and seed) is expected to increase by 2% in 2023.

Nominal prices are expected to average R47.71/10kg bag in 2023, with normal seasonal variation as various regions deliver produce to market. This entails a 12.6% increase

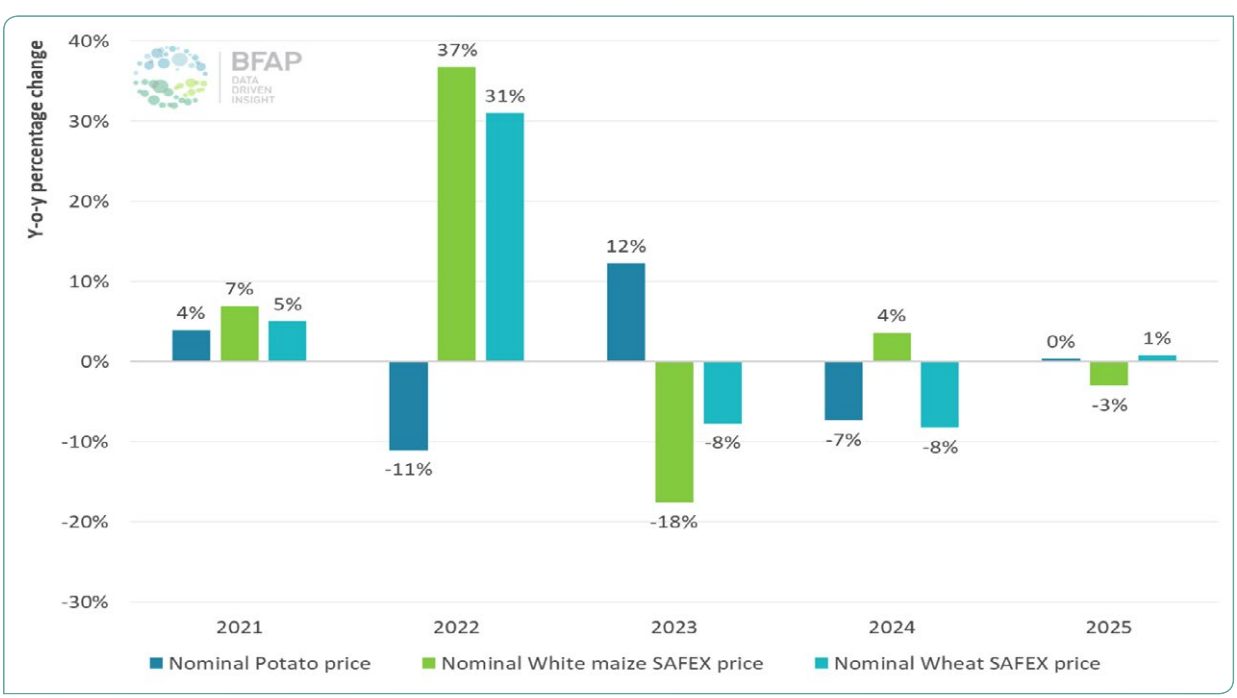


Figure 56: Potato price vs. Wheat SAFEX price vs. White maize SAFEX price: 2021 – 2025

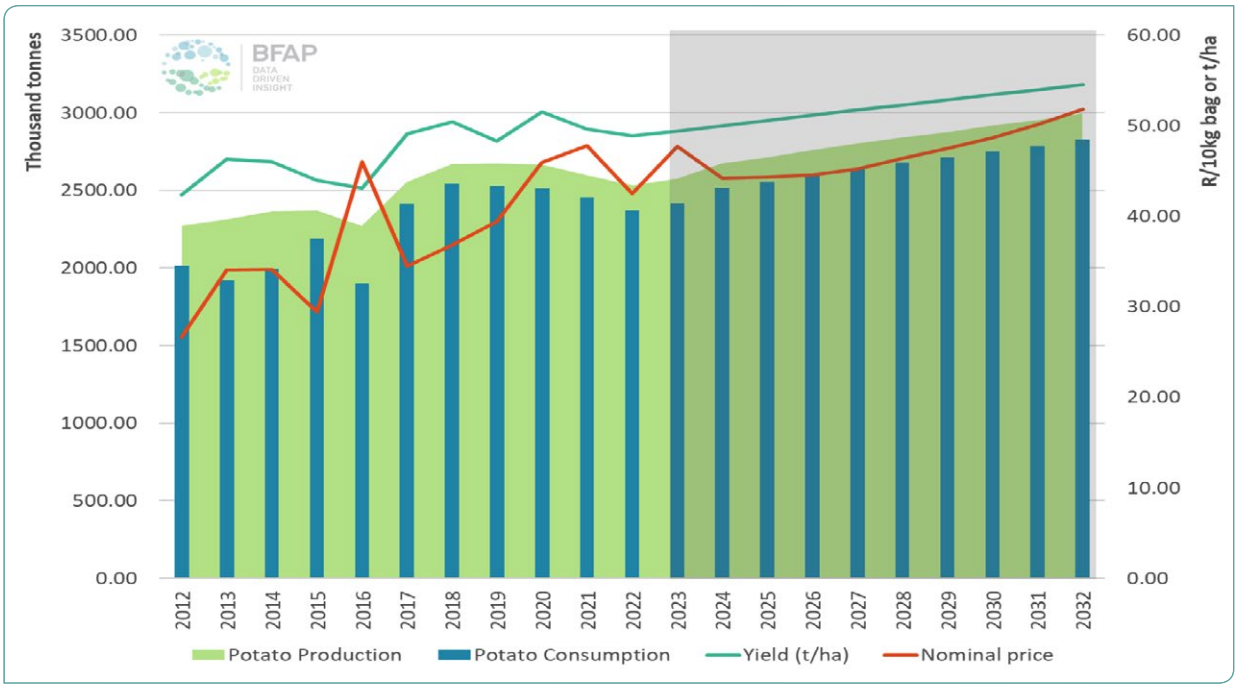


Figure 57: Potato production, consumption, area and yield: 2012 – 2032

year on year, largely driven by demand dynamics. In the short run, nominal prices are expected to decrease slightly as supply responds to higher prices, however over the long run, an annual increase of 1.4% per annum on average is expected, which implies that price gains are slower than inflation and productivity will need to improve over time for potato farming to remain profitable (Figure 58).

The last few years have been challenging for the potato industry with high input costs and persistent load-shedding putting further pressure on producers to source alternative energy systems to power irrigations systems and on-farm packing facilities. While potato prices are set to increase in 2023, the potato industry's high input cost structure makes it particularly vulnerable to changes on the bottom line, leaving little room for error and elevating the risks associated with variability in weather conditions.

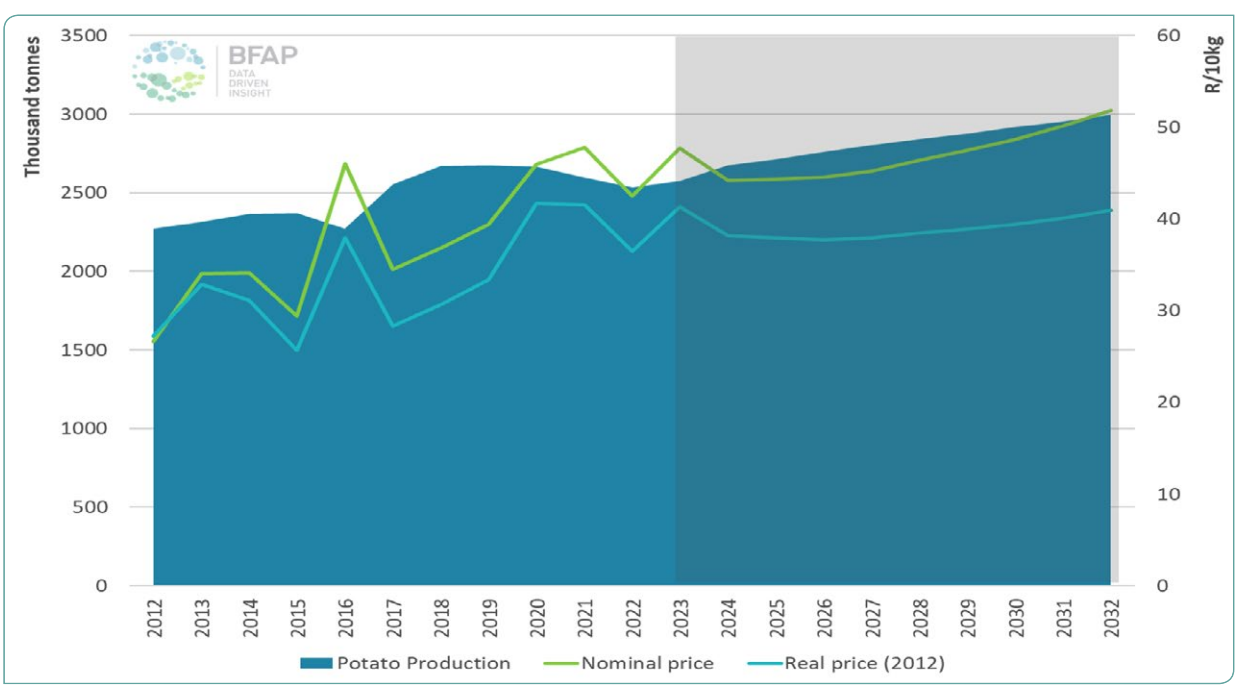
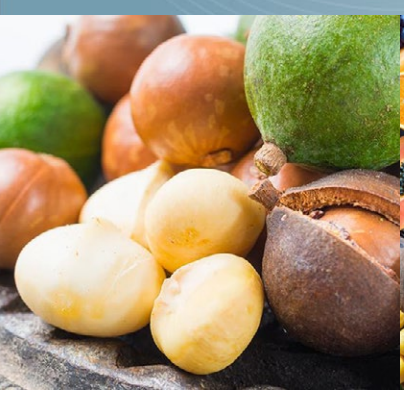


Figure 58: Potato price vs. Production: 2012 – 2032

OUTLOOK FOR HORTICULTURAL PRODUCTS

CITRUS & SUBTROPICAL FRUIT



INTRODUCTION

THE GOOD RETURNS of the past decade, which stimulated expansive investment in on-farm and off-farm infrastructure, including orchards, have contributed significantly to the growth of the horticultural industry's contribution to agricultural GDP, foreign currency earnings and employment. The long-term nature of these crops, which often only break even close to a decade after establishment, is putting pressure on producers and investors to carefully consider the costs and benefits – typically before establishment – but also when an industry experiences an accumulation of negative events in a short period of time. In the case of citrus, the landscape has changed considerably in a matter of five years, and investments are at risk.

While a short overview of the recent challenges experienced is necessary to set the scene for the outlook, the discussion of the outlook is primarily concerned with the question: "where to from here?". While many uncertainties remain, all of which cannot be quantified under baseline conditions, the Baseline does provide a plausible outcome under a set of coherent assumptions. Beyond the Baseline, it is also possible to delve deeper into how these uncertainties ultimately affect the risk profile of an industry and/or individual role-players in these value chains.

PERFORMANCE OVERVIEW

Export orientated fruit and nut industries can be divided into two broad categories – deciduous fruits on the one side and citrus, subtropical fruits and nuts on the other side. This allows for a comparison of the growth in production value historically and for future projections. In 2013, the GPV of the deciduous fruit category, which includes apples, pears, apricots, peaches and nectarines, plums, table grapes and blueberries, amounted to R13.4 billion. Quite similarly, the GPV for 2013 for the citrus, subtropical fruit and nuts category, which includes oranges, soft citrus, lemons, grapefruit, avocados and macadamias, was R13.7 billion. In 2022, GPV amounted to R32.9 billion for deciduous fruits, and R41.7 billion for citrus, subtropical fruit and nuts. By 2032, the end of the outlook period, the nominal GPV is projected to reach R54.5 billion for deciduous fruit and R89.7 billion for the rest. In real terms, both categories grew over the last decade, 44% real growth in GPV

for deciduous fruit and 81% for citrus, subtropical fruit and nuts. Over the outlook however, this growth is projected to slow considerably. The commendable production value growth is the result of producers largely continuing to increase investments during the past decade, which led to higher production volumes, while growth in exports further supported value gains. While deciduous fruit industries have scaled back on expansion, with a reduction in area observed for some commodities, area expansion and volume growth from existing non-bearing orchards are projected from 2023 to 2032 for the citrus, subtropical fruit and nut industries. The geographical limitations of the different commodities also play a role in the extent to which their relative contribution to horticultural GPV can change.

As per Figure 59, the growth in GPV over the outlook period is greater in absolute terms than the decade before, but the real growth is lower, due to projected inflation being higher than for the historical period. The biggest drivers of nominal GPV growth in the horticultural industry in the coming decade, in order of quantum, are citrus, macadamias, avocados, pome fruit and table grapes. One can also observe the impact of the 2015-2018 drought and the weak Rand and high demand for citrus in 2020.

PRODUCTION

The historic expansion in area and volume in citrus, subtropical fruit and nuts has been widely noted, along with the expected volume growth from orchards already established. However, 2022 reiterated that the fast-changing external environment is creating additional risk and uncertainty – at production level, and consequently throughout value chains into the different marketing channels.

CITRUS PRODUCTION

While citrus production area expanded by close to 40 000 hectares over the past decade, the current investment climate is likely to halt this trajectory. In fact, after a very difficult two years, the area under citrus is expected to contract over the short term, before a modest recovery over the second half of the outlook period. While 2020

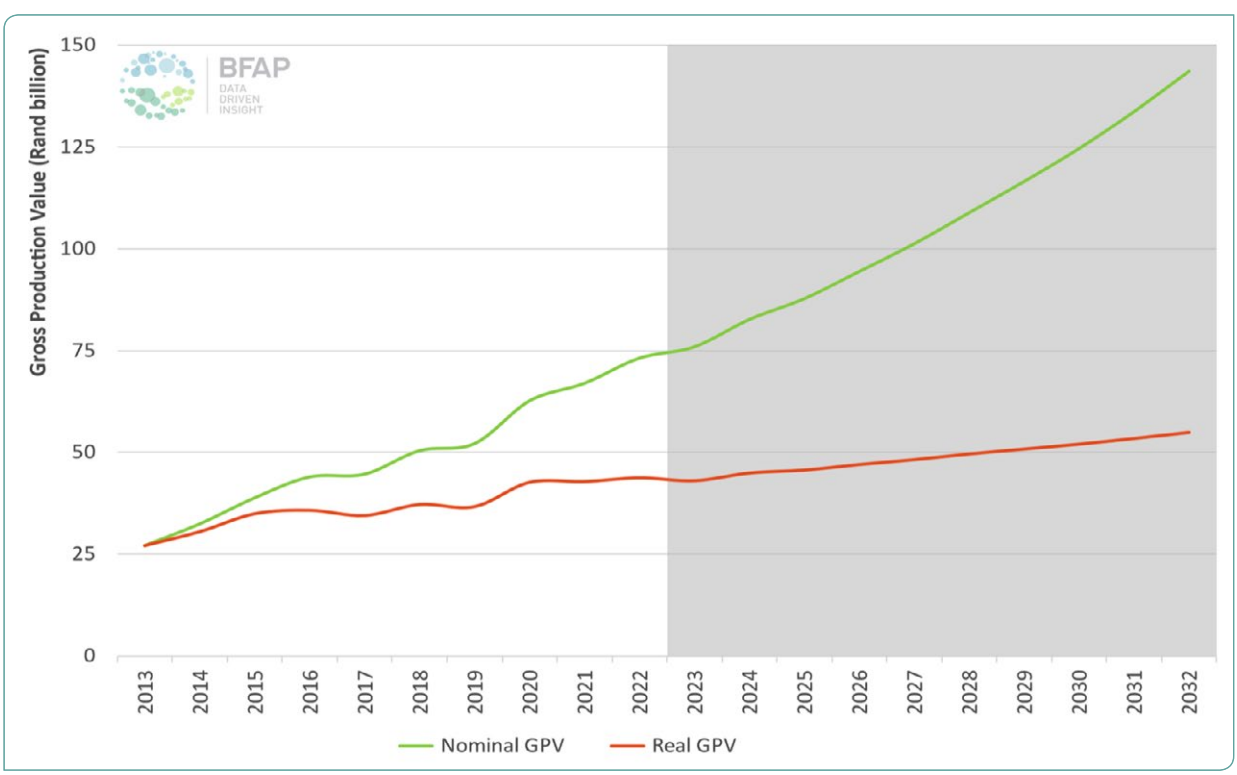


Figure 59: Gross Production Value of major fruits and nuts: 2013-2032

was a great season, on average, for citrus producers, the landscape has changed substantially. The cost of foreign capital, loadshedding and the cost of mitigation strategies, additional market requirements, faltering public logistic services, freight rate hikes, the rapid rise in production cost and declines in nominal returns are some of the most prominent factors currently affecting producer decisions.

Despite the area slowdown, production volume growth over the outlook is expected to continue. Some of this growth is a result of non-bearing orchards, especially soft citrus and lemons, reaching maturity over the outlook period. Most of the challenges currently affecting investment decisions also impacts on the break-even point for existing orchards. Changes in production practices to improve yields and the marketable volumes from established orchards will also play a role in driving volume growth, despite area consolidation. Figure 60 illustrates the growth in lemon and soft citrus area over the last decade, but also highlights the 7 000 hectare expansion in oranges.

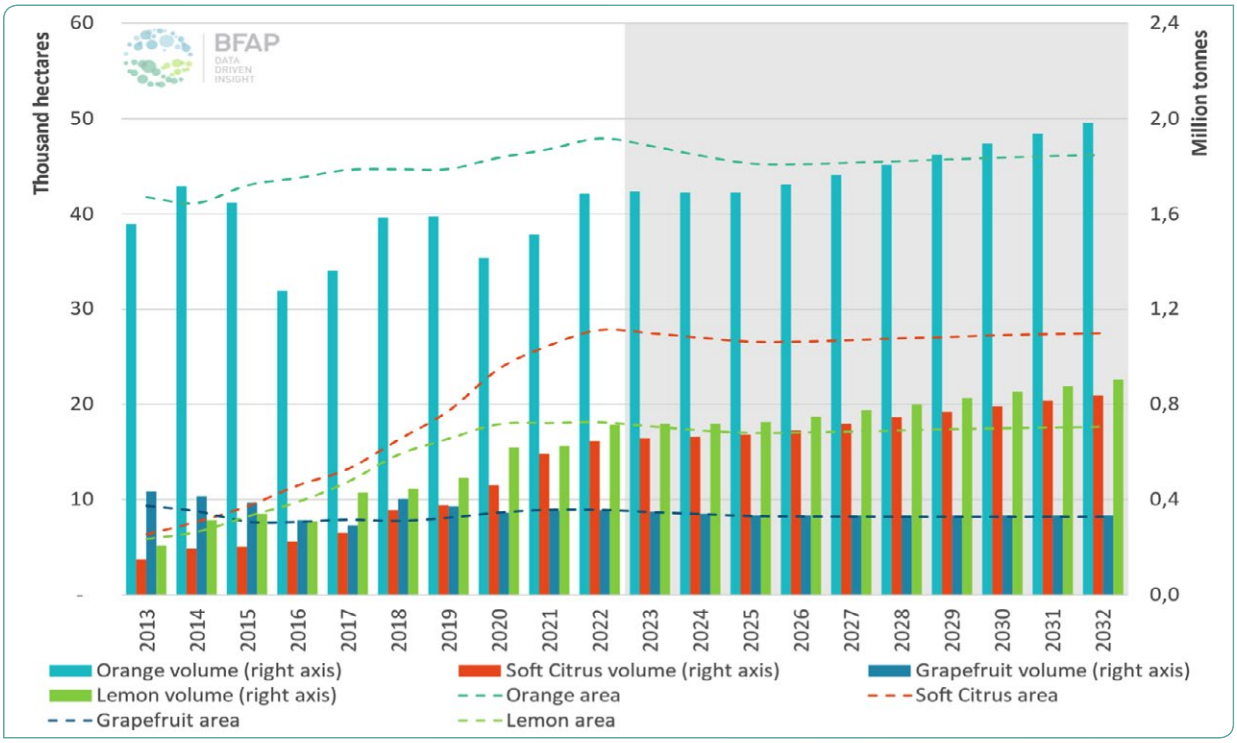


Figure 60: Citrus production area and volume: actual and projection (2013-2032)

BOX 3: COST BENEFIT ANALYSIS OF CHANGING PRODUCTION PRACTICES

Pressure on profitability and the risk of negative returns in the citrus industry has increased over the last couple of years. A nominal financial simulation model for a prototype farm was constructed to test the financial costs and benefits of changing production practices, considering the entire farm budget. Under baseline conditions, the prototype farm consists of an industry representative area distribution by commodity, with relevant yields and choice of marketing channel. To test the financial risk borne by the prototype producer, a stochastic simulation was run that draws on historic volatility in prices, yields and pack-out percentages.

Figure 61 presents the probability of obtaining Earnings Before Interest, Tax and Amortisation (EBITA) per hectare between the stated bands on a full bearing equivalent system. Much of the risk of negative returns is driven by current challenges, and the probability of negative returns abates over time, as area consolidates and prices recover. It's important to note that an EBITA Rand per hectare of between R0 and R60 000 does not necessarily

BOX 3: COST BENEFIT ANALYSIS OF CHANGING PRODUCTION PRACTICES (CONTINUED)

indicate profitable operations, as repayment of loans, paying of interest and taxes as well as owner remuneration is still outstanding.

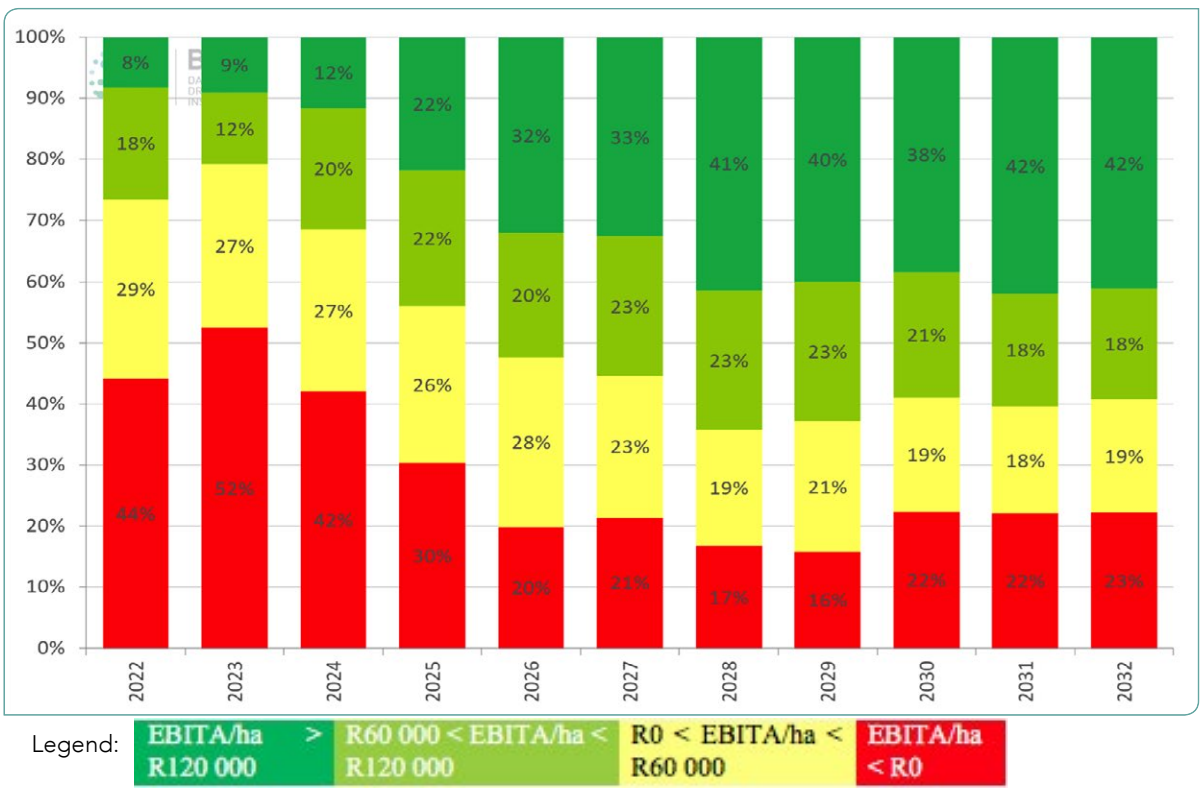


Figure 61: Citrus prototype farm baseline risk profile: actual and projection (2022-2032)

As a result of this risk profile, an alternative scenario is constructed and simulated, to test the impact of certain interventions. A qualitative description of scenario is as follows:

- Change production practices to improve size of fruit supplied to the packhouse.
- Reduce fruit supplied into processing marketing channel.
- Improve exports by increasing the share of export fruit, enabling a relative shift towards more class 1 and realising a more desirable (profitable) count distribution.
- Improve the relative ability of export cartons to contribute to profitability and carry cost.

Quantitatively, the levers of change – or deviations from the baseline – are simulated for the scenario from 2024 onwards:

- An additional R14 000 per hectare production cost, with increased labour and chemical expenditure to cover additional pruning and thinning out as well additional sorting during harvest.
- On the market side, a 10% higher class 1 pack-out is expected as a result, with 10% reduction in fruit to processing.
- Better counts and more class 1 fruit expected to increase average export prices by 15%.

As a result, the improved risk profile under the scenario conditions is shown in Figure 62. In absolute terms, this simulated scenario can realise an improvement of R40 000 per hectare at EBITA level for this prototype, industry informed farm in 2024.

BOX 3: COST BENEFIT ANALYSIS OF CHANGING PRODUCTION PRACTICES (CONTINUED)

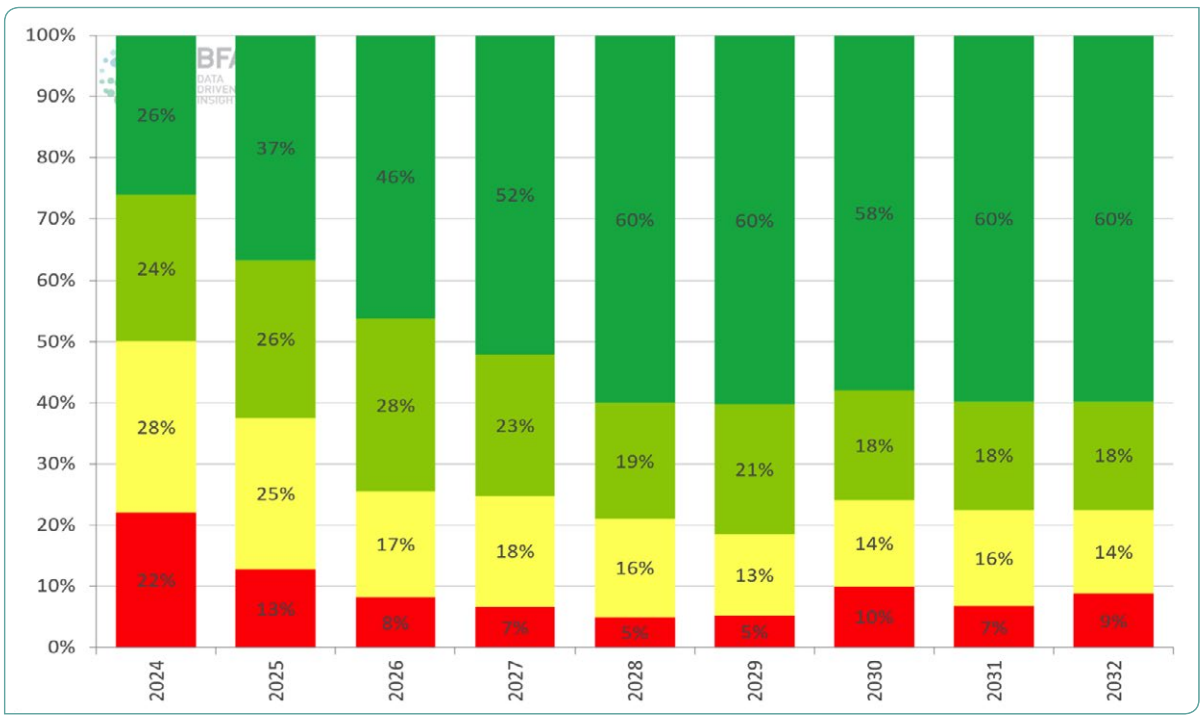


Figure 62: Citrus prototype farm scenario risk profile: projection (2024-2032)

SUBTROPICAL FRUIT PRODUCTION

In a decade of considerable global expansion, South Africa's avocado hectares 'only' increased by 38%, or on average by 2.8% per annum. This is much slower than international competitors. Shortages of planting material at nursery level constrained the rate of expansion, but this issue has since been resolved, which could enable future growth. Another contributing factor to the slow growth was the tempo at which older orchards were replaced in order to benefit from rapid technological advancements.

Although data is sparse, a best estimate for the current status of plantings is that the non-bearing component of hectares is greater than the full bearing component[2]. As indicated in Figure 63, the non-bearing equivalent area outpaced the full bearing equivalent area in 2022. This illustrates the slow pace of production expansion despite the uptick in hectares in recent years. Adverse weather conditions have also plagued the industry – in the form of droughts, excess rain and hail. Thus, a high-level glance at the industry's planted area and volumes will largely mask the intricacies that will have the biggest impact on the industry going forward. Cultivar selection, production practices and plant density are some of the major drivers of expected yields. At an industry level, yields of 11-12 tonnes per hectare are the norm. However, the potential exists to realise yields that exceed the norm by 30-50%.

The industry had a challenging European marketing

[2] A calculation is made to distinguish between non-bearing and full bearing by assigning a yield distribution function to orchards in the different age categories. Consequently, a non-bearing equivalent and full bearing equivalent is calculated, with the area under bearing, but not full bearing orchards split between non-bearing and full bearing based on the yields compared to theoretical full bearing production.

season, which will influence production decisions going forward, as alternative markets are limited. The industry domestically geared itself towards considerable expansion – creating capacity to develop, test and prepare new cultivars in nurseries. However, international data suggests that production globally is catching up to demand and the headwinds in the market that have already affected other fruit types, such as citrus, may come into play for avocados over the next few years as demand growth slows (Imbert, 2023). It is likely that the industry would react to these international avocado market signals, together with the exogenous factors affecting investment in the broader perennial crops category.

While nursery sales reflect rapid expansion to come, economic simulation paints a more conservative picture on area expansion over the coming decade. The realisation of either – economic or biological – will depend on individual decision-making, influenced greatly by marketing opportunities, risk appetite, affordability and margins currently realised. The weaker Rand may aid additional expansion in the short run. Even the conservative baseline projection points to 21 000 planted hectares established by 2032. This entails a reduction in the rate of new plantings over the outlook period, similar to those observed from 2013-2018, given the limited marketing opportunities that the industry faces. As a result, the relative share of mature orchards increases quite rapidly and with that, production volumes, which could surpass 270 000 tonnes in 10 years' time (Figure 63).

NUT PRODUCTION

The area under tree nuts tripled in size in ten years – from just over 20 000 hectares in 2013 to more than 65 000 hectares in 2022. On the back of 7% average annual growth in nominal export prices, production volumes increased steadily at around 5% per annum on average over the same period. Solidification of interest in the industry resulted in expansive investment in production area, with macadamias predominantly established in Mpumalanga (43%), KwaZulu-Natal (31%) and Limpopo (19%). While the largest absolute expansion over the last decade has been in Mpumalanga Province, the region with the single highest number of new plantings per annum since 2018 is KwaZulu-Natal. It appears that, at least in some areas, sugarcane is being replaced with macadamias (SAMAC, 2022).

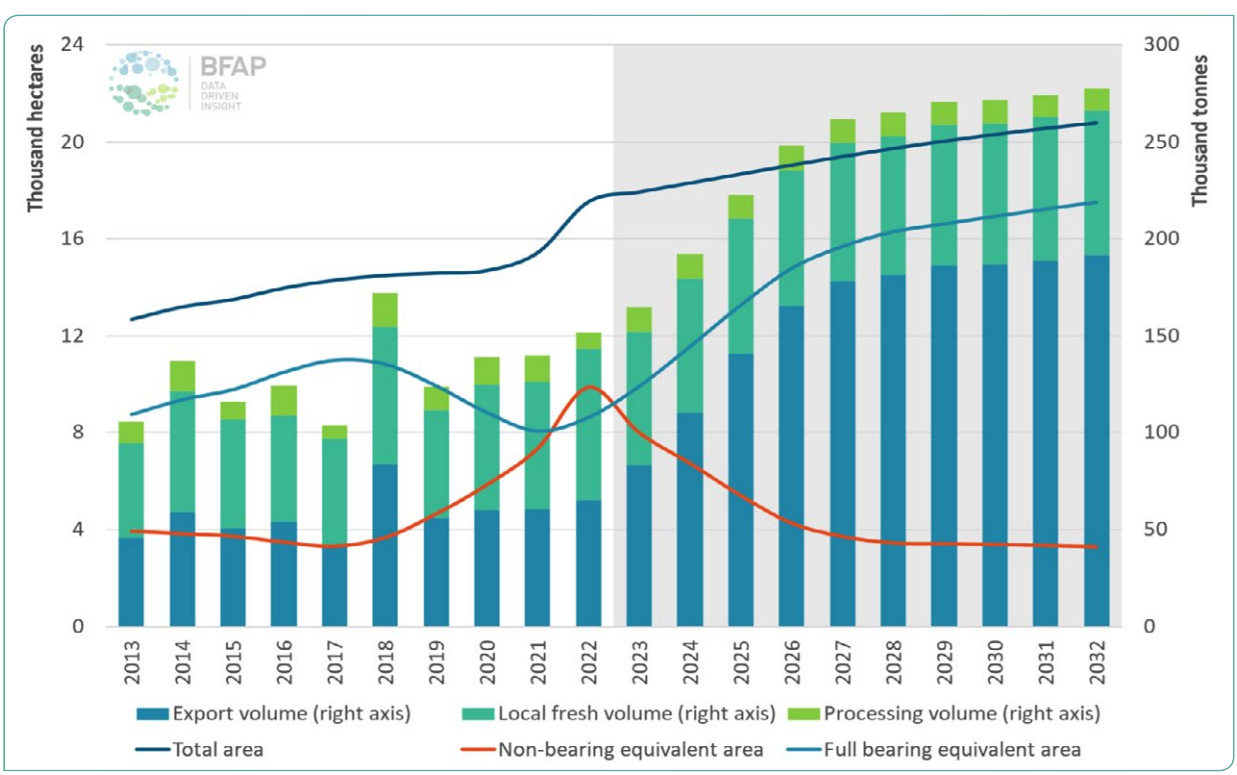


Figure 63: Avocado production area and volume: actual and projection (2013-2032)

As has been the case with avocados, a calculated estimate suggests that the industry currently has a greater non-bearing equivalent component than a full bearing equivalent component. Thus, since the full production potential of existing area is yet to be seen, production volumes are expected to grow exponentially over the next couple of years. Even if no new area were to be established over the next decade, production volumes will likely double, at the very least. While some industry experts believe that production volumes of 140 000 tonne per annum, recorded as dry-nut-in-shell (DIS), could be reached as early as in the next four years (Botha, 2022), BFAP's view is that it will likely take two years longer to reach those volumes. This is based on a timeseries calculation that considers the typical production curve from establishment to full bearing, the new area planted each year and the long-term full bearing equivalent yields per hectare.

As the industry weathers the storm of nominal price declines in the short run, putting pressure on returns to farm gate, the expansion rate is expected to slow down. Despite the slowdown, production area is projected to reach 75 000 hectares by 2032, but with a much larger share of mature orchards. Nut in shell production volumes, under these conditions, are projected to exceed 180 000 tonnes by the end of the outlook period, which is predominantly exported as a processed, shelled nut, or alternatively as a nut in shell.

TRADE

Export revenue is the predominant driver behind farmgate returns and consequently, key in strategic investment decisions. While mostly lucrative over the past decade, the landscape has changed as a result of these investment decisions, both locally and internationally, and as consumer demand has been affected by inflation, interest rate hikes, availability, which has been intermittently affected by sanctions and/or food regulation changes, such as phytosanitary requirements, and preferences. Slow progress on gaining access to alternative markets and to negotiate preferential tariffs into some existing markets, together with a more stringent regulatory environment on the management of pests, forces higher volumes through limited shelf space at weaker price levels than before.

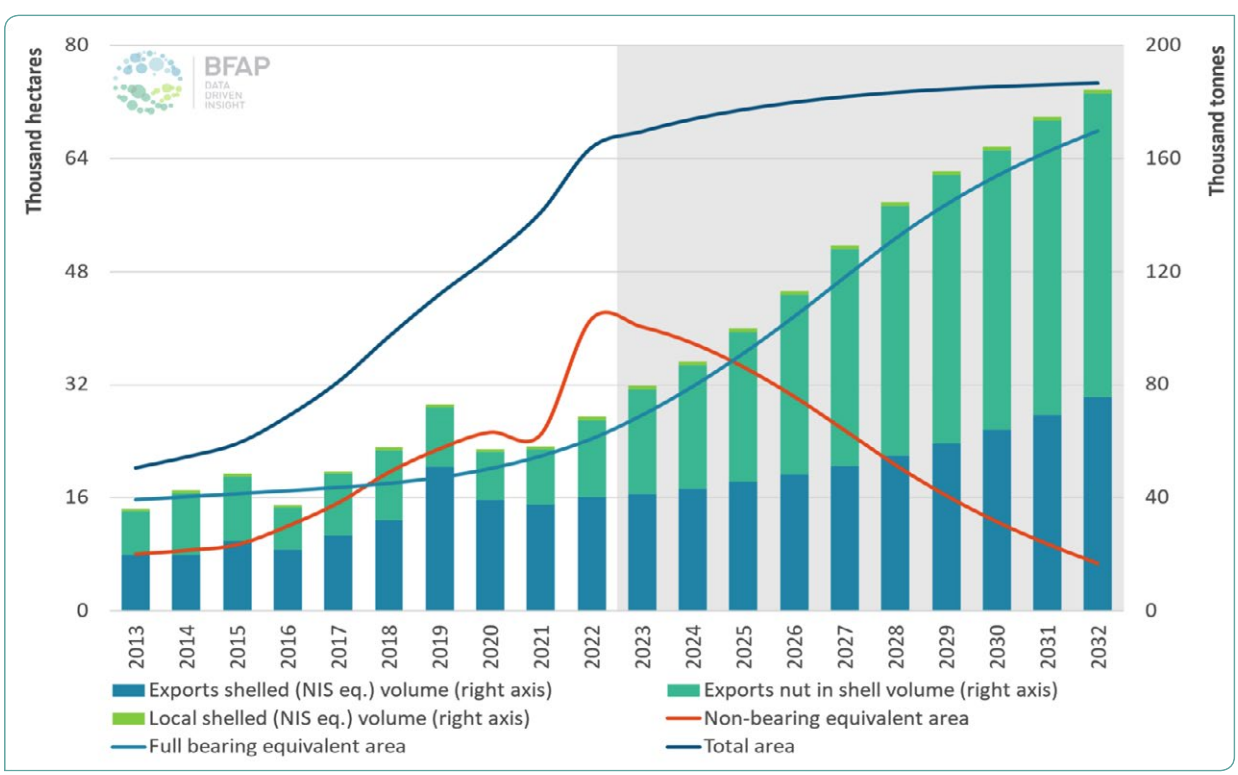


Figure 64: Macadamia production area and volume: actual and projection (2013-2032)

CITRUS EXPORTS

Export markets for South African citrus, in order of importance, are the EU (32%), Middle East (19%), South East Asia (15%), the UK (9%), North America (9%), Russia (8%), Asia (6%) and Africa and Islands (2%) (Agrihub, 2022). The EU remains unwavering in its implementation of the new cold treatment protocol for orange imports from third party countries where false codling moth Thaumatotibia leucotreta is present. Consequently, South African producers and exporters are trying to find alternative markets for some of their produce, as existing domestic infrastructure is inadequate to handle the increased demand for cooling at the temperatures required in peak periods by the new protocol. In addition, more sensitive produce, such as organic oranges and non-chemically treated oranges that cannot tolerate the treatment protocols, cannot be supplied to the EU anymore, despite the high demand for these products.

In 2022, 77% of citrus marketed was for exports, with the complement going to local fresh markets and processing. The 77% of production that was exported contributed to 95% of revenue in the industry. Thus growth in the industry – historically and projected – is driven by opportunities to generate revenue from exports. Figure 65 suggests that the industry could have reached the bottom of nominal price declines, with softer shipping rates also alleviating some of the pressure on FOB prices. Despite nominal prices trending in a more favourable direction, profitability remains under pressure at farm level due to the sharp rise in input costs, which coincided with net export realisations bottoming out.

Going forward, exports volume growth projections mirror production growth (Figure 60), resulting in the export value of oranges, soft citrus, lemons and grapefruit potentially reaching R21 billion, R11.5 billion, R10 billion and R2.8 billion, respectively. Considering the volume growth projected, nominal export price gains remain subdued. Over the coming decade, price movements are such that real, inflation adjusted levels stabilise at around 2012 levels. This implies that nominal prices for soft citrus, supported by a weakening Rand over time, are expected to surpass 2020-levels by 2027, while current projections on lemon prices indicate that the peak levels of 2018 will not be surpassed in the coming decade. New industry average prices for

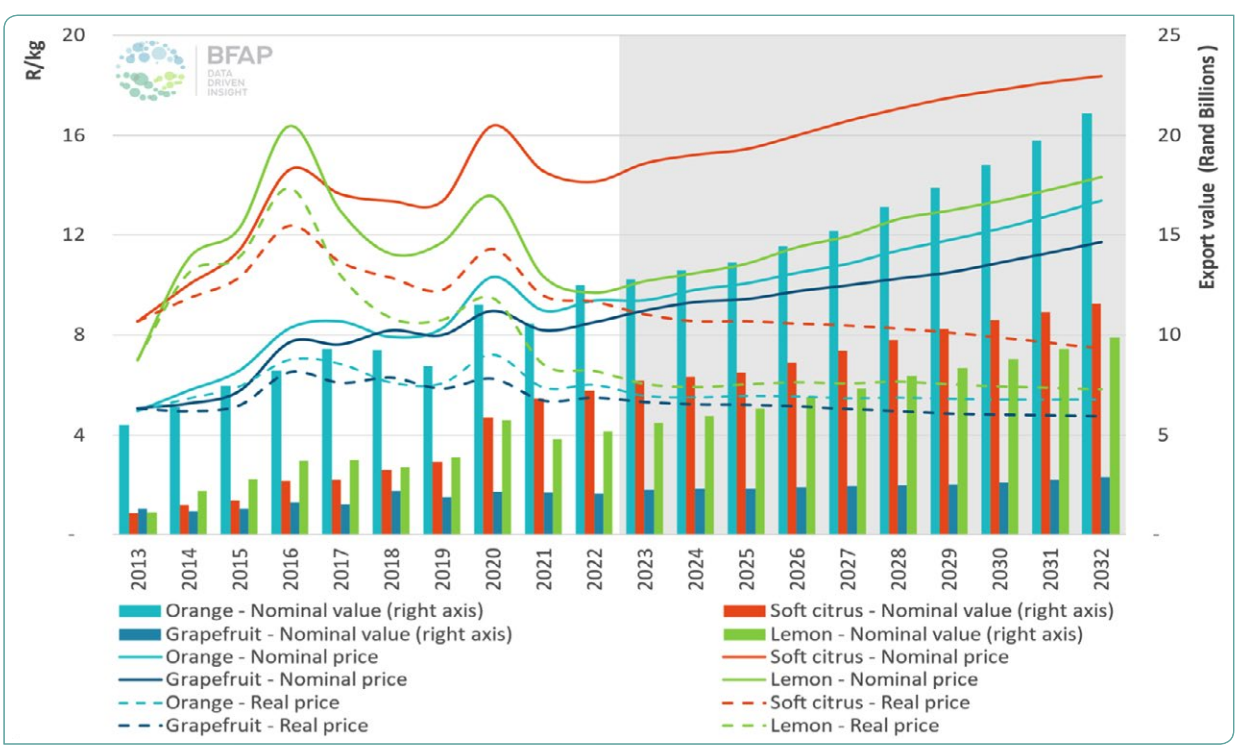


Figure 65: Citrus export prices and value: actual and projection (2013-2032)

oranges and grapefruit of around R13 000/tonne and R12 000/tonne respectively could be realised by 2032.

SUBTROPICAL FRUIT EXPORTS

The most important market outlets for South African avocados are the EU (75%) and the UK (17%), with the complement supplied into Russia, Middle East, Africa, and negligible volumes into Far Eastern markets. On the back of a difficult European supply season in 2022, the industry remains steadfast in its pursuit of establishing new market access – both east and west – and favourable tariff structures in other regions. Peru expanded at a far faster rate than South Africa, from 31 500 hectares in 2017 to 60 000 hectares in 2022 (Jones, 2023). A slowdown in plantings is expected after changes in the agrarian promotion law and the elimination of tax incentives (Freshfruitportal, 2022), but the produce from these area expansions is likely to put further pressure on market prices in Europe in years to come.

As South Africa produces and sells avocados in a global market space dominated by other players, it is worthwhile to consider the Dollar-based trends, from which the South African export price is derived. Current projections suggest that the recovery of consumer spending power and the softening of sea freight rates should alleviate some of the current pressure on export prices (FOB level). Going forward, a gradual decline in real terms is projected in USD, with largely sideways movement in real ZAR terms. Another trend to take note of in Figure 66 is the lag between price growth, using the growth above the nominal ZAR trendline as an indicator, and export volume growth. Despite a slowdown in area expansion projected for South Africa over the coming decade, export volumes are projected to continue edging towards the 200 000 tonne (50 million 4kg equivalent cartons) mark.

NUT EXPORTS

Macadamias are 2% of the world nut market, which is dominated by almonds, walnuts, pistachios and cashews. China, followed by the USA and Vietnam, are the world's largest importers of nut in shell. Shelled nuts are mainly imported by the USA, China, Germany, Japan and the Netherlands. While China has been South Africa's single biggest trading partner for macadamias over the last decade, rapid domestic expansion of macadamia area in China is believed to have already surpassed 240 000 hectares that should come into full

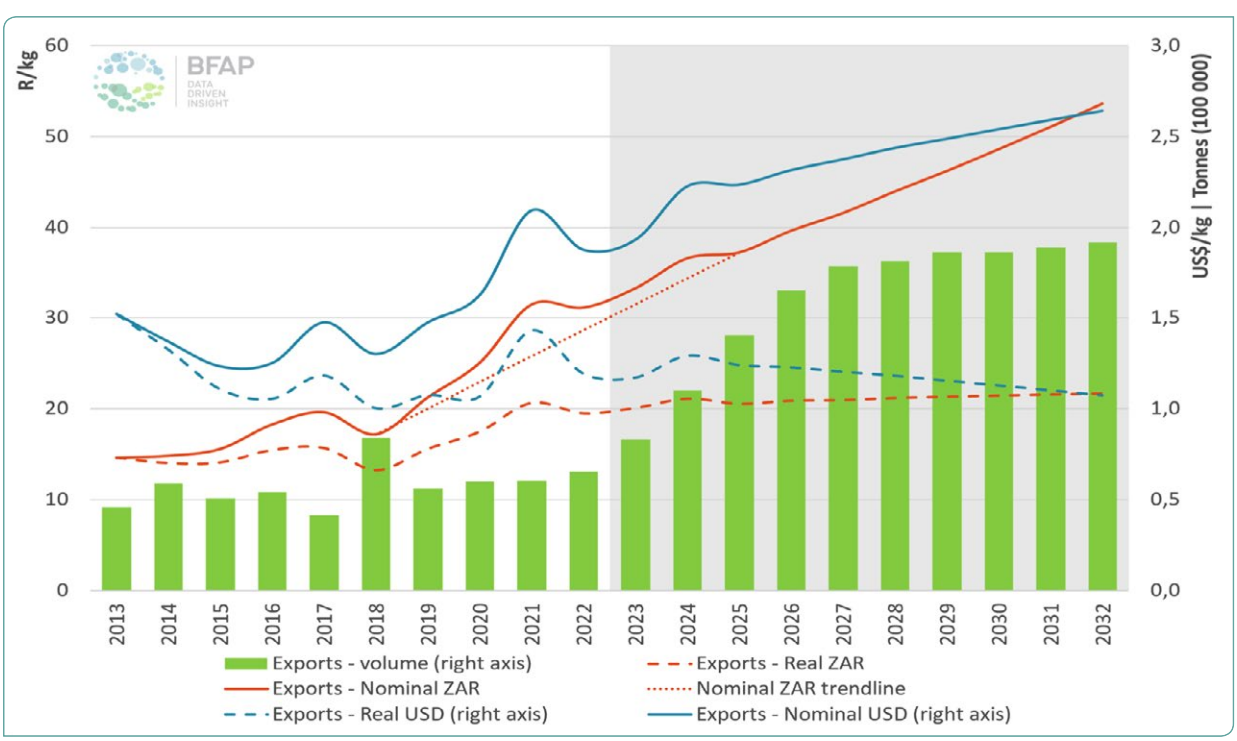


Figure 66: Avocado export volumes and prices: actual and projection (2013-2032)

production over the next few years. This is more than the total planted hectares in South Africa, Australia and Kenya – historically the world's three largest producers and exporters. China has surpassed Kenya in terms of production, moving into third place. This dramatic expansion in China is worrisome and creates uncertainty around opportunities for especially nut in shell exports, but also about the saturation point or ability of world demand to move as new orchards starts bearing nuts.

Given this context, Figure 67 shows the historic and projected trajectory of South African macadamia exports. The nut in shell (NIS) equivalent price is a weighted average price calculated based on the prices for NIS and shelled nut sales together with the relative volume distribution. Current projections indicate that the nominal NIS equivalent price will continue its downwards trajectory in the short term, before bottoming out in the medium term and finding some price support from a weakening Rand in the long run. Similar to avocados, once again is the lag between price growth, using the growth above the nominal ZAR trendline as an indicator, and export volume growth. It is even more pronounced in the case of macadamias than in avocados since macadamia trees take longer to reach maturity.

While a relationship between the prices for nut in shell and shelled nuts is visible historically and expected to hold in the future, South Africa's NIS equivalent price realised internationally would be influenced by the relative split between nut in shell and shelled nut exports. Access to markets, the development of relationships with importers of macadamias in either product format, and South Africa's own processing capacity to expand shelled nut exports are some of the major uncertainties going forward. Observations from historic trends are that South Africa is slowly, but consistently ramping up its shelled exports. However, given the rapid growth projected for total production volume, it is likely to surpass the current shelling pace in future, resulting in a relatively larger NIS export component. Consequently, the real price trajectory for NIS equivalent diverges more than the individual real price trajectories for NIS and shelled nuts respectively. From a price perspective, investment in expanding processing capacity may be worthwhile, but such investment would rely on sustainable returns to growers to ensure long term sufficient supply of nuts to process to justify the investment. This may be a tricky balance to achieve.

DOMESTIC USE

Citrus, subtropical fruit and nuts are consumed across the whole spectrum of consumers in South Africa. Oranges are one of the most affordable fruit types, whereas nuts and speciality soft citrus are consumed at the higher income end. Avocados and lemons are considered in-season staples in many restaurants and households.

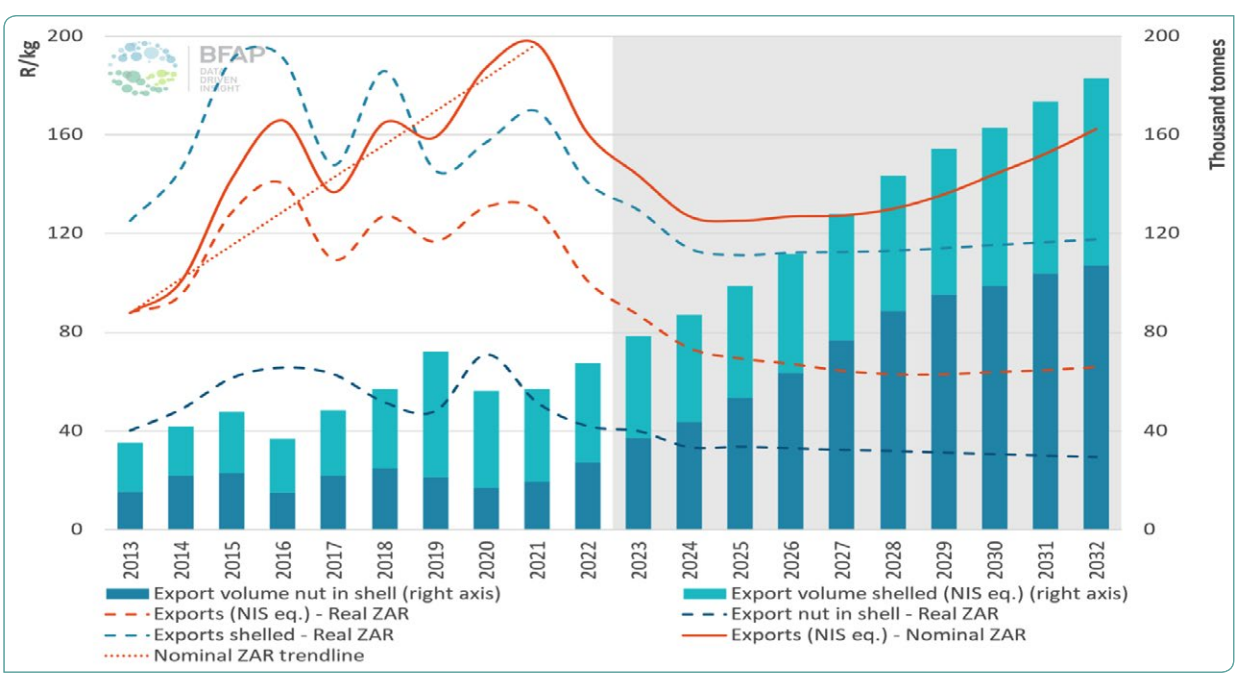


Figure 67: Macadamia export volumes and prices: actual and projection (2013-2032)

Despite the wide range of consumers and appetite for these products domestically, total consumption volumes remain limited, with the exception of avocados, where local fresh consumption and processing is estimated to be more than exports when including the local informal market as well. Over the outlook period, considering the expansion in the industry and the revenue generated from exports, it is likely that the industry would move towards a larger export share. Major upsets in the international market could force the industry into exploring alternative use on the domestic front to ensure sustainable returns to growers.

FRESH CONSUMPTION

Despite a growing population, South Africa's consumption of the listed commodities remains modest, especially as exports have grown and are expected to continue to grow over the outlook period. A full recovery post Covid-19 is yet to materialise, with consumers feeling the strain in terms of household expenditure and in particular, food. While oranges are some of the most affordable and widely purchased fruits per unit in South Africa, together with bananas and apples, a relatively small number of South Africans can afford to purchase fruit and nuts regularly. Given the expansion in orange production volumes on the back of area expansion in the previous decade, average annual growth in local fresh sales of 3% is projected, taking sales on the local municipal market over 130 000 tonnes by 2032. This represents a turnaround as product prices decline, as an annual contraction of 3% was observed for oranges for the period 2013-2022. The growing availability, growing demand and greater affordability of soft citrus and lemons, especially in the last five years, resulted in average annual fresh local demand growth of 13% and 9% respectively. However, over the outlook period, the average annual growth rates for soft citrus and lemons are expected to reduce to 1% and 3% respectively, equating to around 50 000 tonnes of soft citrus and 40 000 tonnes of lemons by 2032.

Avocados – a local favourite on the municipal markets, the supermarkets and informally – returned average annual growth figures of 3% over the last decade, with current projections indicating a slowdown to less than 1% per annum from 2022 to 2032. If export market prices do not account for the risk and cost of packaging, transport and commission, there will likely be an increase in produce offered locally. Elasticity of prices will play a major role in determining the extent to which sales prices offer sufficient returns to growers that covers the cost of supplying in the fresh marketing channel compared to processing.

PROCESSING

The processing market in South Africa, in its current form in terms of commercial product offering and demand for raw product to meet processed demand, is fairly saturated. This reflects in the citrus processing prices currently offered to producers. While regional differentiation of processing prices occurs due to the quantum of supply by commodity varying between production regions, the general current trends on processing prices are downwards, with occasional dumping of produce as processing facilities are not able to cope with volumes. Production volumes have increased, but costs in the value chain for fresh supply have increased at rates that far exceed inflation. While general inflation came in at almost 7% in 2022, the cost of freight doubled in the last two years, packaging material increased by 20-22% year-on-year in 2022, and loadshedding increases the cost of energy to irrigate, run packhouses and cooling facilities two- to three-fold. Consequently, the prices offered for citrus delivered to processing facilities are expected to remain under pressure throughout the outlook period. While many producers are actively pursuing higher pack-outs, a component of the total crop will always be allocated to processing as cosmetic fruit defects limit fresh marketing opportunities, and the local market outlook remains fairly flat as additional volumes are expected to come into production.

Although processing is not considered in the same manner as fresh produce, there is opportunity for expanding processing capacity and capability in the nut industries to generate additional job opportunities and to add additional value by deshelling nuts and expanding on marketing opportunities to final consumers. Given the growth in total volume expected, additional value could be unlocked. In order to be successful, it must be cost efficient, thus cheaper or aligned with the combined cost of shipping to China, deshelling in China and shipping from China to final destinations.

BOX 4: PREVALENCE OF SNACKING ON FRUIT AND NUTS IN SOUTH AFRICA

How popular is between-meal snacking in SA?

According to a 2022 study* 83% of households engaged in between-meal snacking (increasing significantly from 70% in 2021). Preliminary findings from recent BFAP consumer research among low-income households in the Western Cape** indicated that between-meal snacking applied to 71% of the sampled low-income households.

Which demographics are most likely to snack between meals?

- Individuals in the age group 16 to 24 years old.
- Females with children.
- Urban households.

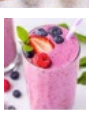
Which between-meal snacks are consumed?

Unhealthy snacks*:

Chips (55%)
Fizzy drinks (51%)
Chocolates (38%)
Sweet biscuits (35%)
Sweets (17%)

Healthy snacks*:

Fruit (34%)
Yoghurt (25%)
Raisins (11%)
Dried fruit (13%)
Smoothies (9%)
Vegetables (10%)



According to the 2023 BFAP low-income consumer study the most popular between-meal snacks were chips (crisps) (consumed by 73% of the sample), followed by cookies and other baked goods (31%), fruit (29%), sweets (23%), chocolates (15%) and fizzy cooldrinks (14%). Snacks consumed by less than 5% of the sample were bread (white and brown bread), yoghurt, instant noodles, boiled eggs, butter, dried meat and long-life custard.

THUS,

- Unsurprisingly, unhealthy snacks such as chips, fizzy drinks, chocolates and baked goods are generally more popular than healthy snacks.
- The most popular healthy snacks are fruit, followed by yoghurt and dried fruit.

Comparing the cost of selected unhealthy vs healthy snacks:

Fruit juice box (200ml)	R10	vs	R11	Fizzy drink can (200ml)
Apple / Banana / Orange (80g**)	R1.80 to R2.80	vs	R12	Chocolate bar (50g)
Dried fruit (30g***)	R6	vs	R10	Sweet biscuits (55g***)
Mixed nuts (30g***)	R11		R11	Gourmet pretzels (25g packet)

****Based on larger pack size (not single serving pack size)*

BOX 4: PREVALENCE OF SNACKING ON FRUIT AND NUTS IN SOUTH AFRICA (CONTINUED)

An opportunity for the fruit and nut sectors in South Africa?

Considering the popularity of 'snacking' in South Africa there is an opportunity for the fruit and nut sectors to position their produce as good choices within the local snack market, based on various selling points:

- Value-for-money: The affordability advantage of healthy snacks versus unhealthy snacks is evident from these examples. Even in the case of a more luxurious snack such as mixed nuts the price is comparable to a single serving packet of gourmet pretzels.
- Fruits and nuts contain a wide range of nutrients (e.g. fibre, vitamins and minerals) adding to dietary diversity and nutrient intake.
- There could also be opportunity for product innovation with fruits and nuts as main ingredients to present consumers with tasty and nutritious but convenient (and not too expensive) snacking solutions.

**2022 Knorr Plate of the Nation study*
*** BFAP-funded consumer research by Rossouw, J., Vermeulen, H. & Van der Merwe, M. (2023)*

CONCLUDING REMARKS

Considerable expansion in area and production volumes, together with real unit price growth for certain commodities resulted in an 81% increase in real GPV for citrus, subtropical fruit and nuts over the last decade, with no prospect of slowing down anytime soon. While GPV amounted to R41.7 billion in 2022, by the end of the outlook period, the nominal GPV is projected to reach R89.7 billion. Increased volumes are however weighing on prices, which has brought immense pressure to producer margins, raising concerns on the sustainability of investments made to expand production.

Projections on farm level returns indicate that the tide is turning slowly in the citrus industry, with improvements in profitability projected over the outlook period as the industry enters an area consolidation phase, the weaker Rand helps to stabilise prices, input cost growth stabilises, and refrigerated freight rates decrease as global logistics improve. While most of these factors would also be relevant to the avocado and macadamia industries, there are still considerable volume increases projected for these commodities as young orchards starts to come into production. Within the global context, price growth is likely to remain constrained.

On the domestic front, port performance and loadshedding remains some of the biggest challenges to these industries. Competitive market access remains one of the biggest opportunities to unlock additional value and improve the viability and sustainability of production.

OUTLOOK FOR HORTICULTURAL PRODUCTS

DECIDUOUS FRUIT

INTRODUCTION

SOUTH AFRICA currently has close to 77 000 hectares under combined production of major pome fruits, table grapes, stone fruits and blueberries – an increase of approximately 12% since 2013. The investments required to achieve such growth were largely induced by real price gains, as output prices rose faster than general inflation. Over the same period, export volumes increased by 20%. The success achieved in export markets is attributed to investments geared towards cultivating commodities and cultivars that have the desired characteristics to be successfully exported. Not unlike other horticultural industries, the deciduous fruit sector faces competition from Peru, whose export volume growth to Northern Hemisphere markets with good earning potential has exceeded that of South Africa. With increasing volumes reaching the market, South Africa's fruit products have faced increasing price pressure since 2020, which has also slowed the rate of area expansion.

The past five years have been increasingly challenging for producers faced with international events such as the Covid-19 pandemic, which caused unprecedented supply chain and logistical challenges, the war in Ukraine, which exacerbated already rising input costs, and domestic factors such as the multi-year drought in the Western Cape from 2015-2018, which impacted production volumes well beyond this period, severe port congestion and persistent loadshedding. While some factors, such as global supply chain challenges and sharp input costs increases are abating, the energy crisis in South Africa is escalating. Weather related factors such as hail and wind also influenced the past season, and will remain an endemic risk which producers need to mitigate. Notably, severe hail in the Ceres, Langkloof and to a lesser extent, Grabouw, production regions impacted on pome fruit production, reducing export volumes, whilst also damaging infrastructure (Hortgro, 2023).

While the reliability of global logistics is improving, costs remain high, and several challenges remain in South Africa's ports. Despite ongoing engagements between industry bodies and the state-owned company (Transnet) to find solutions, corrective actions take time and require sufficient funding. Maintenance and re-

investment in port equipment and infrastructure has been lacking and in the face of rising export volumes, port efficiency remains a problem.

PRODUCTION

Severe loadshedding along with elevated production costs and adverse weather conditions continues to plague the deciduous fruit industry. Loadshedding disrupted irrigation, cold chain and packhouse operations, leading to loss in fruit quality and productivity, as well as direct costs such as private power generation and storage by producers, packhouses and cold stores (Hortgro, 2023). In light of numerous challenges, decisions to curb reinvestment, and in some cases even disinvest, led to the current situation where area is consolidating. It also implies that production growth will be derived from efficiency gains, as opposed to further large scale expansion in area.

BLUEBERRY PRODUCTION

During the past decade, blueberry orchards have been established at a quicker rate than any other fruit in South Africa. In recent years, profitability has become increasingly strained, which led to a stagnation in the rate of investment in area expansion. Total cultivated area grew from 520 hectares in 2013 to 2 860 hectares by 2022, but is expected to contract over the next two years, before returning to a slower growth path of 2.15% per annum towards 2032. The slightly earlier than anticipated consolidation of area is due to a number of economic factors, such as the relatively low output prices producers received, recent spikes in input costs and rising financing costs. The Transnet strike in October 2022 did not do the industry any favours, as it came at the height of their export season and resulted in severe damage to quality. Nevertheless, continuous volume growth is projected over the outlook period, as yield levels improve on the back of improved cultivars, production practices and management.

Production grew by close to 33 000 tonnes during the past decade, albeit from a base of just over 2 000 tonnes. In the 2022/23 season, production grew by 24.5% year-on-year. Despite the volume expansion, many producers experienced lower pack-out percentages as soft fruit was a widespread issue, leading to a larger processing component. While the root cause of this issue remains unclear, a number of factors could have contributed, such as the Transnet strikes which extended lead times of fruit exports, or more edaphic factors such as the over-utilisation of nitrogen through nitrate fertilisers.

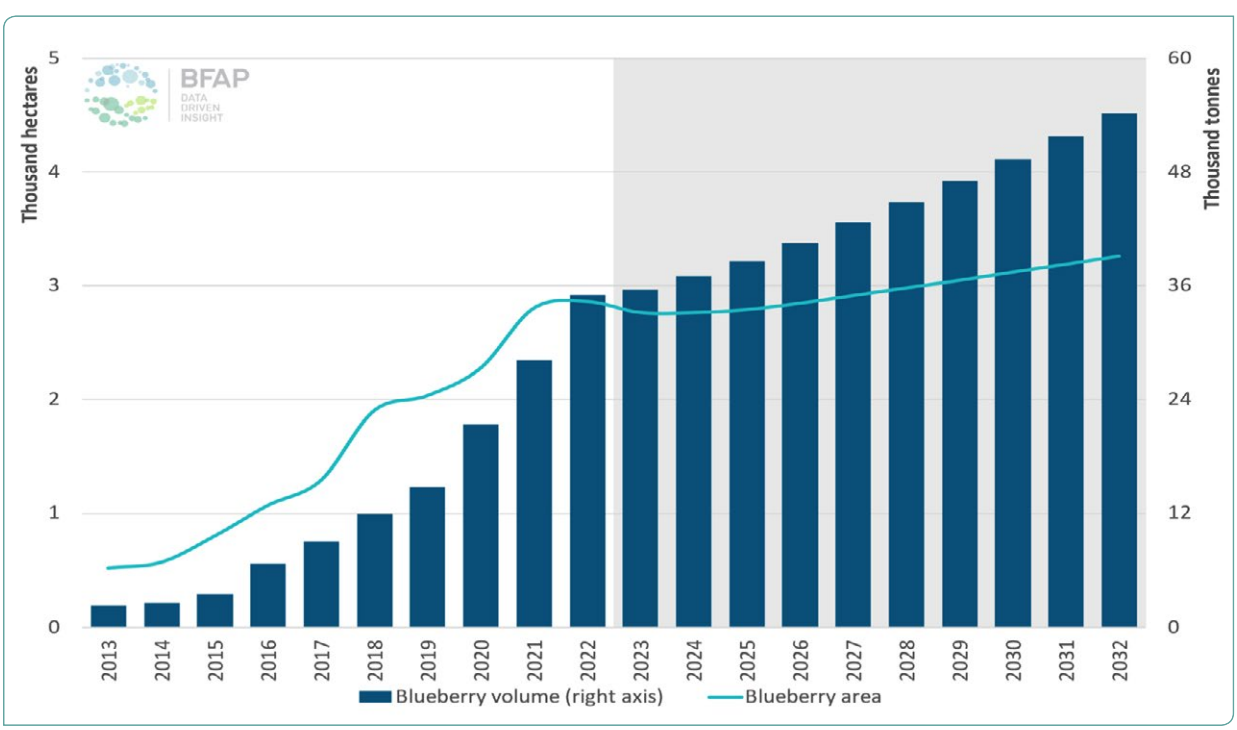


Figure 68: Production volume and area for blueberries: 2013-2032

Looking ahead, consistent yield growth together with the slowdown in hectare expansion is projected to result in production gains of 55% to reach 54 226 tonnes by the season ending in 2032.

TABLE GRAPE PRODUCTION

After a record season in 2021/22, the 2022/23 season was modest at best. The northern Provinces packed 5.6 million cartons (4.5 kg equivalent), a decline of about 24% from the previous season (FreshPlaza, 2023). Late varieties of table grapes incurred rainfall damage in the Hex River valley, which led to a decrease in volumes packed of about 15%, to 21.1 million cartons (FreshPlaza, 2023). Above average temperatures in the Orange River valley during the growing season in October and November, also severely decreased production with 6.1 million fewer cartons packed than the previous season, equating to a total of only 16.4 million cartons. The Olifants River region packed 14% fewer cartons than the previous season, with almost 3 million cartons (FreshPlaza, 2023). Volumes packed in the Berg River remained mostly steady, with 19.1 million cartons packed (FreshPlaza, 2023).

Despite the almost 16% reduction in production volumes and lower pack-outs, the table grape harvest season largely delivered healthy and good quality and sizes (FreshPlaza, 2023). Most regions had fairly good weather. Early cultivars were 7 to 10 days earlier than previous seasons, which could contribute to lower cartons volumes, on average, and the timing of mid-season cultivars was roughly in line with that of previous seasons (FreshPlaza, 2023).

Table grape area peaked in 2019 at 21 837 hectares, after which it declined by about 2.3% per year towards 2022. This trend of reduced area is expected to continue in certain regions over the outlook period, albeit at a slower pace, contracting by 1.4% in total for the industry. Production volumes are expected to recover, with a 25% increase over the long-term outlook, driven mainly by productivity gains on the back of expansive cultivar development.

POME FRUIT PRODUCTION

Initial estimates of the 2023 apple crop pointed to a marginal increase from 2022 levels, while expectations were for a pear harvest slightly smaller than the previous season. However, multiple hail storms in November and December 2022 resulted in a considerable complement of apples and pears being lost, particularly in Ceres, and to a lesser extent in the Langkloof and Grabouw.

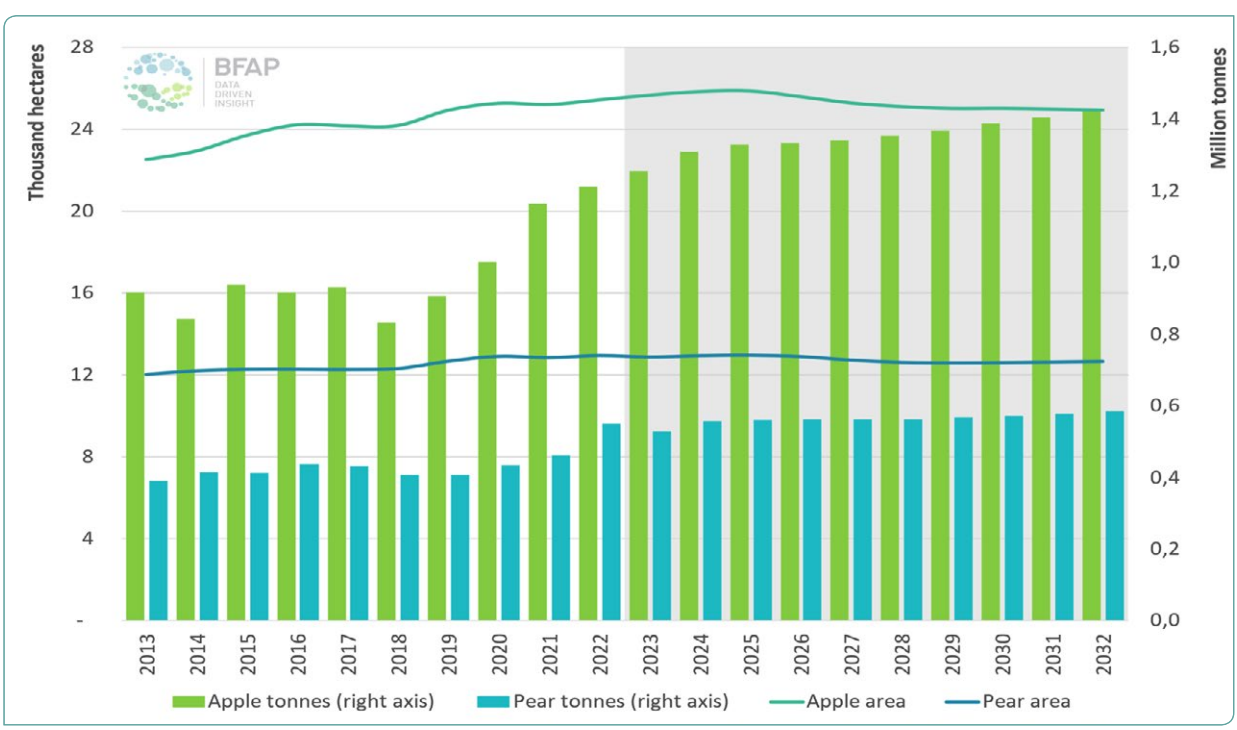


Figure 69: Production volume and area for pome fruit 2013-2032

Consequently, a smaller export quality crop is on the cards for 2023.

While the hail caused substantial damage, rain provided some relief to growers by ensuring sufficient irrigation water for the rest of the season (Meintjies, 2023). Late season cultivars are expected to improve, as improved genetics and production practices induce better yields and pack-outs of new cultivar strains planted in recent years. The frequency and severity of hail poses an incessant threat and the erection of hail nets in the affected regions is increasing at a rapid rate.

While costly to establish, the benefits associated with hail nets increasingly outweigh the costs. Not only does it effectively increase yields, it also enables production of premium cultivars. This development in the strategy of pome fruit producers also comes with the increased business risk associated with loadshedding, input cost increases and logistical issues, which shifts the break-even returns higher. These changes in cultivars and production practices are estimated to increase the production volumes of apples and pears by 14% and 10.4% respectively over the outlook, on a largely unchanged area (Figure 69).

BOX 5: IMPACT OF PRODUCTION AND SUPPLY CHAIN SHOCKS: A LOADSHEDDING CASE STUDY

The deciduous fruit sector, like any fresh agricultural produce industry, is reliant on a sophisticated production system and supply chain. This reliance is further accentuated by its export orientation, as many linkages in the chain need to work in unison to ensure the product moves quickly through the cold chain. This increases costs and presents a pertinent risk to quality. On the other hand, inadequate cooling is even more detrimental to quality. In addition to opportunity costs, direct costs will increase if producers and exporters need to implement remedial actions in production and logistical systems which otherwise are already close to optimal efficiency. The deciduous fruit industry has, along with partners in the broader horticultural sector, endeavoured to implement solutions to mitigate the impact of recent logistical issues, port operation inefficiencies, strikes and loadshedding. These solutions have started to bear fruit in some cases, however it has also increased costs throughout the value chain.

The impact of such direct and implied costs can be illustrated with a case study related to loadshedding. The scenario is based on a situation where current investments into independent power production bear fruit from 2026 onwards. The scenario assumes stage 6 loadshedding and simulations highlight specifically the impact of loadshedding on farm level profitability in the Witzenberg region and its associated impact on the GPV of the apple industry, for the period of 2023 to 2032.

The scenario assumes a normal replacement cycle, and thus the farm has full bearing, bearing and non-bearing orchards. Stage 6 loadshedding increases the cost of production (such as the use of alternative energy sources to irrigate), as well as costs in upstream and downstream activities. Consequently, costs across the chain increase by 3%. The scenario also assumes a reduction in yield, as is especially the case when irrigation cycles cannot be completed in critical periods. For the purpose of an indicative scenario, a 6% reduction in yield was assumed for 2023 to 2025 and a 3% reduction in 2026, as the prevalence of higher loadshedding stages ease. It also assumes a reduction in export volumes, as quality is affected negatively, due to, for example, inefficiencies of power supply in the Controlled Atmosphere (CA) storage window which effectively decreases the time in CA storage. Specifically, a 10% reduction in exports for 2023 to 2025, and 5% in 2026 was assumed. In the scenario, total cultivated area also declines, with the accelerated removal of older, marginal orchards as a result of water limitations emanating from increased loadshedding. The end result is a short-term impact which results in longer term structural changes.

Figure 70 shows the farm-level profitability under baseline conditions relative to the assumptions of the scenario, and the absolute change from the baseline to the scenario. The scenario adds additional cash flow and profitability constraints of R30 000/ha at its peak, against already challenging economic conditions facing the industry.

BOX 5: IMPACT OF PRODUCTION AND SUPPLY CHAIN SHOCKS: A LOADSHEDDING CASE STUDY (CONTINUED)

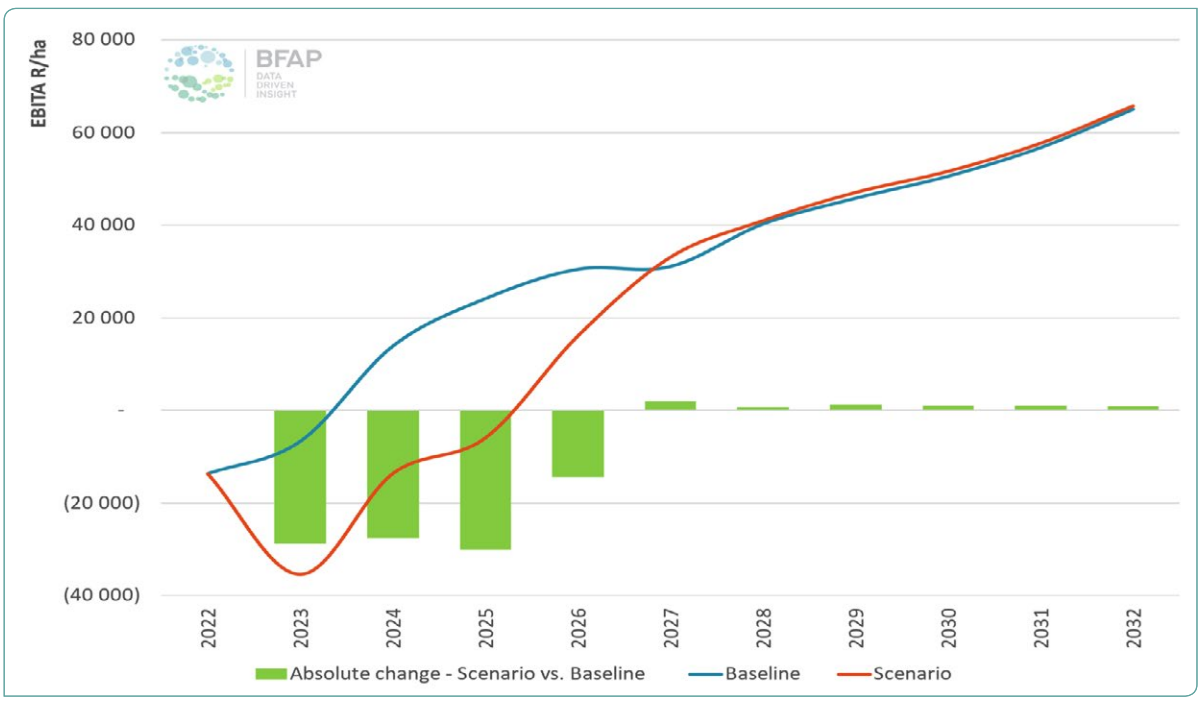


Figure 70: Farm level profitability impact: Witzenberg (2022-2032)

Figure 71 shows the GPV of the apple industry under baseline conditions, versus apple GPV with the scenario, and the percentage change between the baseline and scenario. From 2023 to 2032, the total impact in absolute terms on GPV is projected to equate to R5.11 billion.

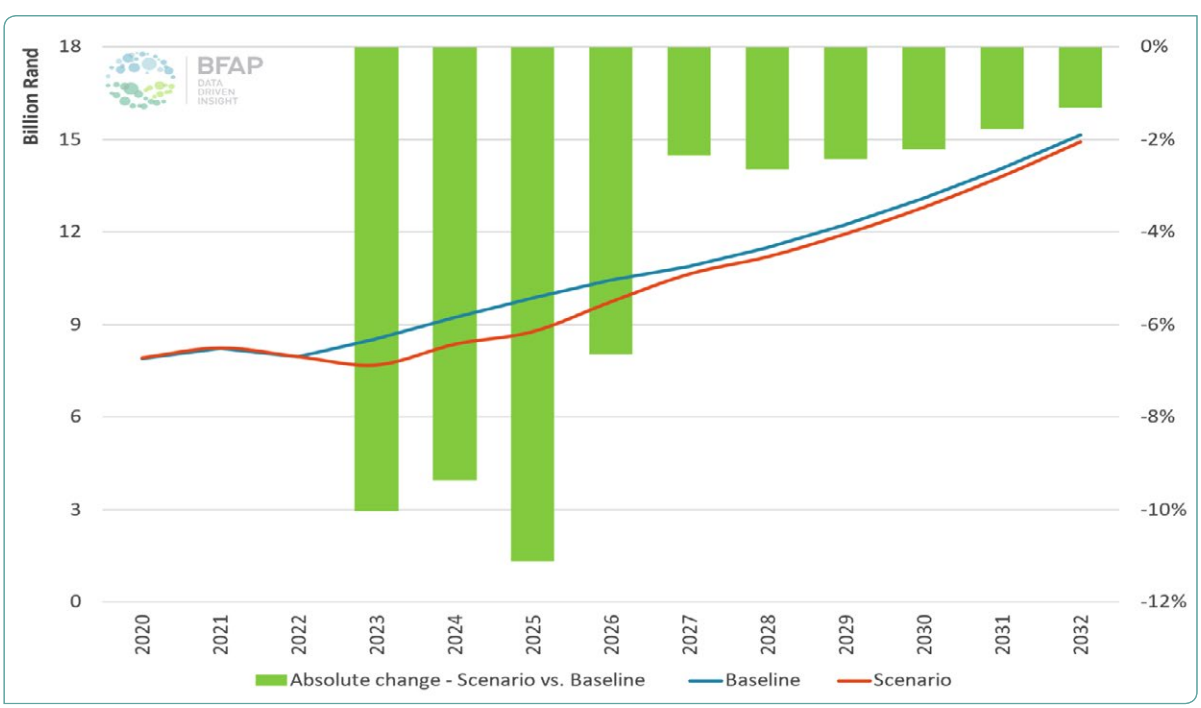


Figure 71: Impact of loadshedding on apple GPV: 2020-2032

BOX 5: IMPACT OF PRODUCTION AND SUPPLY CHAIN SHOCKS: A LOADSHEDDING CASE STUDY (CONTINUED)

Notably, this conservative scenario points to a deviation from the apple GPV under baseline conditions of up to 10%. Exports could also decline by up to 15% due to negative quality and volume impacts.

This impact on the apple industry is quite severe. Two main reasons for this result are that the producer remains the owner of the produce until the consumer buys it, and apples are mostly produced for exports, and thus compete internationally, with a very limited window of opportunity to pass costs onto the consumer. This implies that producers bear almost all of the additional costs on their bottom line. The length of the production cycle also makes it extremely hard to mitigate this particular risk, as irrigation during outages cannot be avoided with the current frequency of loadshedding. These factors can be extended towards other economic shocks as well, which will similarly have cost implications for the farmer in terms of the limited availability to pass costs onto consumers in a strict export window.

STONE FRUIT PRODUCTION

Loadshedding had a particularly negative impact on these highly perishable commodities, with losses in volume and quality. It also added to the cost of production through the attempts to mitigate such impacts. With producers not able to irrigate according to optimal schedules, quality and volumes were negatively affected. This is especially true in the case of drip irrigation, as these irrigation systems typically rely on longer irrigation windows over a larger area than micro-irrigation. It is believed that the latter provides a little more flexibility with regard to loadshedding, although only within certain limits. Regardless of the irrigation system used, the cost of irrigation increases exponentially when a diesel generator powers pumps.

Rainfall during critical harvest times in the Witzenberg and Berg River regions also affected the stone fruit industry, particularly nectarines and to a lesser extent peaches, specifically in December 2022, resulting in damage, for example the loss of marketable nectarines due to streaking marks on fruit. The same rain helped plums to some extent, by supplementing the irrigation requirement, as the winter before was relatively dry (Hortgro, 2023). Fruit damage due to wind impacted a selected group of production units in the Tulbagh and Koue Bokkeveld regions; however with negligible impact on the total production volumes of the stone fruit industry. Overall, the quality of plums in the industry was good, albeit slightly smaller in size on early cultivars, and lower than expected volumes (FreshPlaza, 2023).

Over the past decade the area under peaches has been declining, with an annual average rate of 4.5% (Figure 72). The area under nectarines increased at an annual average rate of 2.2%, accelerating in the second half of the decade. The area under plums also increased, with an annual average rate of 1% during this period. Conversely, the area under apricots has decreased at an annual average rate of 3.7%. These area dynamics imply that the share of non-bearing orchards has decreased for peaches over the past decade, in spite of some year-on-year upticks observed within this period as some existing orchards were renewed. These same fluctuations can be seen for the other stone fruit commodities as well. Similar to peaches, the share of non-bearing orchards of nectarines and plums is lower in 2023 than in 2013, reflecting subdued sentiment towards establishing new varieties. Only with apricots is the share of non-bearing area in 2023 higher than that in 2013, which, given the reduction in total hectares planted, reflects a replacement of uprooted orchards, rather than additional area allocated to the cultivation of apricots.

While a downward trend in stone fruit area has been evident for some time, the latest series of challenges have accelerated the rate of uprooting. The total area under apricots is expected to decrease further in 2023, a trend which persists over the outlook period, consolidating a loss of one third of production area over the past decade. Peach area is expected to remain

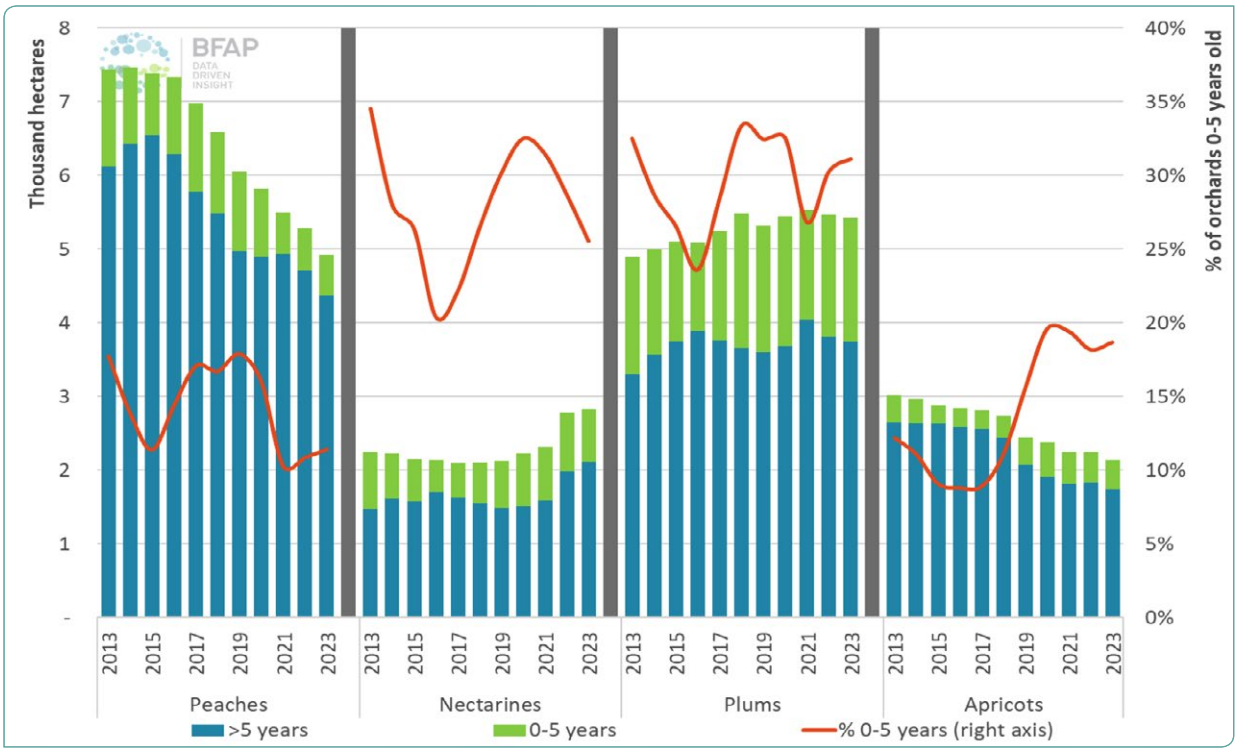


Figure 72: Age distribution of stone fruit area

Source: Hortgro (2022)

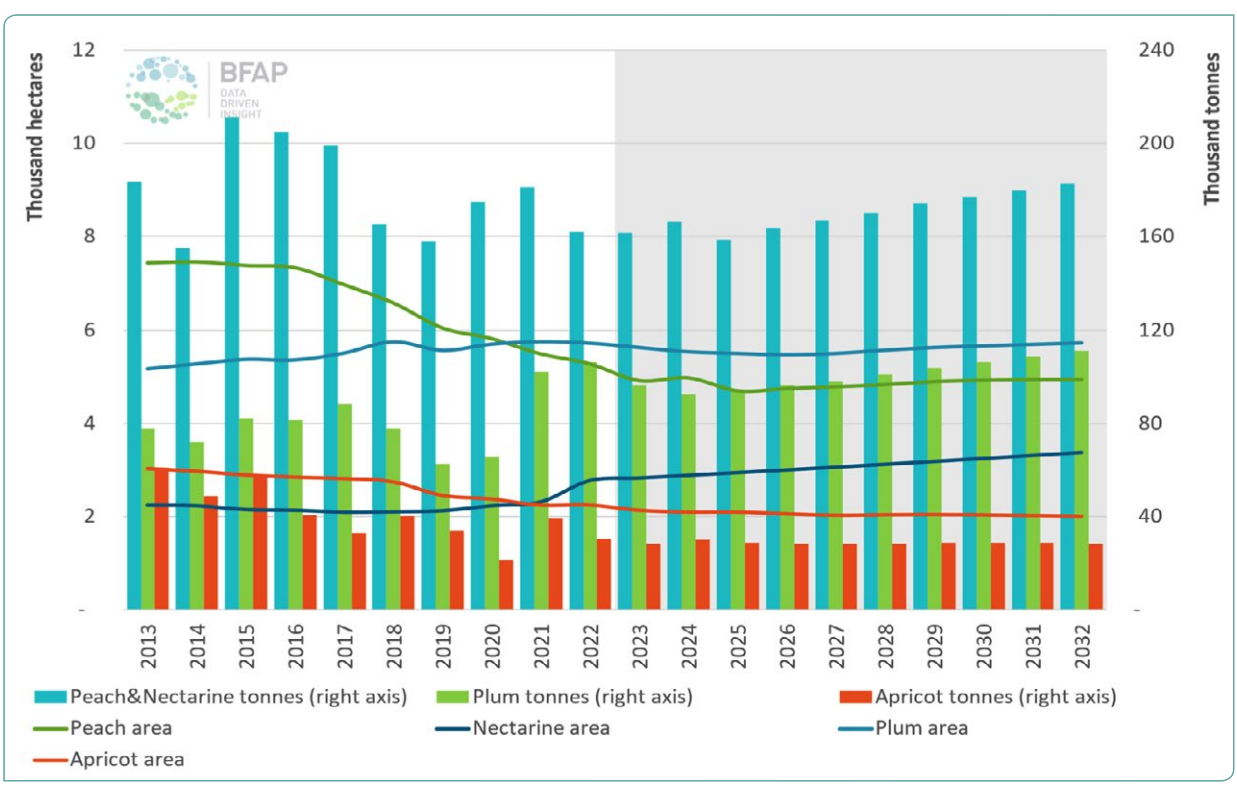


Figure 73: Production volume and area for stone fruit: 2013-2032

fairly stable, following uprooting of underperforming peaches. The industry is, of course, largely reliant on the processing market for shifting its production volume, as opposed to fresh exports. Furthermore, on the processing side, price and quota limitations act as a deterrent to cultivate more hectares specifically for processing. Profitability pressure on plum producers is expected to accelerate the removal of marginal orchards over the short term – a process that started in 2018 – before stabilising over the outlook period. As a result, suitable area may become available to expand nectarines, with carefully selected cultivars suitable for exports. The area under nectarine production is foreseen to increase slightly (by 2%) from 2022 levels to reach about 2 800 hectares in 2023, and a further increase of 19.5% is projected over the outlook period. These projections assume, to a large extent, a recovery from the electricity crisis in South Africa, but only in a few years' time, as investments into private generation capacity start to contribute to availability.

In 2021, the cherry industry produced 900 tonnes from 621 hectares, many of which are yet to bear fruit. The industry has seen increased interest in expansion in recent years, with 126.76% over the five-year period leading up to 2022. Although the rate of expansion is likely to slow, total planted area could surpass 1 000 hectares in five to six years (Hortgro, 2022). With yield increases, the production volumes of cherries are estimated to have roughly tripled from 2021 levels (FreshPlaza, 2022).

TRADE

Exports contributed an estimated R25 billion towards the GPV of deciduous fruit in 2022, from R9.9 billion a decade ago. This could reach R42.58 billion by 2032. The growth in exports over the past decade can be attributed to increased investments by producers and role players in the supply chain to service high value target markets, and also to a weakening Rand. Fruit exports play a major role in generating foreign exchange, and the depreciation of the Rand has supported export earnings over the past decade. The weaker Rand simultaneously increases multiple costs in the supply chain, which are mostly dollar denominated. Nevertheless, exports remain the desired market outlet for most producers due to its value offering, but have come with increased uncertainty in recent years. These uncertainties range from domestic issues such as low port productivity, volatility in international markets, and general weather delays.

BLUEBERRY EXPORTS

Even though it is expected that growth of South African blueberries will slow in the medium term, global production from major competitors such as Peru is still increasing at an alarming rate. Locally, the consolidation in hectares may have a positive effect on South African producers, as the supply chain from South Africa may currently be better equipped to handle smaller volume increases and producers can heighten focus on a higher quality crop.

On top of ongoing run of the mill delays in South African ports, which have extended shipping times by weeks at a time, delicate perishable produce had to endure the result of additional port delays in October 2022. Strikes by Transnet workers affiliated with the United National Transport Union (UNTU) and the South African Transport and Allied Workers Union (Satawu) due to wage disputes brought exports from state-owned ports and railway operations to a halt for 11 days, starting on 6 October 2022 (Crouth, 2022; Thukwana, 2022). Transnet declared force majeure, however it lifted the force majeure relating to containers only by the end of October (Engineering News, 2022). Consequently, during the peak of the blueberry season, exports could not occur.

The production season was already later than normal and, following the strike, the bulk of sales were concentrated in November and December, entering the market in a very competitive window (BerriesZA, 2022; Meintjes, 2022). Ideally, the time from picking to eating should only be 30 days, however the strike caused delays of about two weeks, with the subsequent process of restarting port activities resulting in a total transit time of about 50 days. The losses in quality led to increased claims on sales, sales of varieties in times outside their ideal windows of demand, and the forfeiture of some retail programmes. Diversion of products into local markets also drove down prices. Nevertheless, increased volumes marketed led to an increase of 19.3% in fresh blueberry exports from the season ending in 2022 to the past season which concluded in February 2023. Over the outlook period,

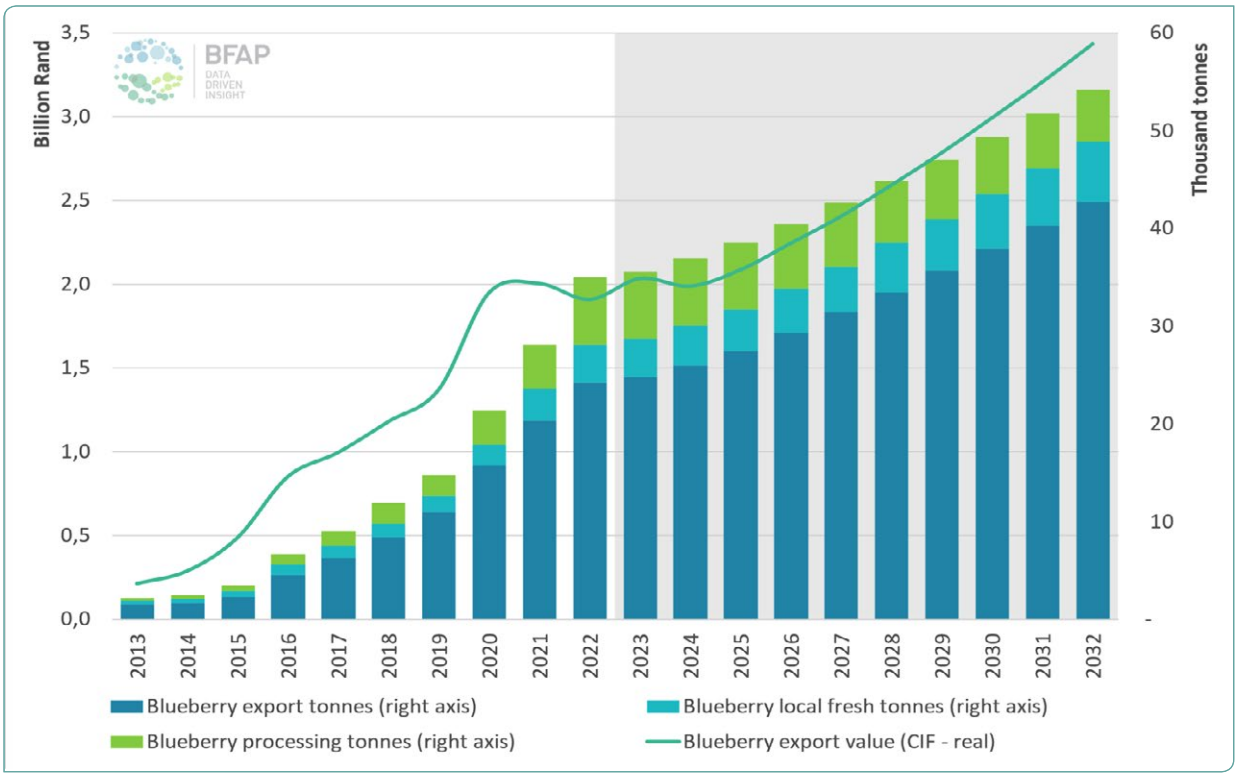


Figure 74: Export value and volume of blueberries: 2013-2032

an increase of 72% in export volumes is projected. Fresh export prices declined on average by 14.7% for the 2022/23 season, and are projected to increase on average by 59.5% over the outlook period. Real price growth of 1.9% is projected over the outlook period.

TABLE GRAPE EXPORTS

South Africa's biggest competitor in the European market, Peru, experienced labour related riots and strikes in early 2023, resulting in a smaller presence in the market. However, South African exports couldn't fully capitalise on the opportunity created, as reduced production volumes emanating from unexpected weather conditions led to a 16% year-on-year reduction in export volumes. However, on the volumes that did materialise, unit prices increased on average by 16%. Nevertheless, price gains were insufficient to recoup the full value of volume lost and as such GPV from exports declined by R253 million from the 2022 season to 2023. The industry also had its share of logistical challenges. Predominantly in the Port of Cape Town, where issues with the implementation of the booking system for shipping space, operations at the truck staging area, shipping omissions, general lack of planning of stacks, and other factors such as wind, created challenges which hampered the overall supply chain (FreshPlaza, 2023). Despite the consolidation in area, fresh export volumes are projected to expand by 13.4% over the outlook period from a 2021-2023 base, whilst fresh export prices are estimated to increase by 40.2% from 2023. This is broadly in line with inflation, thus prices remain fairly stable in real terms, requiring producers to become more efficient to remain in the game.

POME FRUIT EXPORTS

Apple exports increased slightly in 2022, following increased production and the replacement of marginal orchards during the drought (2015-2018). Although the 2023 season is still ongoing, exports are expected to decline by 11% following adverse weather conditions. Pear exports increased by 15.4% in 2022, with a decline of 19.6 % expected in 2023. Despite the adverse market conditions – temporary market closure in Russia, rerouting of fruit and higher stocks in Europe – apple

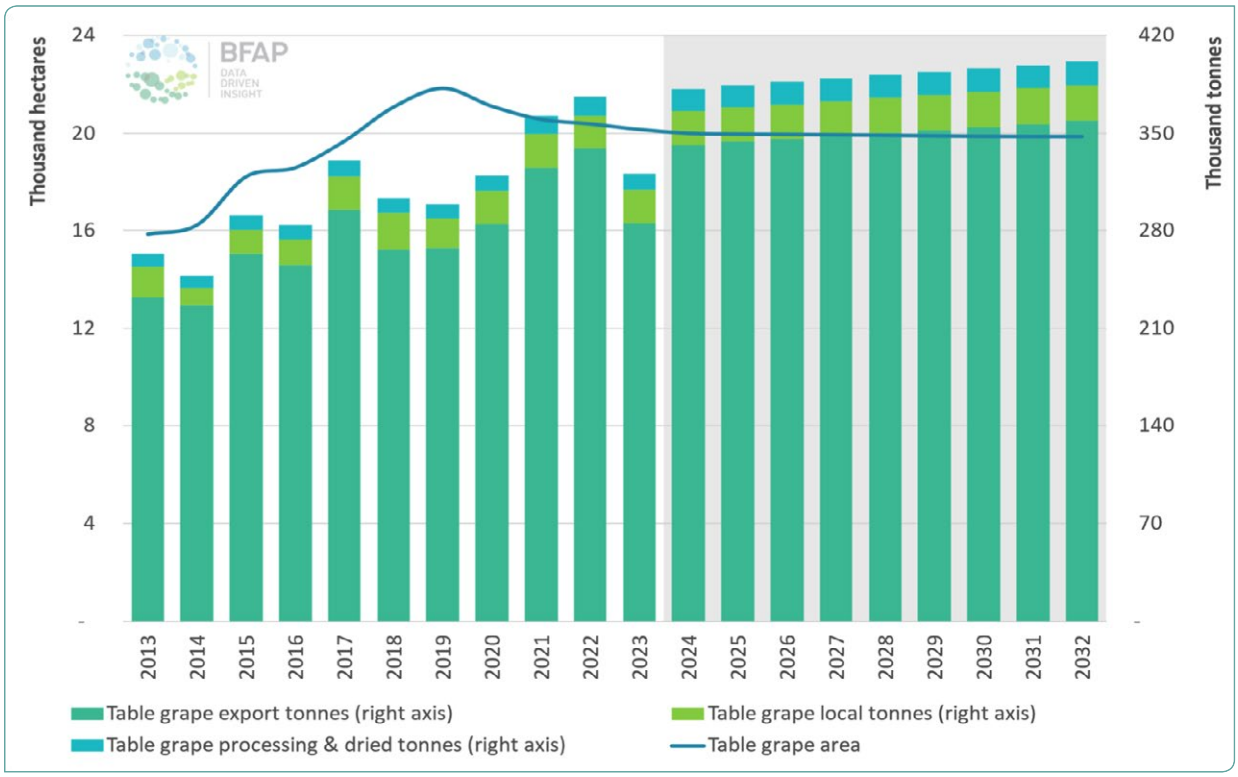


Figure 75: Production area and market distribution for table grapes: 2013-2032

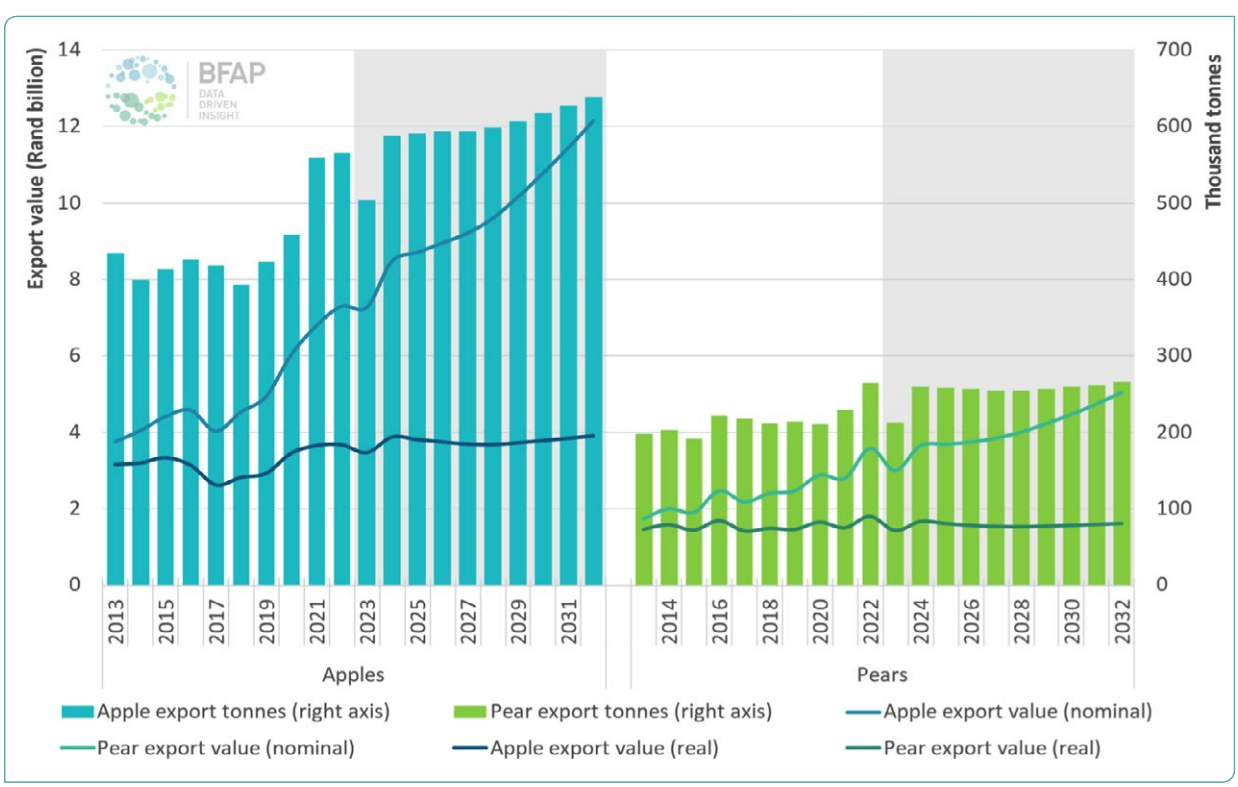


Figure 76: Export value and volume for pome fruit: 2013-2032

export prices increased on average by 6% in 2022. Perhaps as a consequence of lower stock volumes in Europe, pear prices increased 11% year-on-year, masking the temporary surplus in Europe due to rerouting of produce and confusion during the initial stages of Russia's invasion of Ukraine. With the focus on producing under nets as a risk mitigation strategy, the focus will increasingly be on prioritising premium orchards, i.e., producing high quality fruit for the export market. The risk of hail is too great to discard the option of producing under hail nets, which increases the capital burden, but enables higher prices in selected export markets, as well as a higher pack-out percentage in some production areas.

Despite the projected stagnation in area and the adverse weather conditions in the current season, fresh apple export volumes are projected to persist on an upward trajectory, with an increase of 27% by 2032 relative to 2023. However, the bulk of this increase is expected to occur by 2024 (17%) as the industry recovers, and a more modest increase of 8% is projected for the remainder of the outlook period. The weakening of the Rand will be the primary driver of nominal export price gains of 32% over the outlook period. Given the step change in 2022 from 2021, and the estimated decline in exports for the 2023 season (given the adverse weather conditions, similar to apples), pear export volumes are projected to recover over the outlook period, with an increase of 24.8% projected, although the bulk of this recovery is expected to occur by 2024. From 2024, pear export volumes are projected to move largely sideways over the outlook, with an increase of 2.6% by 2032. This is accompanied by an increase in nominal fresh export prices of 34%. Real, inflation adjusted apple and pear prices are expected to decrease over the outlook period by around 10%, reiterating the pressure to make ends meet through productivity and efficiency gains.

STONE FRUIT EXPORTS

The Transnet strike occurred at the start of the stone fruit season, which caused a backlog in exports that was never fully cleared. This increased the average age of the produce exported. Nectarines were most affected, followed by plums.

Exports of peaches and nectarines increased by almost 20% in 2021/22, but declined again by 7.4% in 2022/23. Plum exports increased in 2021/22 by 3.8%, but volumes contracted by 13.5% in 2022/23. Apricot exports decreased slightly by 0.3% in 2023. Much of this contraction in volumes during the 2022/23 emanated from the execution of more stringent thinning strategies to improve sizing, together with localised weather-related impacts (dryer winter, high temperatures during bloom) and the mentioned port delays. Cherry exports more than doubled between 2020/21 and 2022/23. This increased interest in cherries comes as local producers harvest in a window ideally situated to service the Christmas demand, and as prices in general are strong relative to other fruits.

The nominal price of peach and nectarine exports increased by 15% in 2021/22. Nominal fresh export prices of apricots increased by 6%, while plum export prices increased with 3.1%. In the case of peaches and nectarines, as well as apricots, export prices remained fairly constant 2021/22 to the 2022/23 season, while for plums they declined by 1.7%. Both exchange rate dynamics and the total supply of fresh produce to the market plays a role in returns. The availability of table grapes is also believed to affect the market prices for stone fruit as all fruits compete for the interest of a consumer. As freight rates peaked amidst the 2022/23 season and the Rand was, on average, 18% weaker in H1 of 2023 compared to H1 of 2022, the largely sideways movement of export realisation is indicative of the absorption of additional cost in the value chain negating the returns to be realised from a weakening Rand.

Productivity gains for stone fruit through new cultivars, etc., are expected to increase yields available for exports, which, along with a positive projection of the area under peaches and nectarines, are projected to increase by 14.9% over the outlook period. Plum area returns similar outlook results. Yield improvements in apricots are expected to realise over the outlook period as producers prioritise planting good yielding apricot cultivars in the right areas. Thus, despite the decrease in area planted, export volumes are expected to increase by 24.5% by 2032 compared to 2023, although the base might be slightly misleading as a year-on-year increase of 20% is expected in 2024. Over the longer term, nominal price increases of peaches and nectarines are projected at 41%, 42% for plums and 53% for apricots. In real terms, however, it is only apricots that achieve real price gains, albeit only 3% over the 10 year period.

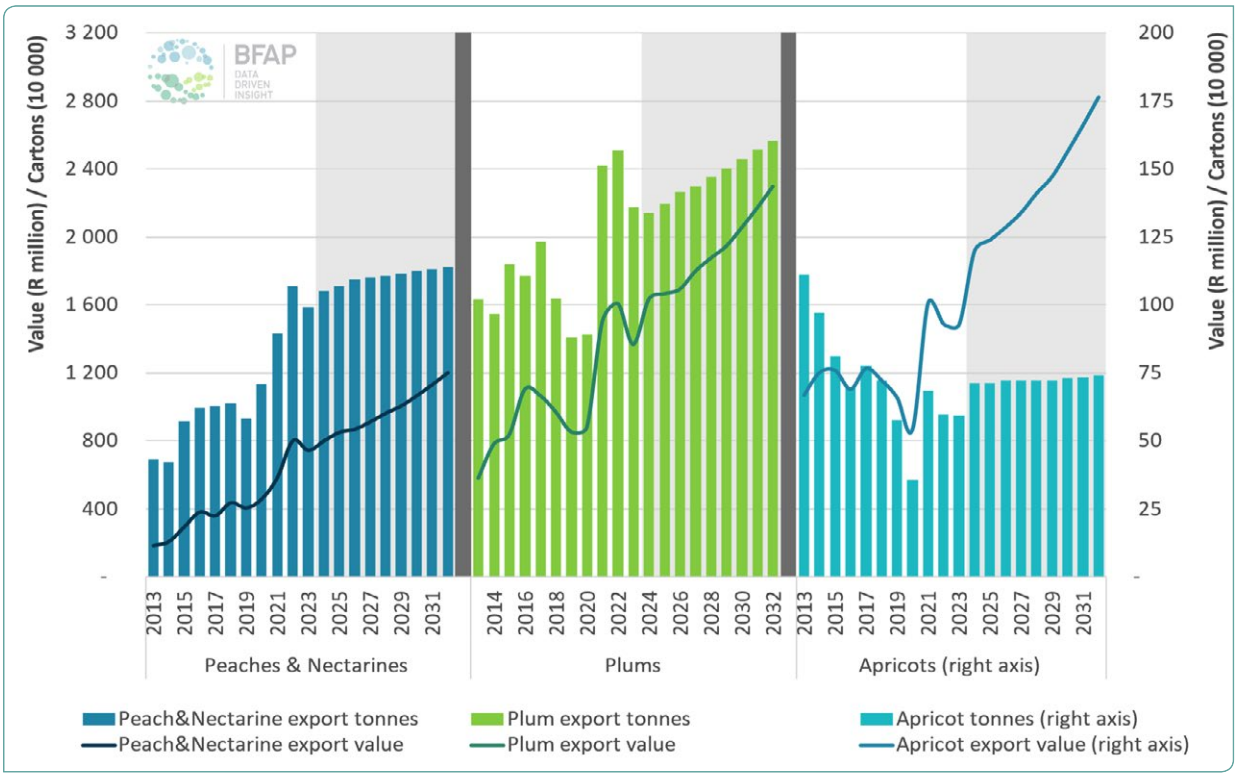


Figure 77: Export value and volume for stone fruit: 2013-2032

For other stone fruit, price gains are less than general inflation, implying a decline in real terms.

DOMESTIC USE

Although the domestic market in South Africa is characteristically not the largest market outlet for deciduous fruit, it is a valuable and necessary cornerstone of South African fresh fruit consumption, and for peaches it is the main market outlet. South Africa is largely self-sufficient when in season for the respective commodities. Given the ample supply of fresh summer and winter produce, imported fresh fruit volumes are low and serves a very small market, exemplifying the role of local production in aiding food security. Selling certain classes of produce locally provides an outlet for fruit that would not remain in pristine condition under the rigorous temperature regimes required for exports, while still aiding producers' cash flow. Certain niche markets for deciduous fruit also exists locally, such as prunes and cherries. In some instances, supermarkets and high value retailers provide producers with prices that rival that of exports, provided the producer is ideally situated geographically to supply a market in a manner which does not increase transport and cooling costs. The National Fresh Produce Markets also play a major role in shifting bulk local sales.

In 2022, local fresh market sales provided a market outlet for about 84% of the peach and nectarine crop, with more than 60% of produce supplied to the processing and dried markets. For plums, 23% of the total crop was marketed locally in 2022. For apricots, only around 9% are exported, resulting in 91% of produce supplied into the processing, drying and fresh local markets. Producers have been gearing themselves towards greater exportability over time by replacing processing cultivars with fresh cultivars, and the most recently concluded season reaffirmed this decision. The volumes marketed domestically for stone fruit have all declined somewhat as producers became more orientated towards exports with the weakening Rand and better returns per hectare. The current trajectory is expected to remain in the short to medium term. Over the long term, the market outlet ratios above remain largely the same for peaches and nectarines, with some move more towards marketing as fresh produce, either locally or abroad. Plums see a notable move towards more exports, as the prices provided by domestic

demand become increasingly untenable. The same holds true for apricots. Nominal price increases are observed domestically both in 2022 and 2023, however the price levels of domestic markets are struggling to keep up with the recent rise in input costs. The choice of producers to increase volumes share for processing (as with peaches) or to export for high value markets (as with plums), is indicative of relatively weak local demand for fresh produce of stone fruit, especially as consumer price inflation leads the consumer to buy less fruit at a time, often prioritising staples. This then also puts strain on the value chain, as fruit remains on the market for longer decreasing the quality and final pay-out to the producer.

Being generally small compared to exports, domestic markets struggle to absorb sudden supply increases, such as fruit marketed locally if damaged by weather related events, or diverted locally due to port congestion, as was the case for blueberries through the Transnet strike. When these volumes are channelled to the domestic market, prices tend to decline sharply. Of the total blueberry crop available for marketing in the season ending in early 2022, 27.8% was sold locally. In the season ending in 2023, 30.9% was sold locally. Between these two seasons, the majority of the decreased share in exports was taken in by the processing market. Much of this can be ascribed to the Transnet port strikes, which re-directed fruit domestically. Over the long term, the focus of the blueberry industry will be to improve the share of its exports, as well as maintaining a critical component locally, especially where producers have access to premium local markets that provide comparable returns to that of exports when accounting for the lower cost of selling domestically.

Local fresh market sales of apples increased by 12% in 2022, as markets and consumers recovered from the Covid-19 restrictions. Of the total apple crop available for marketing in 2022, 53.3% was sold domestically. Local fresh market sales of pears increased by 25% between 2021 and 2022. Of the total crop of pears, 51.7% was sold domestically. While exports are the single biggest market outlet for pome fruit, when considering the local market outlets of processing, dried and fresh as a collective, it is almost comparable to exports in volume terms. Due to adverse weather conditions for the 2023 season, a larger complement of pome fruit is expected to be sold domestically.

The table grape crop is predominantly sold on the export market, with only around 10% delivered domestically. In 2022, this comprised 6% fresh local sales, 2% processed or dried and the remainder of local sales pressed. This, of course, excludes grapes produced for drying or wine. Little change in these marketing channels are expected over the outlook period. Price increases of 9% were observed for the local fresh market between 2021 and 2022, and 3% for processing, with further price gains expected in 2023. Although these price increases are adding additional pressure onto domestic consumers, it remains insufficient to adequately compensate producers for the additional cost they incur in production under conditions of high interest rates, loadshedding and extreme input costs.

CONCLUDING REMARKS

The past season presented particular production challenges and economic shocks, which once again highlighted the small margin for error in industries which were already under severe economic pressure. With these adverse events, producers and other role players were forced to once again rethink production models and value chains to focus their business strategies on risk mitigation. Agriculture and supply chains as extended as that of exporting to markets globally come with inherent risks, which highlight the importance of strong international relations and campaigns for broader market access as a means of unlocking value and a risk mitigation strategy. Engagements towards solutions for domestic challenges are ongoing, yet speed of implementation is key to ensure the long term sustainability of the industry.

OUTLOOK FOR HORTICULTURAL PRODUCTS

WINE GRAPES AND WINE

SOUTH AFRICA'S WINE INDUSTRY continued to recover from the pandemic in 2022. Domestically, consumption of wine recovered strongly to levels similar to a 2017-2019 average. Part of the recovery process was 12 consecutive months without any restrictions on alcohol sales and transport, which generated producer revenue of R7.4 billion, exports of R10.0 billion, and domestic sales before excise tax and VAT of R18.2 billion (SAWIS, 2023). Stock levels, which increased sharply in 2020 and 2021, reduced to below 500 million litres in 2022. Amid the ongoing attempts to clear stocks and rebalance the market, 63% of wine exports were in bulk format in 2022, far higher than an ideal export portfolio. Contrary to expectations, both 2021 and 2022 generated record export revenue in Rand terms. This was largely the result of exchange rate movements, as these records aren't replicated in US$-terms. The same exchange rate movements that favoured export returns also exacerbated increases in input costs in grape production and the industry continued to uproot more vineyards that what it established in the year.

The outlook for the wine industry, whose products are split almost equally into domestic and international markets, must be considered against this backdrop.

INTERNATIONAL MARKET OVERVIEW

Global wine production declined by around 1% to 25.8 billion litres in 2022, with a 7% reduction in the US, where production was affected by drought and heatwaves during spring and summer. After a woeful 2020 production season in the Southern Hemisphere, production rebounded in 2021, but contracted somewhat again in 2022. Whilst the former created additional opportunities for exports from South Africa, many challenges hampered wine sales in 2022, including the high inflation globally, the energy crisis that resulted from the conflict in Ukraine, and continued disruption of global supply chains. The South African industry is hamstrung by factors such as loadshedding, high input costs, inefficient port operations, and also has to compete in an uncertain global market. Furthermore, the demand response of consumers in a post-pandemic inflationary environment, brings further heterogeneity to wine consumption behaviour across the globe.

From a supply perspective, global vine area (including wine, table grape and raisins) has declined consistently, albeit at a modest rate of 0.3% per annum over the last 20 years. In 2022, total global area reached 7.3 million hectares – an approximately 40 000 hectare reduction

year-on-year. Of these established vineyards, 45% are situated in the EU, with Spain, France and Italy featuring prominently and vines comprise of mostly wine grapes. Collectively, the EU produced 62% of the world's wine in 2022. The US, with total area on the decline since 2014, occupies the 6th position in terms of area, with vines for the production of table grapes and raisins also planted along with vines for wine production. The US is the 4th largest wine producer world-wide. In all these cases, shares of production are greater than the share of area, which is indicative of higher vine productivity, which could be related to cultivar choice and cultivation practices and/or ratios of vines for wine and vines for other grape production (OIV, 2023).

In terms of demand, the aforementioned Northern Hemisphere wine producing countries feature at the top of consumption tables: EU (48% of total global consumption), the US (15%), and the UK (6%). South Africans consume around 2% of the 23.2 billion litres estimated to have been consumed globally in 2022. What is apparent here is that the EU and South Africa consume less than they produce, whilst the US and the UK experience a net deficit between production and consumption, necessitating imports to meet demand.

Figure 78 compares regional wine production to wine consumption. The figure reiterates the dominance of the EU countries in wine production. Although at a much lower scale, this figure also highlights how the Southern Hemisphere countries typically operate in a net export environment, resulting in greater exposure to exogenous factors. North America, Non-EU Europe, the Middle East and Asia as well as Russia are all net importing regions. Total global consumption equates to only about 90% of production, with industrial wine use explaining some of the shortfall. The distillation of wine, and the production of vinegar and vermouth are all considered within the category of industrial wine use.

DOMESTIC CONSUMPTION

While 2022 saw domestic consumption recover to levels similar to 2017, the market remains constrained from a value perspective. As per Figure 79, while total sales increased in 2022, the increase predominantly occurred in the low and basic wine category, with sideways movement in the other still wine categories. With the cost of food and non-alcoholic beverages 12.8% higher in December 2022 than 12 months before, consumers are

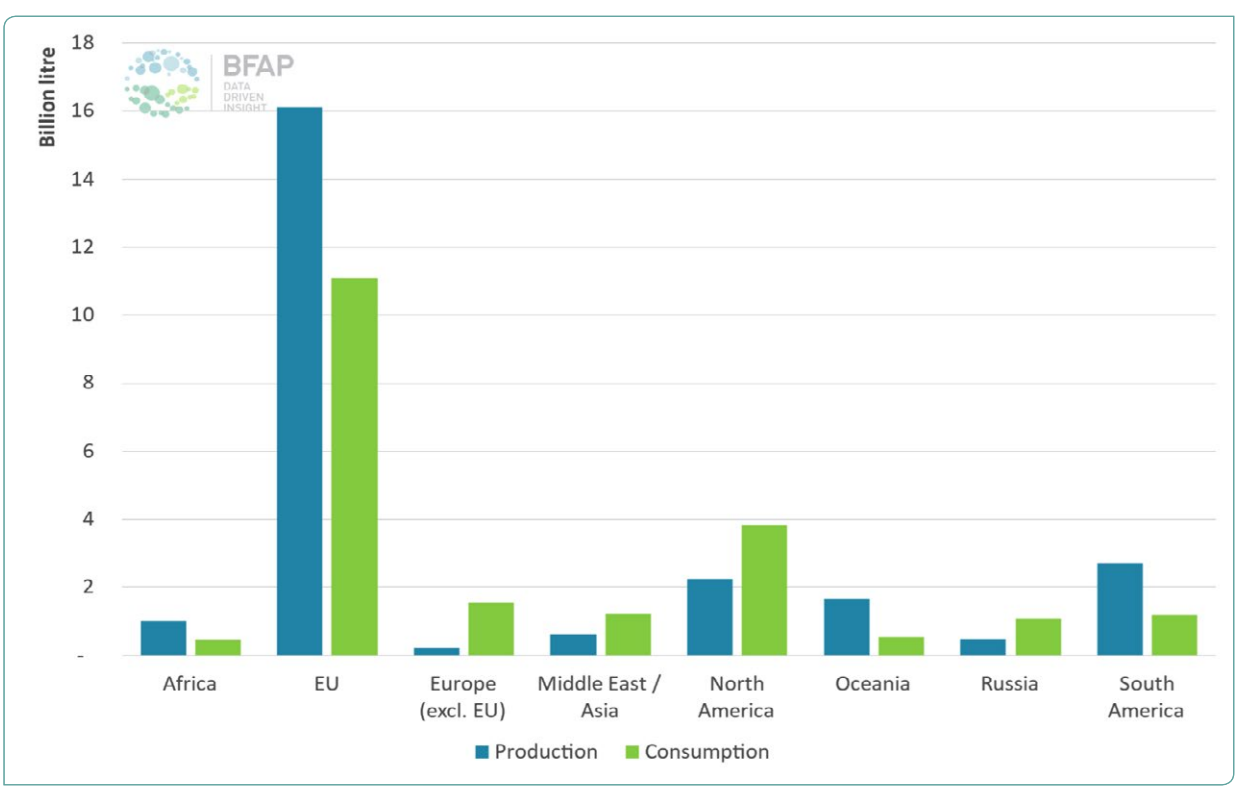


Figure 78: Total production and consumption per world region: 2022

Source: Adapted from OIV, 2023

under pressure to manage their spending. While still wine prices increased by 4% year-on-year in 2022, production and supply chain costs increased by far more, indicating that the costs were absorbed in the value chain, with only a limited portion forced onto consumers.

Looking ahead, the projection is that domestic wine sales will continue to be dominated by low and basic priced wines, but there is some migration into higher value categories. In absolute terms, low and basic priced wine consumption in 2032 is projected to be marginally below the levels observed in 2022. By contrast, a 12.9 million litres increase is projected on the sales of premium priced wines (premium, super premium and ultra-premium), but this only equates to a 2% increase in total still wine consumption by 2032. relative to 2022. As such, by 2032, the low and basic priced categories equate to around 339 million litres, compared to 83 million litres of premium wine products. The growth in the premium categories signifies an important positive trend in terms of the willingness to pay for wine in the domestic market. Compared to the 17% of wine categorised as premium priced wine in 2022, 20% of domestic consumption is projected to fall in this category by 2032.

While the 2022 figures for brandy were only slightly higher than those in 2021 (4%), fortified wine and sparkling wine sales increased by 22% and 26% respectively. Despite this increase, fortified wine sales are yet to reach the levels of pre-pandemic annual sales, which were around 30 million litres. Conversely, sparkling wine sales reached record levels. However, Figure 79 shows that the 2023 projection for sparkling wine was only marginally different from the average for 2019-2021, reflecting consumer spending power constraints. The projection for 2032 is marginally higher, but not reaching 2022 levels. Although sparkling wine has limited market attraction and should reach a market saturation point towards the end of the outlook period, total consumption is projected to increase by just below 1% per annum, on average, from 2023 to 2032. Domestic brandy consumption is projected to continue to decline. It is possible that the growing demand for whiskey and other spirits has a substitution effect on brandy demand, since the average annual consumption of brandy has decreased by 3.2% per annum from 2001 to 2022, while whiskey and other spirits increased by 2.2% and 4.1% respectively (SAWIS, 2023).

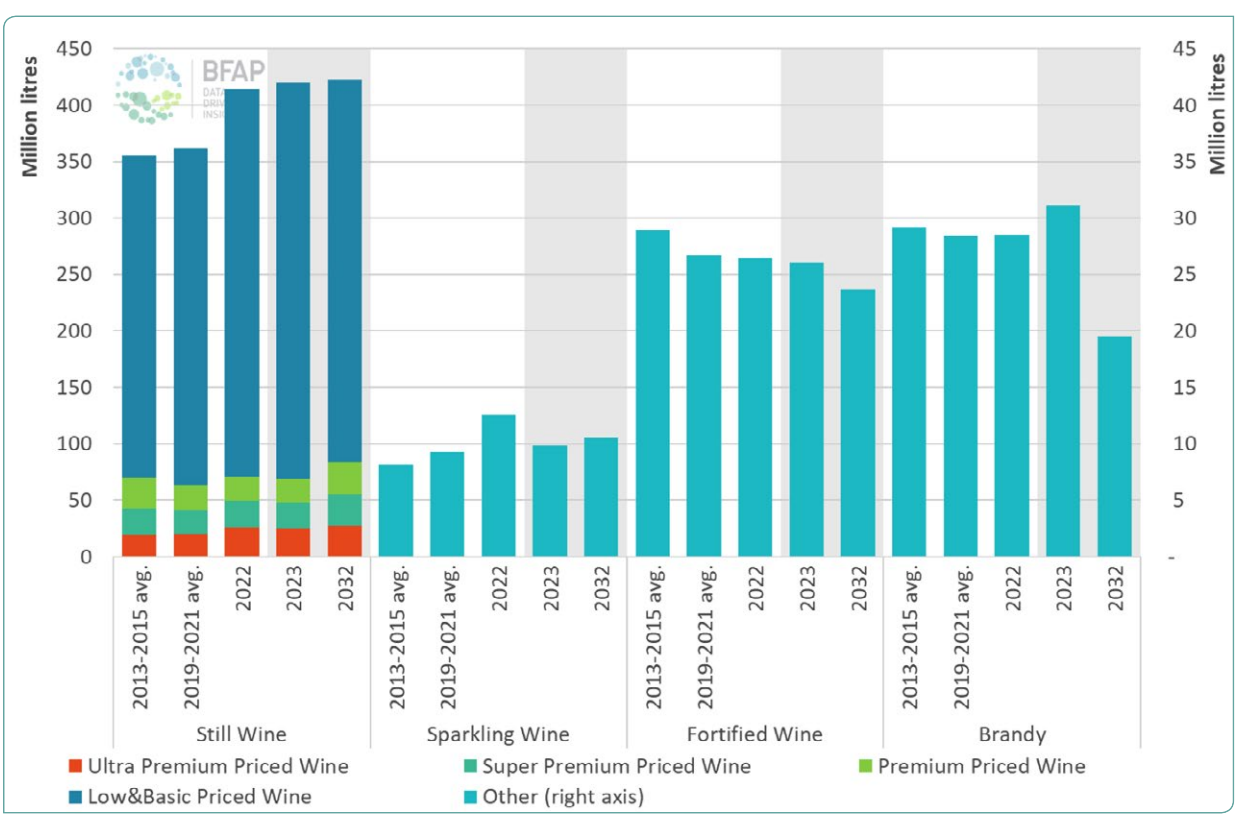


Figure 79: Wine and Brandy consumption in South Africa: 2013-2032

Source: SAWIS, 2023 & BFAP Projections

TRADE

Despite the world moving towards a pre-pandemic normal, a plethora of challenges affected global wine trade in 2022. First off, wine trade was still significantly hampered by the logistic crisis, the conflict in Ukraine and the energy crisis. Combined, these factors resulted in significant inflationary pressure throughout the world, and in the wine industry too. Consequently, total wine shipments decreased year-on-year, but the value of total wine trade increased to record levels. An average price per unit increase of 15% was recorded, but as a result of lower volumes, the total increase in value is estimated at 9%. The increase in value is predominantly attributed to the sharp rise in costs throughout the supply chain.

Within this global environment, South Africa remained committed to regain markets and shelf space previously affected by the Covid-19 related domestic restrictions on the transport of alcohol, whilst maintaining new markets explored in 2021 in an attempt to accelerate the industry's recovery. South Africa's wine exports decreased year-on-year to 386 million litres in 2022 (-5%), while value decreased by 3% to R10.0 billion. Within these totals, bulk wine comprises 245 million litres (63%) and R2.4 billion in value (24%), compared to the 141 million litres (37%) for packaged wine exports at a value of R7.6 billion (76%) (SAWIS, 2023). Globally, bulk and packaged wine was exported at R13.77/litre and R77.44/litre respectively. In contrast, the average return for shipped South African bulk and packaged wine was R9.76/litre and R53.69/litre respectively, indicating that South Africa exports trade well below global average prices.

While contracting somewhat on the total bulk wine exports, South Africa did manage to expand in selected markets. Figure 80 highlights the absolute shift in total bulk export by volume and value to major importers from 2020 to 2022. While 2020 is hardly a fair comparison given the extent of disruptions experienced, it remains relevant in indicating the extent of recovery in 2021. The value of exports, indicated on the right axis, relative to the volume, indicated on the left axis, are indicative of

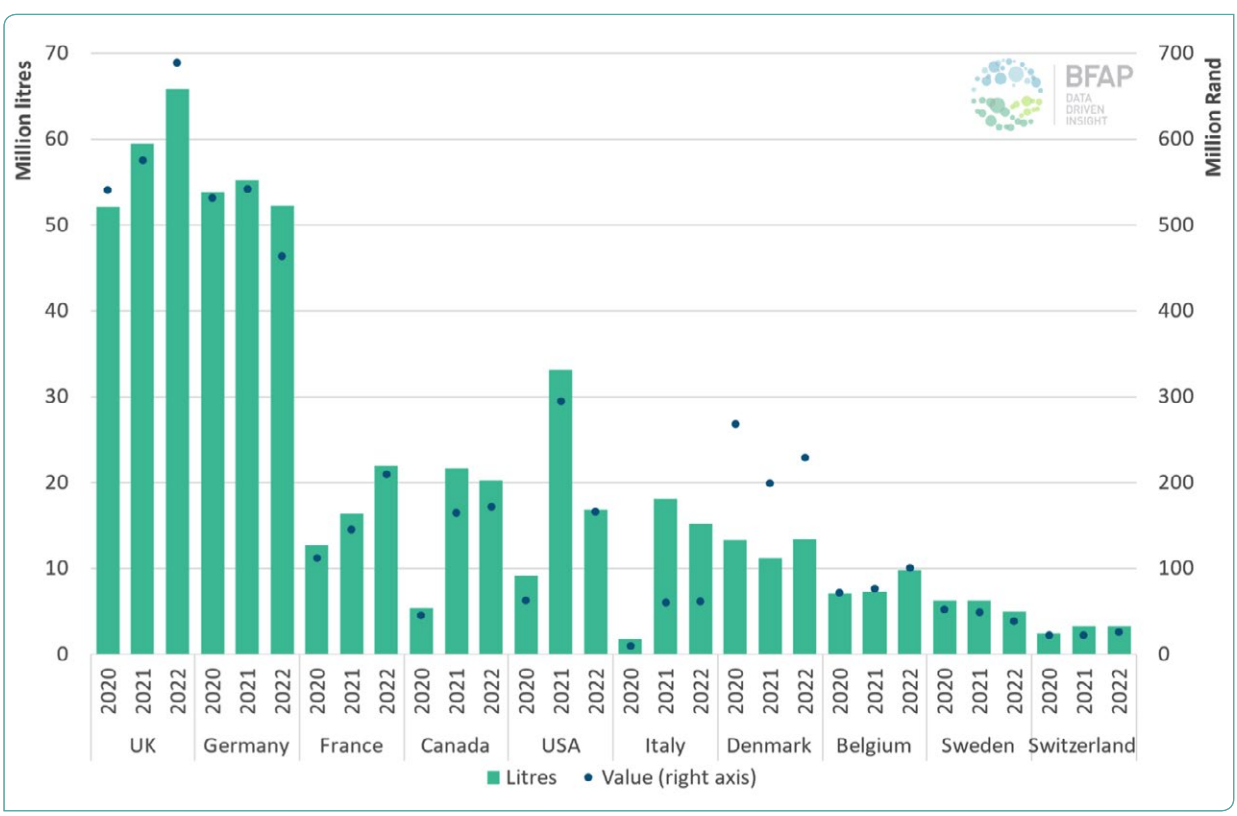


Figure 80: Bulk wine exports from South Africa to selected destinations in 2020-2022

Source: SAWIS, 2023

the unit value of the traded product by market. While the UK and Germany remain key markets for South African bulk wine, exports to the UK increased by 14 million litres from 2020 to 2022, whereas bulk wine exports decreased by 1 million litres to Germany over the same period.

Furthermore, exports to these two trading partners also moved in contrasting directions with respect to the value. The largest positive absolute change in volume was to the UK (+6.3 million litres) and France (+5.6 million litres), with the biggest market contraction recorded for the US (-16.4 million litres) and China (-3.5 million litres). As a result, China is not in South Africa's top 10 bulk markets for 2022, with Switzerland rounding up the list instead. The decline to the US could be attributed to the importers reverting to previous trade partners, such as Australia, but could also be partially attributed to extreme freight rates resulting in lower volumes at viable prices for both trading partners. In the case of China, consumption has been declining with, on average, 200 million litres per year since 2018 to 880 million litres in 2022 (OIV, 2023). China's stringent zero tolerance Covid-19 policy exacerbated the decline in demand for both at home consumption and within the hotel and restaurant channels. Thus, the year-on-year decline in wine trade with China is not unique to South Africa.

An analysis of packaged wine exports is presented in Figure 81 for the top 10 importers of South African packaged wine by volume, with value indicated on the right-hand axis. In total, packaged wine exports decreased by 3%, with total value of exports also decreasing by 3% year-on-year, resulting in relatively constant prices. The South African stock situation together with pushback from the market on prices, given the general inflation experienced, could have played a role. Considering the 3-year view on top 10 markets, where Belgium was incidentally replaced by the UAE from 2021 to 2022, the annual changes per country of destination appear much more gradual than the bulk wine exports. A concerning trend is the negative trajectory in volume and value to the Netherlands, Germany and Sweden.

Year to date bulk trade shows a double digit (-26%) contraction in 2023 compared to the same period

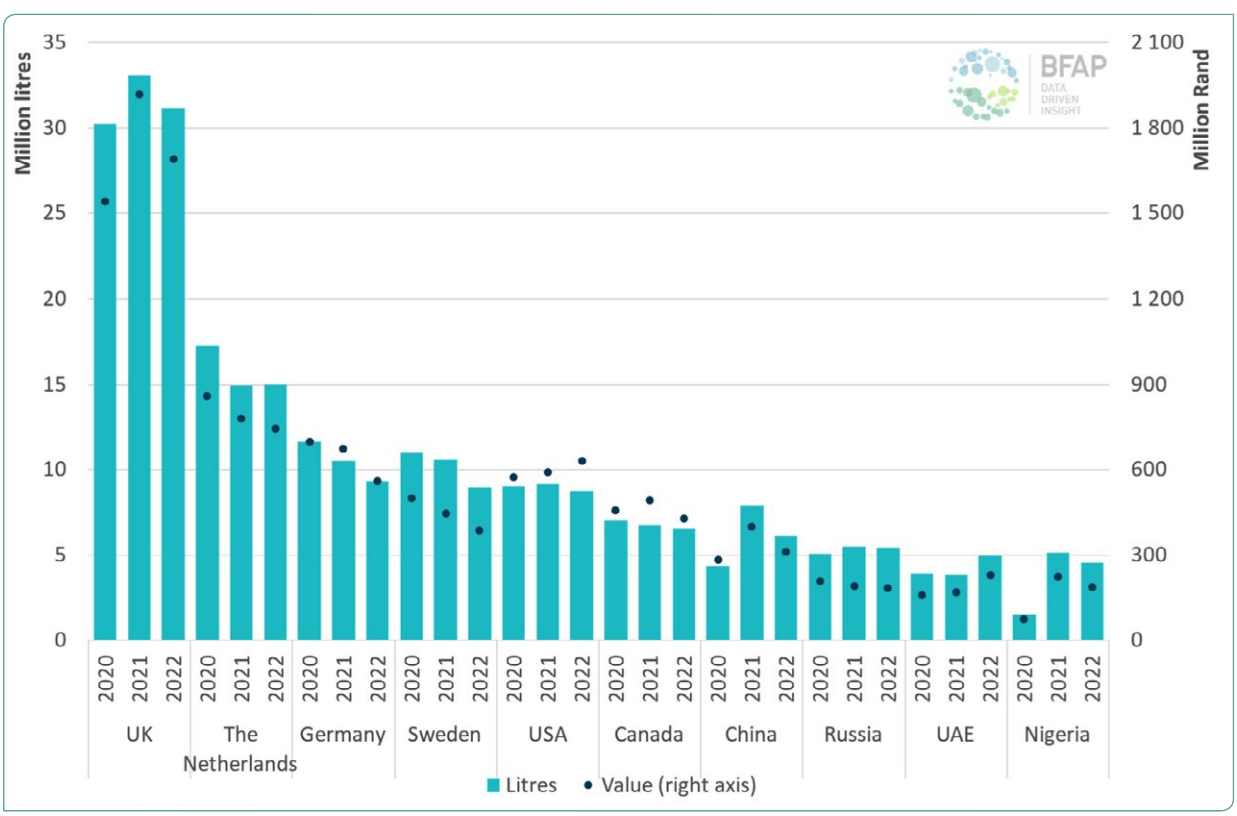


Figure 81: Packaged wine exports from South Africa to selected destinations in 2020-2022

Source: SAWIS, 2023

in 2022. This could be attributed to a stabilisation in domestic stock levels, the smaller yield reducing demand for quick turnaround on storage facilities, a continued suppressed global market, and/or the challenges experienced domestically in the production of wine grapes, the making of wine and the availability of the required inputs due to loadshedding. Packaged exports also decreased year-on-year for the first part of 2023, albeit at a slower rate (-17%). These year-to-date volumes recorded for 2023 are more aligned with exports in 2019, although bulk shipments are still higher, with packaged export still trailing. However, this comparison only considers the first five months of the year, with more than half of the year still remaining. It is expected that the variability observed in Figure 80 and the consistency in Figure 81 are likely to continue over the short to medium term within the current wine climate.

Figure 82 indicates the projected trajectory for South African wine exports and provides an indication of the potential relative shifts between regions and/or affiliations. The drivers of these projections include changes in domestic production, stock levels and the macro-economic environment. With Chinese imports rapidly reducing over the last five years, stagnation in the wine trade with Russia under the current conditions, low wine consumption in India and limited opportunity to export to Brazil, the BRIC affiliations' share of exports are projected to decrease over time. Africa, another small component of South Africa's total exports, is projected to remain small, but constant. With a large share of Africa's population abstaining due to religious beliefs and a large share of the population not able to purchase wine due to limited spending power, few expansion opportunities exist outside of major centres. North American trade has grown in recent years with a premium received in servicing those markets (Figure 81). However, total exports to these markets are expected to contract back to the longer term historical levels as sourcing will likely return to pre-pandemic preferred markets. Political shifts could affect these projections, more so from a relationship perspective than the applicable tariff if AGOA is not extended. Over the course of the projected period, trade with Europe – the UK, the EU and non-EU countries – is likely to decline as production volumes are projected to contract, causing higher prices domestically. Given this context,

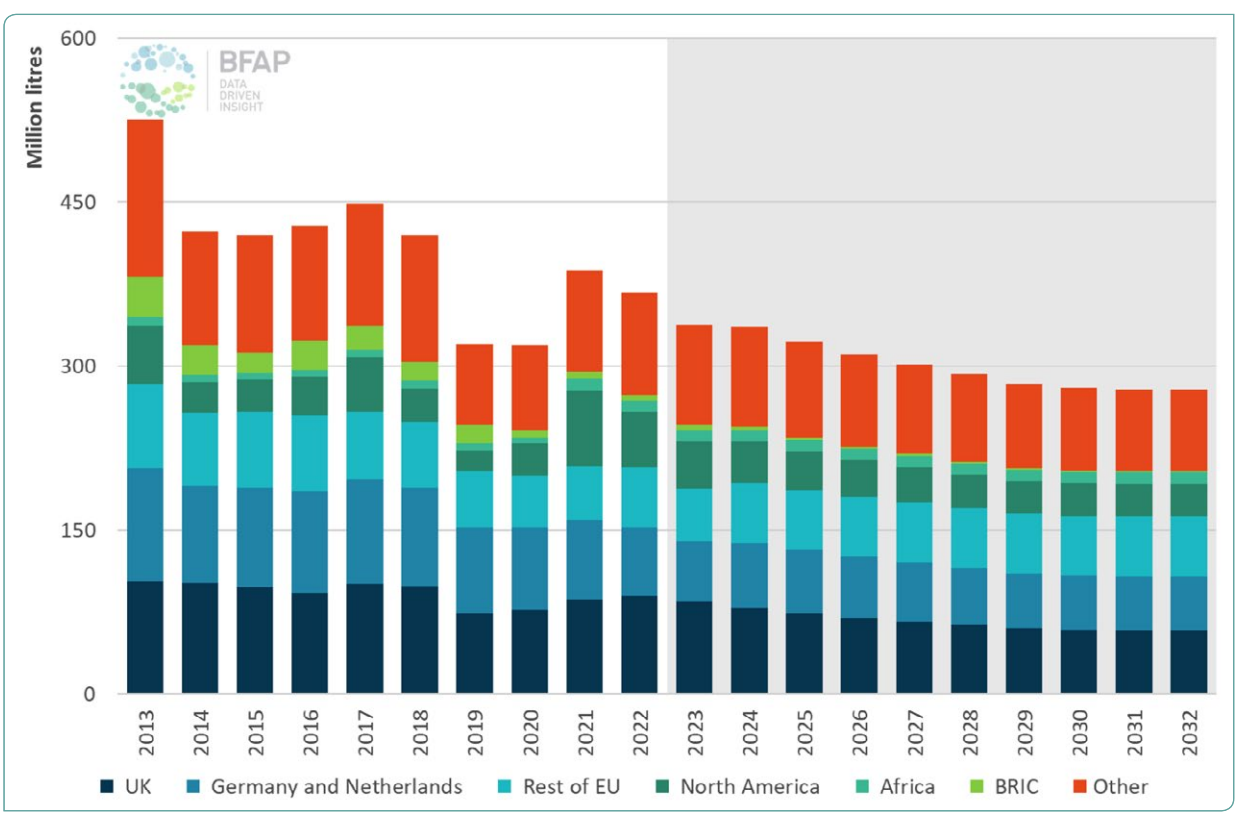


Figure 82: South African wine exports, disaggregated by region: 2013-2032

Source: SAWIS, 2022 & BFAP Projections

exports could reach 279 million litres by 2032, with the relative importance shifting away from BRIC and North America, with a less dramatic reduction in shipments to Europe. On the full, European markets remain the most important destination for South African wine. Given higher projected prices, the value of exports will likely not decline to the same extent. With smaller volumes available for export, the focus will be on extracting higher returns per unit of sales.

PRODUCTION AND PRICES

Wine grape area dipped below 90 000 hectares in 2022 for the first time since 1998, which is indicative of the length of decision-making cycles in the industry, and affirms that the economic conditions within which these decisions are taken, have not rendered the necessary returns for producers to maintain investments into cultivated vineyard area. While many factors contribute to the total production volume in any given year, weather conditions, irrigation affected by loadshedding and aging vineyards are some of the drivers. The recently concluded harvest (2023 season) was estimated at 1.18 million tonnes, compared to the 1.38 million tonnes in 2022 and 1.46 million tonnes in 2021. While total area declined by an average -1.3% per annum over the past decade, this area decline is projected to bottom out by 2025, as prices respond to reduced volumes in the market. Given that producers could technically maintain vineyards without necessarily preparing it for harvest, the area under production recorded may overestimate the total area actively cultivated to produce wine grapes. In addition, while the recovery of wine prices should stimulate the reinvestment in new vineyards, producers may be more cautious to react to price stimuli given the number of serious challenges they have faced in quick succession in recent years on the back of more structural challenges over the past two decades. Uncertainty around trade arrangements such as the AGOA agreement raises further concerns in producers' decision making framework.

Figure 83 presents the total wine grape production volume and area under white and red wine grapes. While grape production is expected to continue to decline in the next season under baseline conditions, current projections reflect a slowdown in the rate of

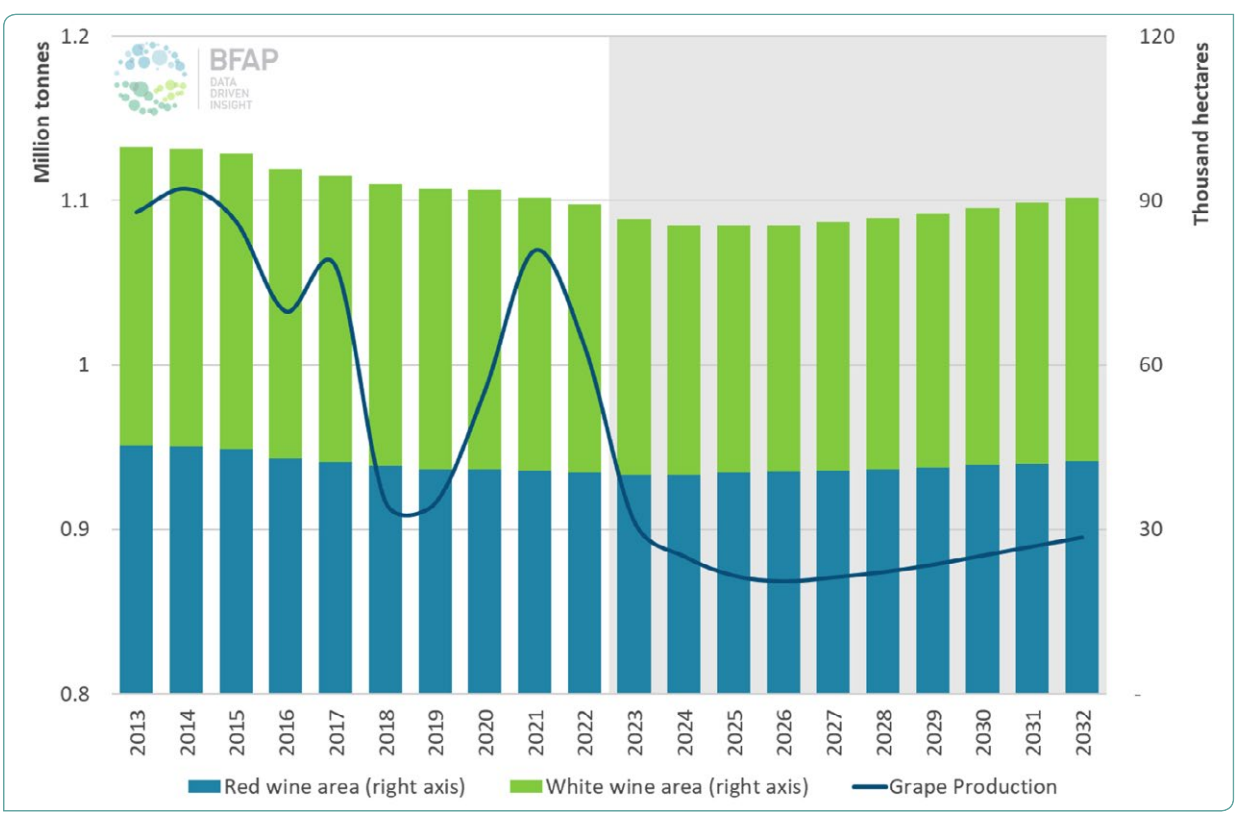


Figure 83: South African wine grape production: 2013-2032

Source: SAWIS, 2022 & BFAP Projections

decline. According to Vinpro (2023), it is likely that selected cultivar-and-region specific shortages could be realised over the next couple of years. This could create an opportunity for pockets of better returns on wine grapes, while average wine grape prices would need to reflect the extent of additional cost incurred at farm level, especially at current levels of loadshedding, to maintain production. Unless farm gate returns improve, wine grape producers who aren't vertically integrated in the value chain will continue to either uproot without replacement, replace aging vineyards with higher yielding cultivars and/or investigate opportunities to vertically integrate beyond the farm gate. Aligned with real wine price projections that are expected to recover by 2024-2025 on white wine and 2026-2027 on red wine to levels observed in 2019, a change in the trajectory of wine area is projected midway through the outlook period. The age of vines contributes to the projected further reduction of wine grape production over the short to medium term. Despite an increase in area from 2026 onwards to reach 90 000 again by 2032, production volumes are expected to lag as these new vineyards would only reach full bearing status towards the end of the outlook. Consequently, under business-as-usual conditions, wine grape production below 900 000 tonnes are projected from 2023 to 2032.

In response to contracting supply under drought conditions, wine prices increased at above inflation levels in 2017, 2018 and 2019 (Figure 84), supported by an average annual growth rate in export prices of 8.3% over the same period, which also reduced stock levels. After some contraction in wine prices as a result of Covid-19 regulations and the concomitant record stock levels, and in the aftermath of a high yielding 2021 season, prices in 2022 showed the first signs of recovery in nominal terms. In real terms, the projection is that white and red wine prices will only recover to 2019 levels in the medium term. In conjunction with a decline in total production volume over time, the supply pressure on prices is expected to alleviate somewhat, allowing for equilibrium prices to increase to above 2019 real prices towards the latter part of the outlook. As stock levels are projected to drop below historic longer term averages, the increase in nominal prices, together with the increase in farm level risks in some of the fruit industries could instigate a selective swing back towards wine grapes.

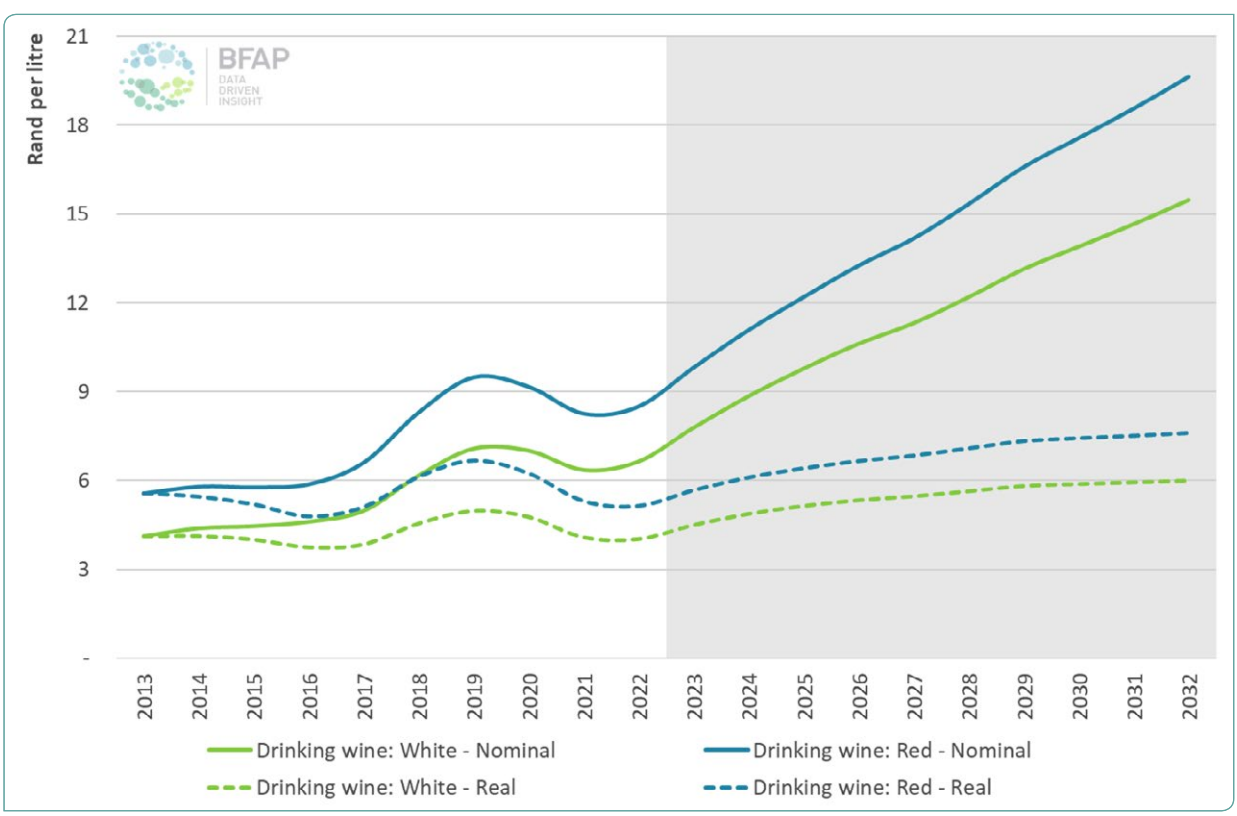


Figure 84: Historic and projected South African wine prices in nominal and real terms: 2013-2032

Figure 85 shows the production of drinking wine, together with the major market outlets – domestic consumption and exports. The past two years saw the share of packaged exports reduce drastically as the industry had to rectify the stock levels amidst a global logistic crisis. Going forward, and barring more crises, the projected stabilisation of wine production volume at a new norm below the historic average aligns with a decline in wine grape production on the back of continued uprooting and aging vineyards (Figure 83). Given the maintenance of existing market outlets – domestically and internationally – as has been indicated in Figure 79 and Figure 82 – stock levels are projected to reduce to 210 million litres – the equivalent of less than one third of wine production over the latter part of the outlook.

CONCLUDING REMARKS

Although some tides are turning with the expectation that things are slowly looking up in the wine industry, it remains a constrained environment for many. From an international market perspective, both production and consumption trends play a role in the markets where South African producers sell their product in coming years. The political environment will also play a role. The opportunity to unlock greater value for the industry with the right product to improve bottled and bulk wine prices has to be prioritised. Furthermore, to realise and sustain the repositioning ("premiumisation"), the benefit should seep through the whole value chain.

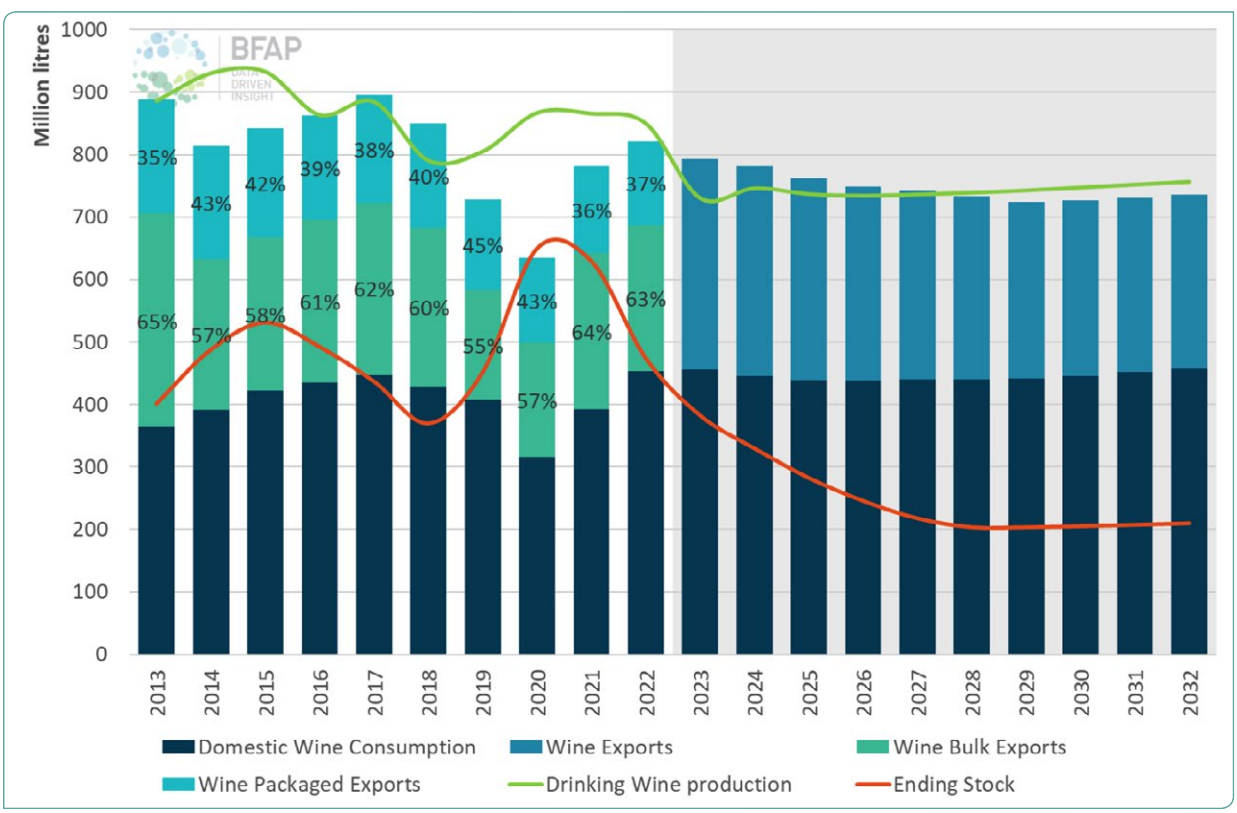


Figure 85: Production, consumption, trade and stock levels: 2013-2032

PROSPECTS FOR AGRO-PROCESSING




SOUTH AFRICA'S AGRO-PROCESSING sector currently faces a very challenging trading environment, partly due to the culmination of factors closely related to the same economic drivers impacting agricultural commodities, as well as factors that are largely unrelated. These factors have put significant pressure on processor margins over the past year. The main influencers are large commodity price fluctuations due to both international price and exchange rate volatility; reduced demand from income-constrained consumers; a dwindling national economy; supply chains disrupted by industrial action; and energy shortages. Agro-processors are confronted with the challenge of delivering on consumers' needs, maintaining steady production volumes, and carefully managing the process of cost recovery at a time when food inflation in the country is running at persistently high levels.

In an economy with unemployment levels amongst the highest in the world, the fact that 8 million abled people cannot find employment and another 3 million have stopped looking for work, dampens disposable income and spending on food and related products. This has been compounded by the South Africa Reserve Bank's attempts to reduce inflation to protect consumers in the medium to long term. Furthermore, several localised challenges such as loadshedding, social unrest (July 2021) and heightened political uncertainty add unnecessary risks and costs to supply chains, which will have to be absorbed by primary producers, processors, consumers, or a combination of all of them.

This chapter aims to provide insights into the integrated nature of South Africa's agricultural value chains, which involves most economic activities from producing farm products and processors that transforms agricultural output for final use. We briefly discuss the performance of South Africa's agro-processing industries and highlight some of the factors driving them. Finally, we end with some findings from our analysis of the impact of loadshedding on agro-processors from a recently completed study for the Western Cape Department of Agriculture.

INTEGRATED VALUE CHAINS

There is broad consensus that South Africa's agricultural context is well understood and underpinned by a well-developed body of data and knowledge to assess agricultural markets, much of which has been detailed in this Baseline. However, much less is known about

the agro-processing sector, especially considering individual sub-sectors. Yet, agro-processors are an integral part of the South African economy, being firstly a major buyer of agricultural products (pull-effect), then an intermediary that supplies inputs and services (linking effect) to farmers and other agro-processors and lastly, a channel (conduit effect) through which products reach wholesale, retail and other final food and beverage consumer markets. In this process, agro-processors provide not only the value-added activities of transforming agricultural produce, but these activities are accompanied by supply chain infrastructure and services to deliver products to the market that are safe and of high quality. These all contribute to growing the South African economy.

Figure 86 provides a perspective on the relative size and linkages between industries within the formal agriculture and agro-processing sector. It comprises a summary of South Africa's total production (supply) of products, as well as the total demand (use). The data come from StatsSA's supply and use tables, for which the latest released data is 2019. It helps to understand to what extent these industries are interlinked and integrated. At first glance, considering the supply side, it is important to note that relative to imports, South Africa is largely self-sufficient in producing agricultural and related processed products - such that only 13% of the total value of supply is sourced from outside the country. This in itself is a remarkable feat, especially amongst our counterparts in the rest of the African continent. The biggest import-dependent industries by value were processed meat (mainly poultry), edible oils (palm) and grain milling (rice), which had a combined import value of R36 billion and 35% share of total agricultural imports in 2019.

The demand side is important for assessing the extent to which different industries rely on one another to buy products for use as intermediates and to produce final products. The right side of Figure 86 provides a perspective on the share of intermediate use to total demand amongst other final uses such as exports and household consumption.

As expected, field crops (86%) and animal farming (35%) had a high share of use by other downstream industries, in that the bulk flows into the manufacturing sector for further processing. Farmers in these industries primarily farm for industrial buyers in South Africa, which in turn produce manufactured products for household consumption. The horticulture industry is however much less reliant on such use since around 60% of total use is destined for exports, in fresh form, leaving a much smaller share for local fresh consumption. Fruit manufacturers bought around R16 billion of fruit and

Figure 86: Supply and Use of agriculture and agro-processing industries

Source: StatsSA, 2022

nuts for processing, to deliver a combination of fruit juice, canned fruit and vegetables and prepared snacks to name a few.

Looking now at agro-processors, it is clear that these industries have a larger share of use directed to household consumption, reflected in the dark grey bars. In total, output from the agro-processing sector can be divided into 46% for household consumption, 24% as inputs to other agro-processors, 13% as inputs used in agriculture and 15% exported. One example of the co-dependence between industries is edible oils, which are manufactured through crushing oilseeds and/or refining imported or locally produced crude vegetable oils. Only around 16% of the country's manufactured oil goes directly for household consumption. A much larger share of 60% is used by other processors as an input in their production process to produce food, as well as used in restaurants and other industries to produce value-added products for household consumption or exports. Manufacturing of 'other' food products such as potato fries, different sauces, condiments and baby food all require intermediates from multiple agro-processing industries, again highlighting the interconnectedness between the different agro-processing sub-sectors.

Asides from the linkages between agriculture and agro-processors, another important observation from the analysis in Figure 86 is that between all these industries, around R258 billion of output is directed to the South African consumer, either through retailers, restaurants, or other food service outlets. Only around 13% of total supply is exported. This conduit dynamic reflects the importance of a growing South African economy to underpin growth in agriculture and agro-processing sectors of the economy.

AGRO-PROCESSING PERFORMANCE

Figure 87 presents the performance of agro-processing sales since 2009, on a quarter-on-quarter annualised basis, with the bars disaggregating the contribution of each category of agro-processing. The dotted line provides the trend for volumes sold for the industries combined to gauge whether sales growth was driven by price or volume changes. We discussed some of the major reasons for this historic trend in last year's Baseline, hence the current focus is on the past two years. After the large decline and sudden rebound caused by Covid-19 in 2020, the performance of the

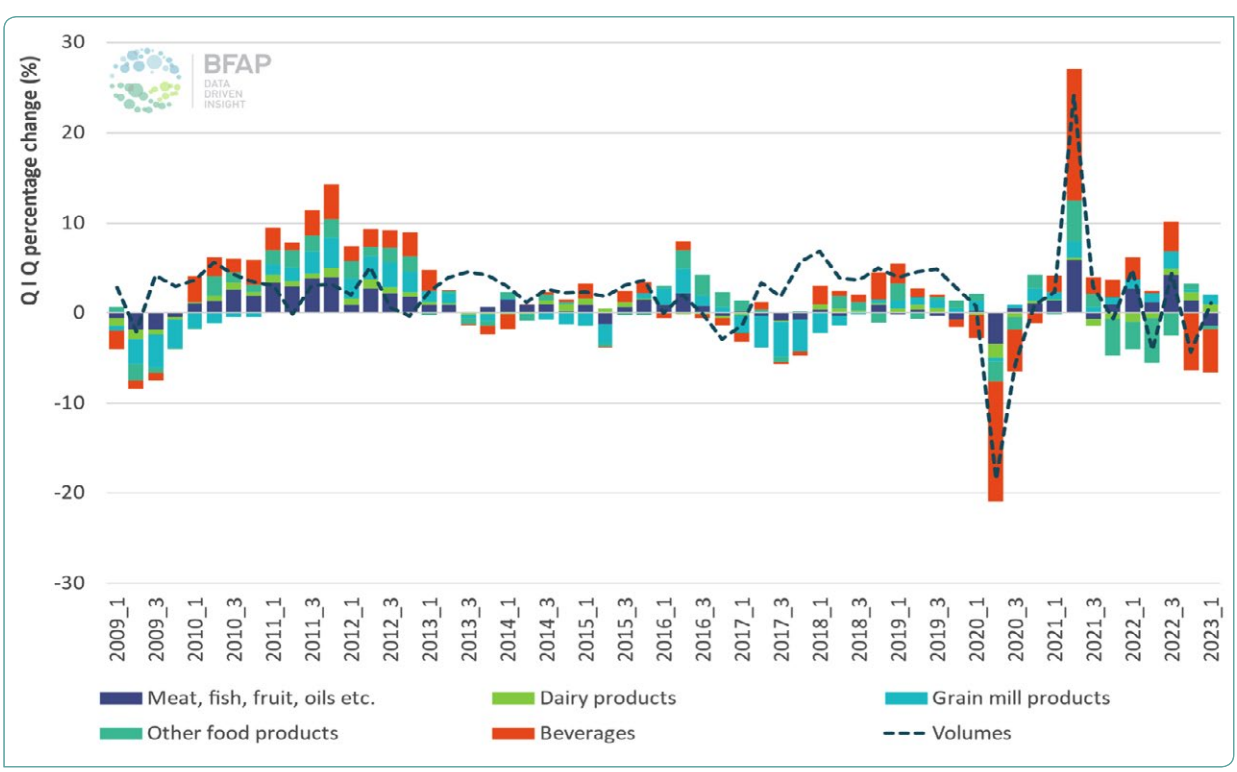


Figure 87: South African food & beverage manufacturing performance

Source: StatsSA, 2022

agro-processing sub-sectors has been a mixed bag with some performing well at times and others poorly.

Table 6 provides the actual real sales values and growth rates for the food and beverage industries between 2019 and 2022. In 2022, food and beverage manufacturing made up around 24% of total manufacturing sales, whilst the meat, fish, fruit and oils subsectors made the largest contribution to agro-processing at around 30%. Of importance is the weak performance of the second largest sub-sectors in 'other' food (which includes potato chips, baby food, sauces and condiments) and beverages, with sales declining by 11% and 1% respectively in the past year in real terms. Total sales from agro-processing in South Africa were around R263 billion in 2022, 0.8% higher than a year ago and 0.5% per annum lower than 2019. Given that the volume index is still trending lower than the base of 2019's output volumes, the sector seems to be struggling to regain the slight momentum that characterised operations before Covid-19. Agro-processors have however outperformed other manufacturers in that total manufacturing sector sales are still 10% lower in 2022 compared to 2019.

The agro-processing sector employed around 263 000 workers in 2022 (Figure 88) and has enjoyed marginal

Table 6: Agro-processing sales performance 2019-2021

Industry	Real Sales R (million)				Sales Growth (%)	
	2019	2021	2022	Share (%)	2019-2022	2021-2022
Meat, fish, fruit, oils etc.	69 555	72 926	79 063	30	4.4	8.4
Dairy products	23 865	21 766	21 887	8	-2.8	0.6
Grain mill products	38 355	42 410	45 199	17	5.6	6.6
Other food products	55 439	54 653	48 510	18	-4.4	-11.2
Beverages	72 401	69 525	68 604	26	-1.8	-1.3
Total Food and beverages	259 615	261 279	263 263	100	0.5	0.8
Total Manufacturing	1 164 493	1 069 330	1 099 465	24	-10.25	16.51

Source: StatsSA, 2022

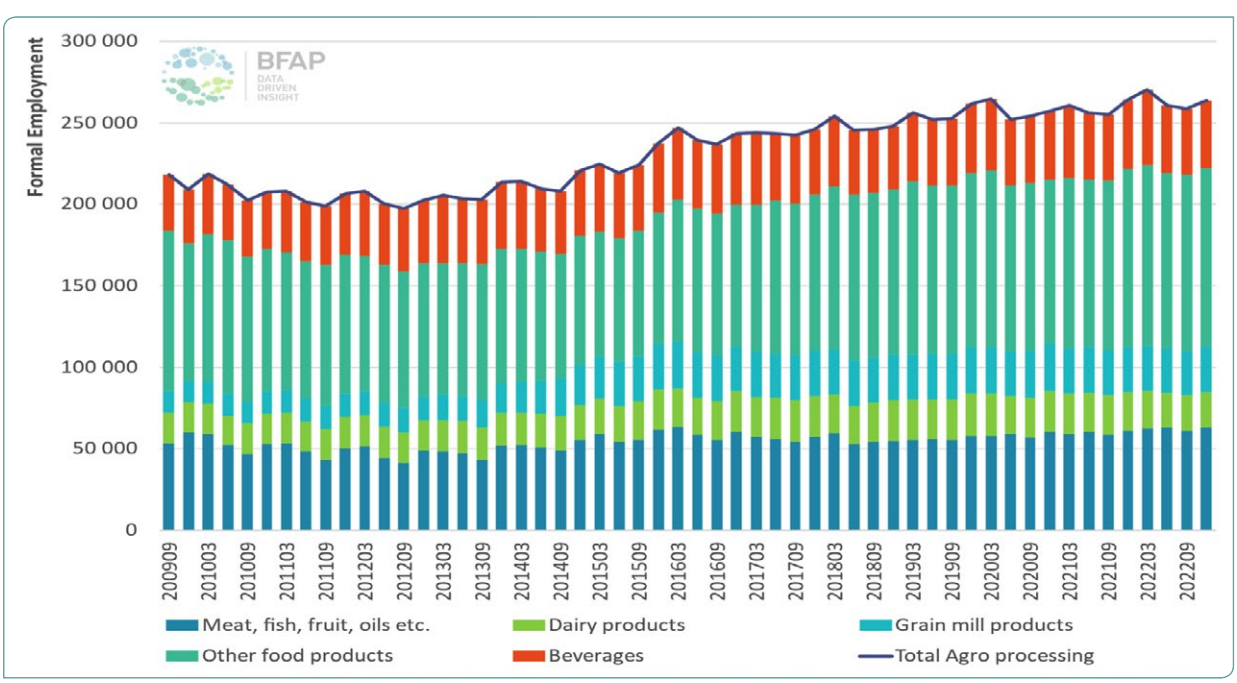


Figure 88: Employment trends in South African food & beverage manufacturing

Source: StatsSA, 2022

growth of 4 200 jobs in the past two years, despite the poor sales performance. 'Other' food and the meat, fish, fruit and oils subsectors were responsible for the bulk of these gains, whilst dairy processors and grain millers shed a combined 1 200 jobs. Given the current difficult economic trading environment, in which processors are faced with managing the unprecedented impact of almost consistent stage 6 loadshedding, it seems likely that further jobs could be shed in 2023.

IMPACT OF LOADSHEDDING ON AGRO-PROCESSORS

BFAP recently assessed the potential impact of loadshedding on agriculture and the agro-processing sectors. Though the assessment was spatially focussed on the Western Cape, the findings related to processors will not differ significantly for the rest of the country. Table 7 presents our compilation of South Africa's agro-processing sectors' energy dependence, as estimated for 2022. The total electricity bill was around R4.4 billion and spending on fuel was another R7.4 billion. It is expected that the latter will scale significantly in 2023. Electricity and fuel costs make out a fairly insignificant percentage of the total cost of agro-processors at around 1.4% and 1.7% respectively.

There are considerable differences between the types of activities to process food and beverages, as well as the type of infrastructure required to deliver products to the market such as the need to continually keep products cold (meat and many dairy products) or processes that involve heating. The meat, fish, fruit and oils subsectors exhibit the largest per unit requirement to process products, with a crude average of 300-400 KWh of energy needed per unit of output, while processing dairy products such as yoghurt and desserts ranged between 250-300 KWh. We estimate that the average requirement to process one tonne of output across all agro-processors was around 120 KWh, noting the large variation between different industries and even within the same industry, as the type of product processed will also vary. The per unit requirement might be relatively small, but it is the scale requirement (number of tonnes) that adds up to large energy use, particularly if additional energy needs to be generated from alternative sources at a higher price.

We estimate that, for every hour of loadshedding, running diesel generators scales the energy cost to process from the current Eskom tariff of below R2/KWh to R5.25 - more than double, depending on the location of the plant. Running operations on generators at a constant loadshedding level 6 will scale the annual share of electricity costs to total costs from 2.7% to 4%, the equivalent of spending an additional R3 billion to secure energy availability to run operations. Such additional costs to physically process the same amount of output, combined with additional energy costs at virtually every step of the value chain, from farm to retail, will put significant strain on the South African economy, regardless of who will absorb such costs.

Discussions with processors suggested that most have already invested in some form of alternative energy generation, typically either using large industrial-scale generators or solar during the day. Large

Table 7: Agro-processing energy dependence indicators

Industry	Energy Intensity (KWh per Unit)	Total Costs R' million	Electricity		Fuel		Combined Share (%)
			Spend R' million	Share of Total Costs (%)	Spend	Share of Total Costs (%)	
Meat, fish, fruit, vegetables, oils	300-400	109 271	1 088	1.00	1 087	1.00	1.99
Dairy	250-300	32 628	315	0.97	445	1.36	2.33
Grain and animal feeds	70-110	57 444	741	1.29	520	0.91	2.20
Other food products	100-120	136 726	1 964	1.44	3 711	2.71	4.15
Beverages	80-100	91 402	325	0.36	1 628	1.78	2.14
Total	120	427 471	4 433	1.04	7 392	1.73	2.77

processors were also prepared to keep operations going regardless of the stage of loadshedding, or until it becomes practically impossible to continue. This naturally does not apply to all and in particular, Small and Medium Enterprises (SMEs), which neither have the capital base, nor available cashflow, to invest and keep operations going during loadshedding. Thus, loadshedding has a disproportionate impact on smaller farms and processors, which will significantly impact operations of these businesses due to downtime. This is a big concern for the country which aims to create a conducive environment for small businesses and to create jobs, since processors need to maintain a large (>70%) throughput to be able to neutralise the substantial fixed costs associated with running plants and equipment.

Aside from the impact of loadshedding, which has become an expected and consistent phenomenon in South Africa and will likely not be solved in the next two years, the impact of a sudden grid collapse would be exponentially larger. Some processors (and farms such as poultry) cannot allow any downtime in their supply chains, since it will cause a significant knock-on impact on the business, leading to product losses, reduced income for an extended period and certainly lay-off of workers. It is therefore imperative that sustainable solutions be crafted to support farms and processors, to be able to deliver products in South Africa and to our trading partners at competitive (and affordable) prices, otherwise risking an influx of more imported food into our economy.

FOOD INFLATION IN 2023 AND BEYOND

IMPACTS OF LOADSHEDDING AND CURRENCY DEPRECIATION ON FOOD PRICES




COUNTRIES the world over have seen rapid food inflation during 2021 and 2022. The causes range from supply disruptions such as drought and global supply chain bottlenecks to demand issues, including rapid consumption recovery, fuelled by government transfers in Western markets after the Covid-19 pandemic. In the second half of 2022, global food inflation started to ease. Although lower global agricultural commodity prices are likely to filter through to local markets later in 2023[3], South Africa is likely to experience only a modest easing in food inflation as a result of local dynamics that offset the gains from lower commodity prices. These factors include a rapid exchange rate depreciation and persistent loadshedding which has been increasing in intensity and frequency over the past six months (Figure 89).

The effects of a depreciating currency on food inflation

Over the past 20 years there have been multiple episodes of rapid food inflation. Two of these periods were associated with a notable depreciation in the exchange rate. During 2002, food inflation touched on 20% as a result of a rapid depreciation of the Rand of more than 30% during the last quarter of 2001. Similarly in 2014, the Rand depreciated by around 10% through the course of the year, causing food inflation to peak at 9.6% in August 2014. The depreciating trend in the currency extended over the next two years, as it depreciated by almost 20% through 2015 and 2016, thus adding to the effect of severe drought in 2015/16 on food inflation. On the back of this combination, food inflation reached 13.6% in January 2017. Since the start of 2023 the Rand has had another huge slide, weakening by 13.3% over the first five months of the year. History seems to suggest that this will have a notable impact, keeping food inflation elevated. Estimates indicate that this can add up to 2 percentage points to what average food inflation figures would have been under assumptions of exchange rates comparable to those at the start of 2023. Average inflation rates in 2024 will then likely moderate on the back of high base effects.

[3] For more detail on international and South African food inflation trends and drivers please refer to the BFAP Food Inflation Brief published monthly on www.bfap.co.za.

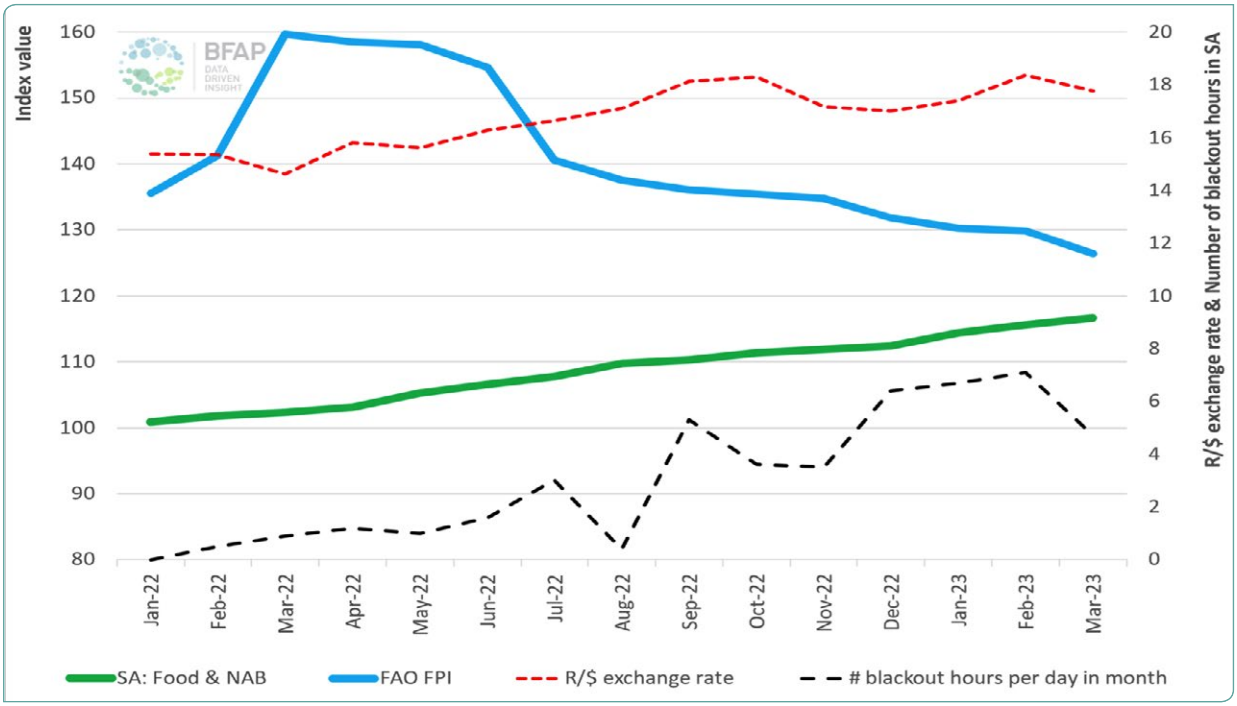


Figure 89: A historical perspective on the South African CPI for food and non-alcoholic beverages (NAB), the FAO Food Price Index (FPI), the Rand / US $ exchange rate and the severity of loadshedding from January 2022 to March 2023

Sources: BFAP calculations; Stats SA urban food prices

Effects of increasing frequency and intensity of loadshedding on food inflation

Gauging the effect of loadshedding on food inflation is complex. Firstly, current levels of loadshedding are unprecedented and there are no historical reference periods to guide the analysis. Secondly, it affects every node of the value chain and basically has a multiplier effect throughout the chain. Thirdly, the effect of load shedding relates to both an increase in costs (e.g. cost of fuel to run generators, as well as cost of food losses due to spoilage) and a reduction in production capacity, each of which are likely to drive inflationary effects in food value chains. On the other hand, increased loadshedding has demand-side effects, as consumer spending power is increasingly strained, and as a result, it is unlikely that the full costs of loadshedding could be passed on to the final retail price. The increased costs are likely to be borne throughout the chain. Our view is therefore that increased loadshedding in 2023 compared to 2022 can add around 1.7 percentage points to food inflation figures.

BOX 6: CHANGING COSTS OF DOMINANT FOODS IN SOUTH AFRICA

The top 15 dominant foods in South Africa, from a food expenditure perspective* (presented in order of importance) are: chicken, beef, maize meal, brown bread, milk, white bread, rice, sugar, fish, plant oil, eggs, pork, potatoes, mutton / lamb and wheat flour. Figure 90 presents an analysis of the cost per single serving unit (SSU) for these foods comparing the first quarter of 2022 (Q1 2022) with Q1 2023.

** Household-level food expenditure data from Stats SA Living Conditions Survey 2014/2015*

The affordability of starch-rich foods:

Figure 90 indicates that the cost of a SSU for starch-rich foods ranged from R0.37 (maize meal) to R1.65 (potatoes)

BOX 6: CHANGING COSTS OF DOMINANT FOODS IN SOUTH AFRICA (CONTINUED)

in Q1 2023. Maize meal was the most affordable of the starchy staples in Q1 2023, followed by rice, wheat flour, then potatoes. We observe the following cost comparisons for these starch-rich foods:

	Food item:	% more expensive than maize meal:
Most affordable options	Maize meal Rice Wheat flour	- 5% 16%
More expensive options	Brown bread White bread Potatoes	159% 188% 341%

From Q1 2022 to Q1 2023 the affordability gap between all these starch-rich foods and maize meal declined, with the most significant decrease observed for rice. In Q1 2022 a SSU of rice cost 15c more than a SSU of maize meal, while it cost only 2c more in Q1 2023. This could motivate consumers to switch to rice – also considering the shorter cooking time of rice versus maize porridge. However, as mentioned in previous versions of the BFAP Baseline, such a shift could lead to a loss in micro-nutrient intake as maize meal is fortified with vitamins and minerals, and not rice.

The affordability of meat, fish and eggs:

As per Figure 90, the cost of a SSU for protein-rich foods ranged from R5.56 (canned pilchards) to R40 (beef fillet) in Q1 2023 – significantly more expensive per SSU compared to starch-rich food option. For example, a SSU of pilchards is more than 5 times more expensive than a SSU of maize meal. The most affordable protein-rich food in Q1 2023 was canned pilchards, followed by eggs and IQF chicken. We observe the following cost levels for protein-rich foods:

	Food item:	% more expensive than pilchards:
Most affordable options	Canned pilchards Eggs IQF chicken	- 9% 51%
Mid-level affordability	Beef mince Fresh chicken pieces Pork chops	98% 64% 77%
Least affordable options	Beef fillet Lamb chops	111% 152%

From Q1 2022 to Q1 2023 the affordability gap between all these protein-rich foods and pilchards did not change much, except for a decreasing affordability gap between pilchards and eggs which could increase the appeal of eggs as an affordable and easy/quick to prepare protein-rich food option.

BOX 6: CHANGING COSTS OF DOMINANT FOODS IN SOUTH AFRICA (CONTINUED)

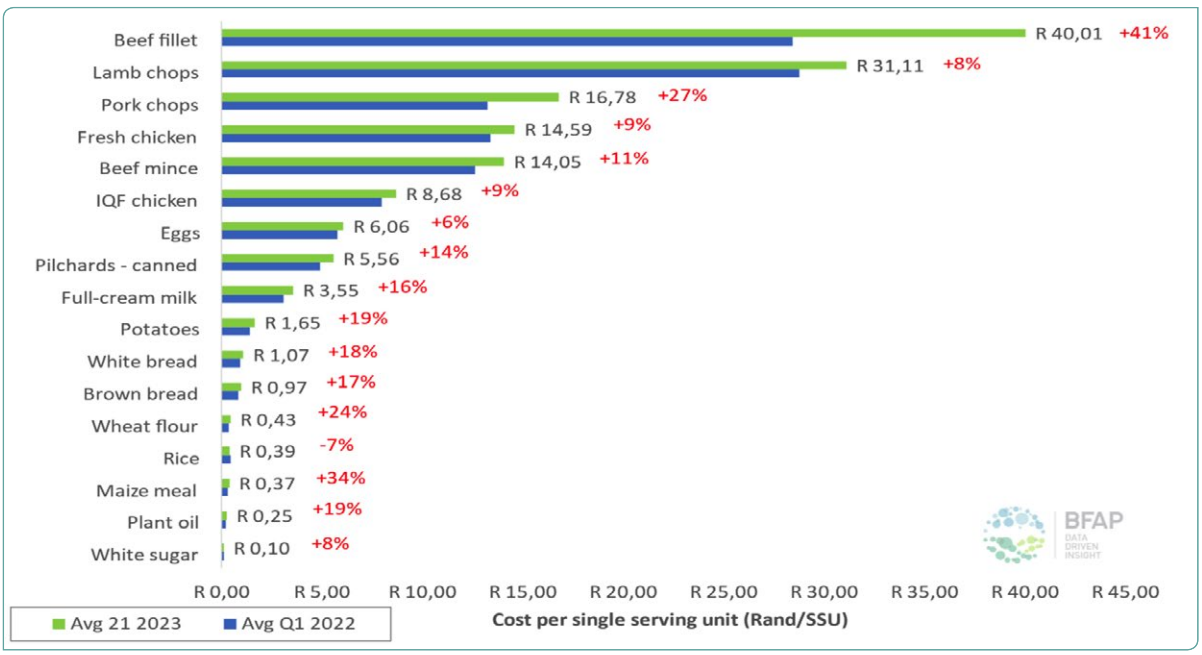


Figure 90: Affordability of dominant foods in South Africa – comparing Q1 2022 with Q1 2023

Source: BFAP calculations based on Stats SA urban food price observations

FOOD INFLATION SCENARIOS

Scenario 1: Base effects and commodity price outlooks drive inflation down

During the second half of 2022, food inflation gained momentum from high grain and oilseed prices underpinned by the Russian invasion of Ukraine. These high base effects are likely to come into play during the second half of 2023 and food inflation rates will ease below 10% for the remaining months in 2023. Lower food inflation rates are further supported by easing grain and red meat prices.

Scenario 2: Upside inflationary risks in food

Two factors are however expected to offset the gains of lower agricultural commodity prices in the second half of 2023. These are exchange rate depreciation, which offsets declines in global prices, and load-shedding, which is constraining supply and/or increasing the cost of production. Therefore, double digit inflation rates could persist during 2023 on the back of these two issues. These two scenarios are be summarised in Table 8.

The cost and affordability of basic healthy eating in South Africa

The BFAP Thrifty Healthy Food Basket (THFB)[4] measures the monthly cost of basic healthy eating for a South African reference household consisting of 2 adults and 2 children. Thus, this basket gives an indication of the typical cost of obtaining a basic healthy food selection with enough daily energy and adequate nutritional diversity. The 'maize meal only' food basket for the reference

[4] In 2015 BFAP identified the need to develop an approach to measure the cost of healthy (nutritionally balanced) eating in the South African context – thus enabling the comparison of consumers' actual and 'more ideal' food expenditure patterns and associated inflation. The methodology takes into consideration national nutrition guidelines, typical food intake patterns of lower-income households, official Stats SA food retail prices and typical household demographics. Consisting of a nutritionally balanced combination of 26 food items from all the food groups, the BFAP THFB is designed to feed a reference family of four (consisting of an adult male, an adult female, an older child and a younger child) for a month. For more detail on the THFB methodology please refer to the 2015 edition of the BFAP Outlook.

Table 8: Summary of food inflation scenarios

Scenario:	Description:	Average Food Inflation Rate 2023	Average Food Inflation Rate 2024
1	More optimistic scenario: Base effects and commodity price outlooks drive inflation down	9.5%	5%
2	Less optimistic scenario: Upside inflationary risks in food due to loadshedding and other factors	13.2%	4.8%

family of four estimates the monthly cost of obtaining the total monthly energy requirements of the household from only one food source – the most affordable starch-rich staple food in South Africa. Thus, this basket gives an indication of the absolute minimum cost of obtaining enough daily energy, even though nutritional diversity is severely lacking for such a hypothetical diet.

Figure 91 shows historical and projected costs of the BFAP 'maize meal only' basket and THFB (2022 to 2024). In the first quarter of 2023 (Q1 2023) the cost of the 'maize meal only' food basket indicated that the reference family of four had to spend R957 per month on maize meal to obtain enough daily energy, increasing by 26% from 2022. In Q1 of 2023 the cost of the BFAP THFB amounted to R3 495/month, increasing by 9% from 2022. Thus, in Q1 of 2023 the BFAP THFB was on average 217% or R2 393 more expensive than the 'maize meal only' food basket per month, stressing the significant cost difference between minimum adequate energy intake and a basic balanced food basket for South Africans.

In the more optimistic first scenario above, where food inflation is driven down by base effects and more positive commodity price outlooks, expectations are that the cost of the BFAP THFB could reach R3 509 in 2023 (+9.5% year-on-year, R304 more expensive than in 2022), and a further 5.0% year-on-year towards 2024 to reach a cost level of R 3 684 (R175 more expensive than in 2023). In the less optimistic second scenario above, with various upside inflationary risks, implications are that the cost of the BFAP THFB could reach R3 627 in 2023 (+13.2% year-on-year, R423 more expensive than in 2022), and a further 4.8% year-on-year towards 2024 to reach a cost level of R 3 801 (R174 more expensive than in 2023).

CPI-based food inflation vs. inflation on basic healthy eating

Figure 92 compares the cost of the CPI index for food and non-alcoholic beverages (NAB) to inflation on the BFAP THFB, as a measure of the cost of basic healthy eating for the period January 2022 to May 2023. The composition of the CPI index for food and NAB, which reflects 'typical' South African food expenditure patterns for all households, differs from the composition of the BFAP THFB, which reflects basic 'ideal healthy' South African food expenditure for poor households. These differences encompass both the food items included as well as the relative weights of food categories. Higher inflation on the cost of healthy eating compared to CPI food inflation is often attributed to high inflation on foods contributing to dietary diversity, with a higher relative weighting contribution to the THFB, such as fruit, vegetables and legumes.

Affordability of the food baskets in 2022

The affordability of the THFB is evaluated by considering a household earning one or two full-time minimum wages, receiving two child support grants and children benefitting from a school feeding programme.

In May 2023 the 'maize meal only' basket could absorb up to 18% (single wage income) and up to 10% (dual wage income) of the income of the typical household, and is thus affordable within the context of typical food expenditure shares shown in Figure 93. However, keep in mind that such a hypothetical diet will not be nutritionally adequate, despite providing the energy needs of the reference household.

A four-member household with only one wage earner, benefitting from child support grants and school feeding for children, would however not be able to afford the BFAP THFB in May 2023, as the basket could absorb up to 57% of household income, significantly higher than the typical 32% food expenditure share of the least affluent households in South Africa. A household with two wage earners, benefitting from child support grants and school feeding for children, could spend up to 32% of income on food, falling within the food expenditure

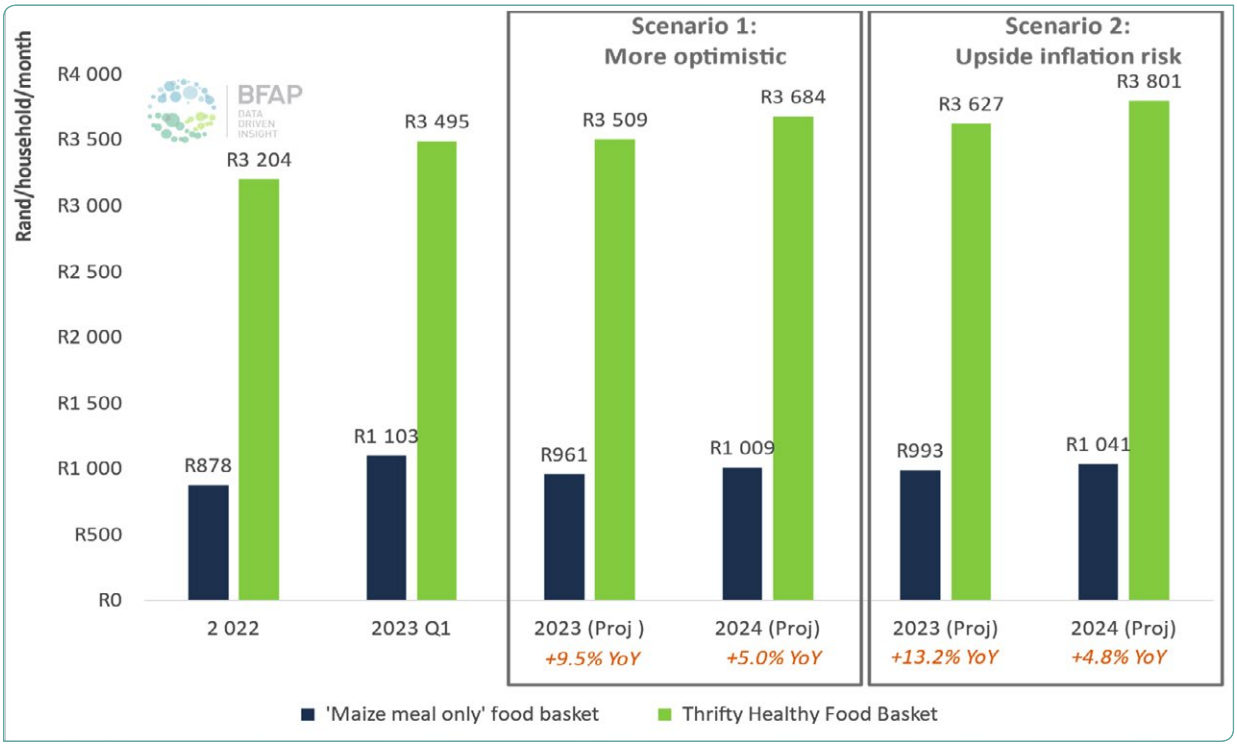


Figure 91: Historical and projected costs of the BFAP 'maize meal only' basket and the THFB from 2022 to 2024

Source: BFAP calculations

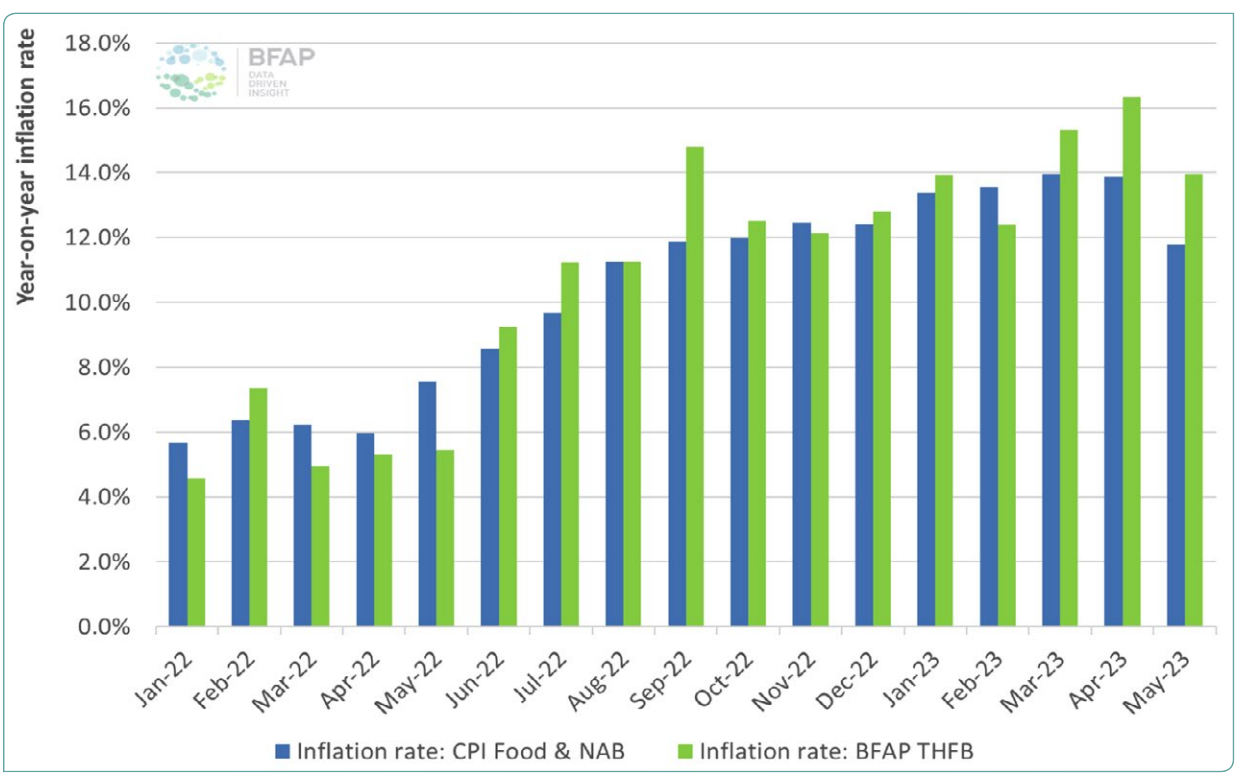


Figure 92: A comparison of inflation on the BFAP Thrifty Healthy Food Basket and inflation based on the CPI for food and non-alcoholic beverages from January 2022 to March 2023

Source: BFAP calculations & Stats SA CPI data for all urban areas

share range of the 40% least affluent households in the country. However, even a household with a dual minimum wage income could become vulnerable in terms of food access in the case of further food price increases and/or household income pressure. Within the socio-economic spectrum in South Africa, (Figure 94) more than half of the South African population cannot afford basic healthy eating.

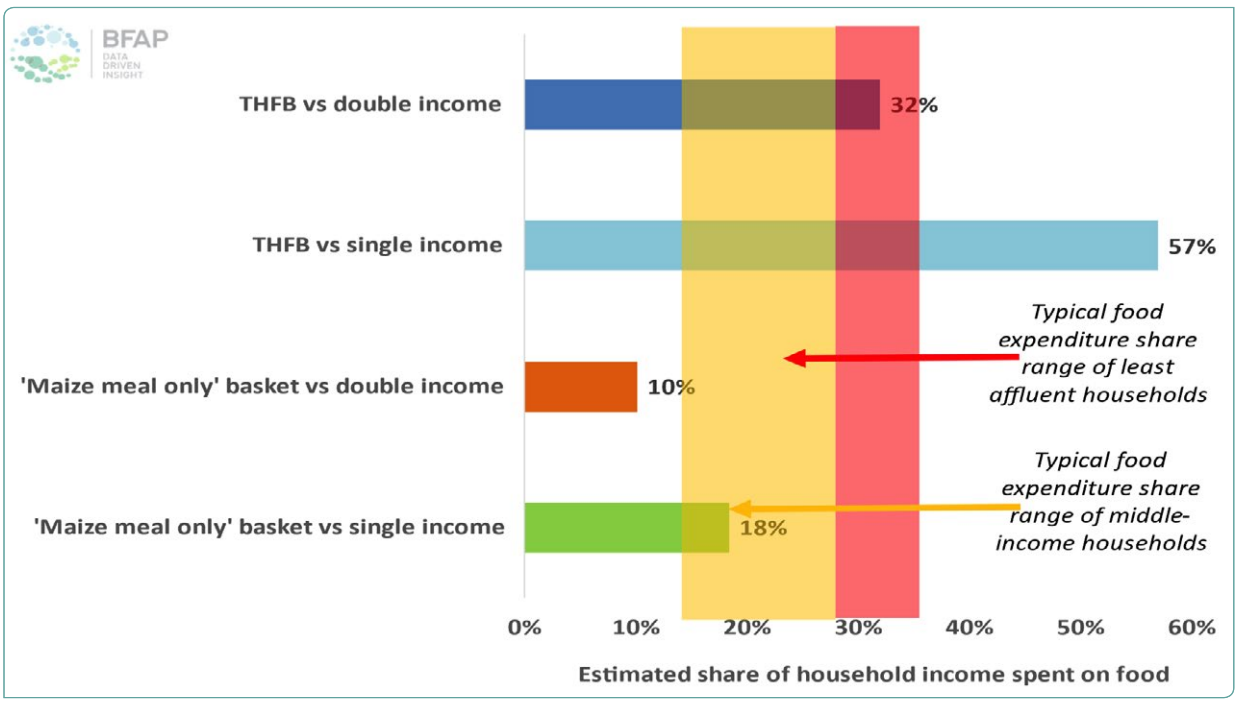


Figure 93: Affordability of the 'maize meal only' and THFB in 2022

Source BFAP calculations; Food expenditure shares: Stats SA LCS 2014/2015

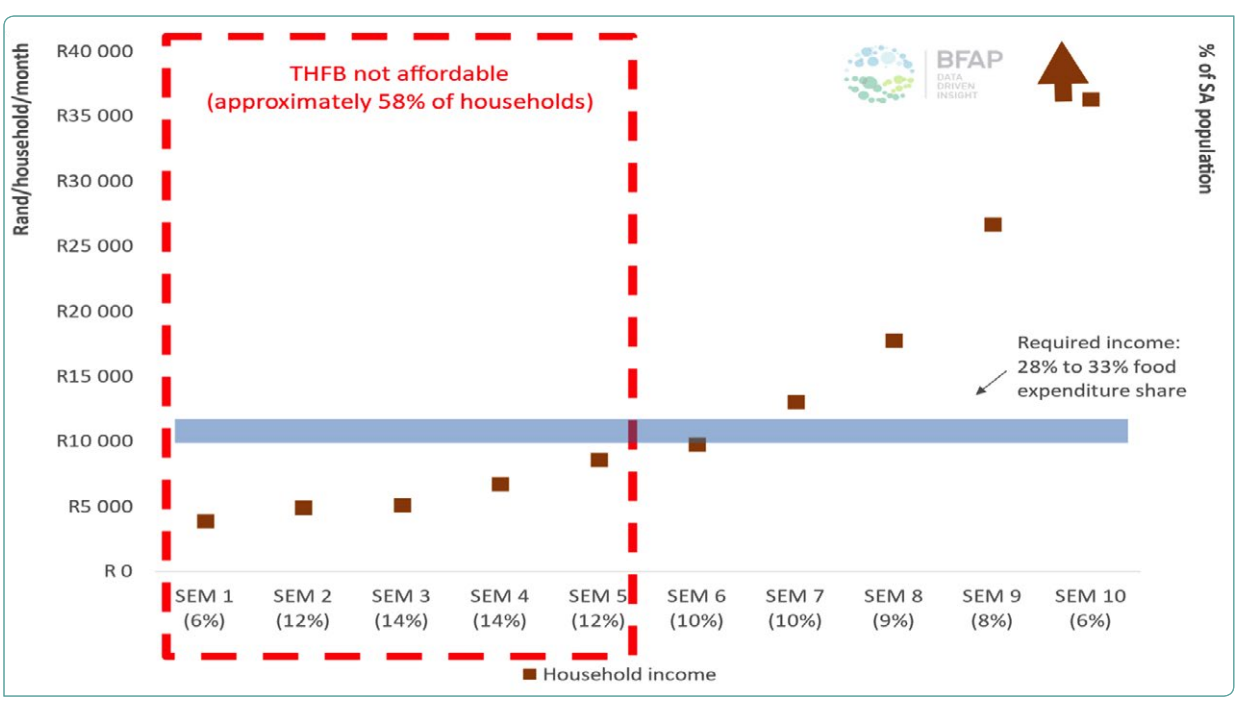


Figure 94: Affordability of the THFB within the socio-economic spectrum in South Africa (2022 estimates)

Sources: BFAP calculations on THFB costs; SEM distribution and income levels from the Marketing All Product Survey of the Marketing Research Foundation (2022)

ACCELERATING INCLUSIVE AGRICULTURAL TRANSFORMATION

IN SUB SAHARAN AFRICA

BY THE END OF THIS DECADE, most African countries would have been independent for at least 50 years. Eritrea, Namibia and South Sudan are the exceptions, but more than 90% of the countries on the continent have been responsible for their own policy and strategic economic decisions for many decades. Initially following independence, most countries followed an interventionist path to development planning and implementation. Typically, governments played a dominant role in the development process through projects financed by loans and grant funding from the global banking sector and the multilateral institutions such as the World Bank and the IMF. As the state took control of most activities in the economy, the role of the private sector and the free market declined.

A number of events in the 1980s and early 1990s resulted in a slow but gradual decline in State intervention. From the mid-1980s high debt levels were used by lending institutions such as the World Bank and IMF to enforce market-driven policies as conditions for further support and most African countries ended up implementing some form of structural adjustment programmes (SAPs) in terms of the so-called "Washington consensus". The fall of the Berlin Wall at the end of the 1980s and the dissolution of the Soviet Union in 1991 signalled the end of superpower rivalry in Africa, leaving governments more leeway in deciding on their own course of development.

A second signal of intent by African countries towards more market-friendly policies was accession to the World Trade Organisation (WTO) after the signing of the Marrakech Agreement in 1994. The WTO was established to create ensure less interventionist trade policies. It has 164 members, more than a quarter of which are African countries. This set in motion a great number of trade agreements over the past three decades, both with partners from other parts of the world and amongst African countries themselves. Chief among these is the African Continental Free Trade Agreement (AfCFTA), the largest trade arrangement in the world by number of member states.

Agriculture still represents a substantial share of the total economy and continues to play a critical role in economic development across most of the African region. Many African countries have developed agricultural investment plans aimed at not only accelerating growth in the sector, but also transforming the sector. This typically involves increased participation from the private sector (Figure 95), along with a focus on the development of

agricultural value chains post farm gate. This shift does not imply neglect of primary food production, and indeed policy direction continue to focus on food security and growing staple food production. Nevertheless, as the sector transforms, it can accelerate growth by not only maximising comparative advantage in the production environment, but also developing agro-processing sectors, and adding value by transforming commodities into consumer products. This enables additional off-farm employment and in many cases opportunities to replace imports of processed food products.

As the region embarks on pathways to accelerated and inclusive agricultural transformation, prioritisation of policies and investments has proven critical, due to budgetary constraints. Such constraints can be alleviated to some extent by harnessing private sector investment, but such investment requires an enabling and stable policy environment, with clear and focussed direction. Thus, solutions to challenges that constrain growth require actions from both public and private sector. To ensure sustainability and maximise impact in a cost-effective manner, such actions must be informed and prioritised by market led analysis, built on collaboration between public and private sector.

BFAP's network of partnerships across the African region has grown rapidly over many years, starting with multiple collaborations with private sector, many of which are still ongoing, and later also within the ANAPRI (previously ReNAPRI) network, of which BFAP is a proud founding member. Capacity development and knowledge sharing with in country partners remains a core commitment and many of the research projects conducted in the wider African region (also wider than ANAPRI country network) were in collaboration with these in country partners. Selected project outputs from such collaboration are included in this chapter, which provides a brief overview of the agricultural trade environment and the state of staple food consumption and production in selected African countries. It also presents case studies that illustrate the potential to accelerate inclusive agricultural transformation. The case studies provide an indication of possibilities when public and private sector collaborate towards a single objective.

TRADE IN AGRICULTURE AND FOOD PRODUCTS IN SUB-SAHARAN AFRICA

Sub-Saharan Africa (SSA) remains a net importer of agriculture and food products. Consideration of the basket of agriculture and food products traded by the region, as depicted in Figure 96, reflects the historic focus on food staple production, along with limited

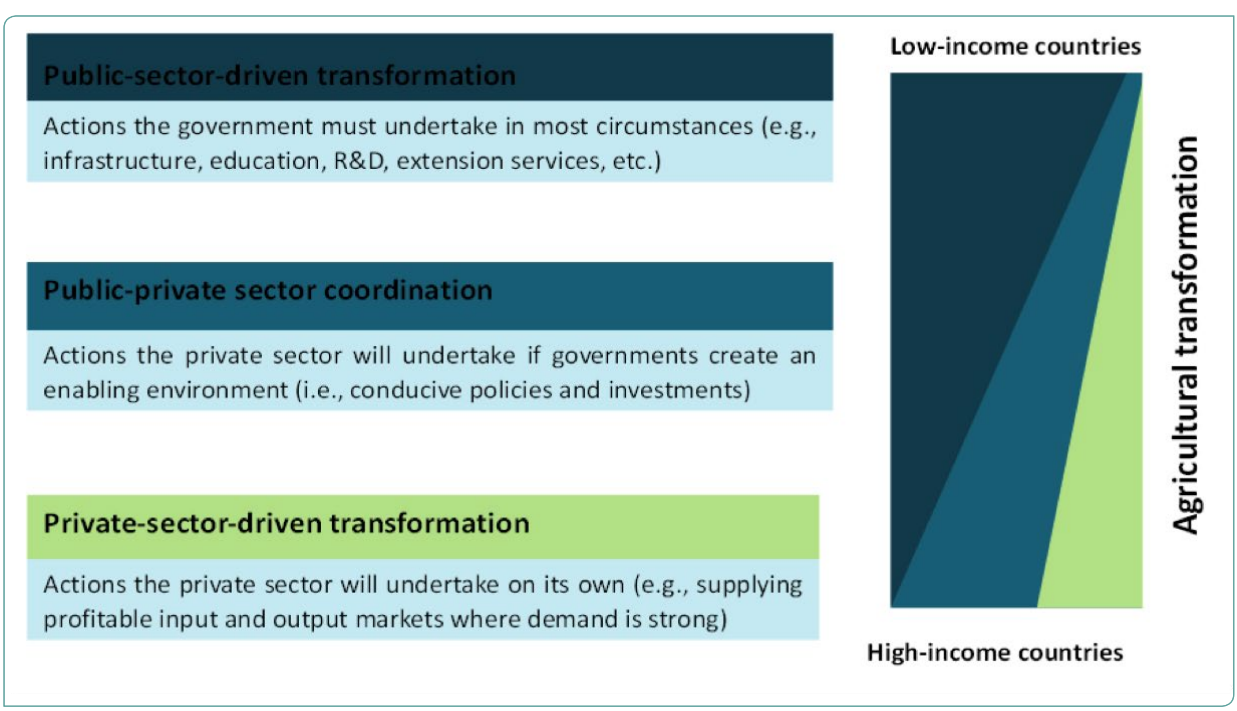


Figure 95: Developmental path of agricultural transformation

value addition post farm gate. The region is a consistent net exporter of unprocessed products, both perishable products such as fresh fruit, vegetables and flowers, as well as non-perishable products such as grains and oilseeds. While significant diversity exists across the region, the aggregate picture provided in Figure 96, which groups agricultural and food products into different levels of processing, as well as perishability, suggests that ample opportunities exist to grow exports of high value products, and to replace imports of processed products.

Consistent net exports of unprocessed, perishable products reflect the comparative advantage of many countries in the region in producing fresh produce. Production is often labour intensive which, combined with suitable climatic conditions across large parts of SSA and counter seasonality into Northern Hemisphere markets supports export competitiveness. Kenya's exports of more than $600 million worth of cut flowers in 2022, along with rapid growth in exports of products such as avocadoes and macadamia nuts reflect the extent of the possibilities. At the same time, ample opportunities exist to grow exports of high value fresh produce from the region if infrastructure development is prioritised to reduce the cost of distribution and improve the cold chain.

The combination of fairly consistent exports of unprocessed, non-perishable products, which includes many important food staples, along with net imports of processed food products points to significant opportunities in the agro-processing sector. Exports of raw products such as coco beans, cotton and oilseeds reflect limitations in processing capacity in large parts of the region. In many instances, final products such as textiles and vegetable oils are again imported. One can argue that the historic focus on staple foods, which require limited processing prior to consumption, has to some extent negatively influenced the establishment of processing capacity in several countries. At the same time, current weaknesses in processing capacity suggest that investments post farm gate can unlock substantial opportunities. Such investments have the

Figure 96: Sub-Saharan Africa's net trade status in agricultural and food products

Source: Compiled from WITS, 2023

potential to reduce the region's import bill and grow domestic economies but will require sound policy reforms to attract private financing.

Investment in infrastructure enhances both the establishment of agro-processing capacity as well as distribution of products to the most appropriate markets. It therefore also has the potential to boost intra-Africa trade as it facilitates efficient exchange of goods. Figure 96 shows that the SSA region is already an importer of processed agricultural products, therefore there is sufficient demand. The demand opportunities can also be linked with the AfCFTA to extend agricultural transformation through preferential market access for processed and high value products.

THE STATE OF STAPLE CONSUMPTION IN SELECTED COUNTRIES[5]

The historic focus on food security and staple food production is underpinned by the region's predominantly staple based diets. The OECD-FAO (2023) indicates that the share of staples in total caloric intake is higher in SSA than any other part of the world. Poverty rates in most African countries are still relatively high compared to the rest of the world, and therefore staples will continue to play an important role in food security strategies going forward. Figure 97 presents the projected growth in per capita consumption of maize, rice and mixed beans in selected SSA countries by 2027, relative to the 2020-2022 base period. It indicates that the consumption of staple based products, such as maize and rice, is still expected to grow across most of the region as income levels rise, which is to be expected in a region where hunger is often still a major challenge. This growth is fairly slow however, ranging between 5 and 10 percent in most countries for the five-year period. The only notable exception is Malawi, where consumption is projected to decline in per capita terms. This decline comes from an exceptionally high base, as consumption of basic food products like maize increased sharply amid economic constraints through the COVID-19 pandemic. Affordability also remains a major challenge, as persistent foreign revenue shortages and sharp currency depreciation leads to significant increases in the price of imported inputs, such as fertiliser, as well as food products, particularly products such as rice where imports constitute a larger share of total consumption than is the case for maize.

Figure 97 indicates that growth in mixed bean consumption is faster than that of staple products like maize and rice in most countries. While this gain is from a substantially lower base than is the case for staples, it is indicative of greater inclusion of protein in the region's predominantly staple based diets. Mixed beans represent one of the most affordable sources of protein, much more so than animal-based products and therefore provides a first indication of improvements in dietary diversity as income levels in the region continue to rise.

As consumption continues to rise, this demand will likely influence production and trade volumes. As agricultural transformation occurs, the relative importance of these products need not decline, but they can be produced with support and participation of private sector and allow the role of market-led incentives to gain momentum and drive productivity. Figure 98 indicates that by 2027, the production of major food staples such as maize is expected to grow further in all of the countries presented. It also indicates that, as demand for alternative products, such as mixed beans grows, relative shifts in prices induce a response from producers in order to meet this demand. Growth in mixed bean production is expected to be above 20% for the five-year period in all the countries presented, and in excess of 50% in Kenya. Across most countries, this represents a combination of area expansion and yield gains over time, whereas in Kenya the assumed recovery from the current prolonged drought also plays a significant role.

If the market is allowed to respond to the changes in demand, as signalled by relative price movements, it would allow decision-makers to allocate budget to wider policy priorities that may unlock greater income growth, thereby reducing poverty, improving affordability of both food staples and alternative products that enhance dietary diversity. Furthermore, with foreign currency reserves under pressure in several countries in the region, an increased focus on both

[5] This section draws partly on work done by BFAP as part of a bigger collaboration with Tetratech, AGRA, Comesa and NASA Harvest related to the development of the Regional Food Balance Sheet (RFBS) initiative. More information at: www.rfbsa.com

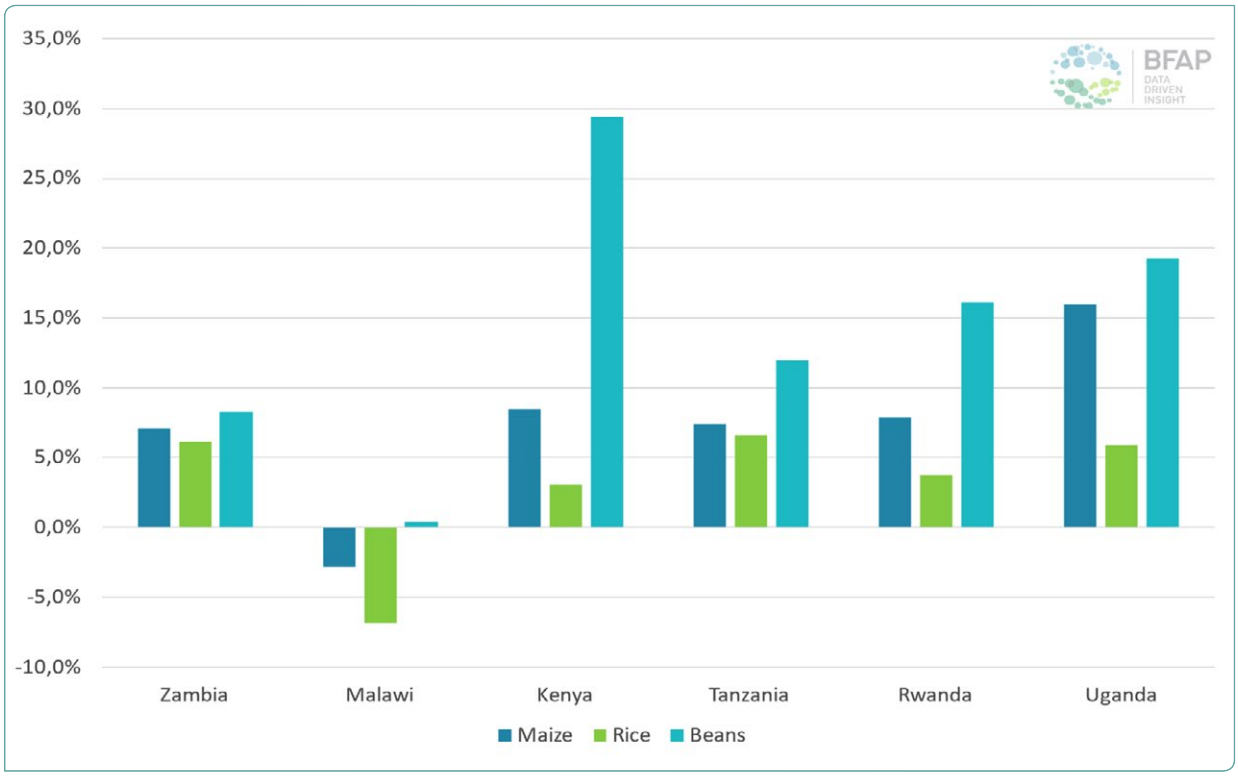


Figure 97: Change in consumption of maize, rice and beans from selected African countries by 2027 relative to the 2020-2022 base period

Source: BFAP, 2023

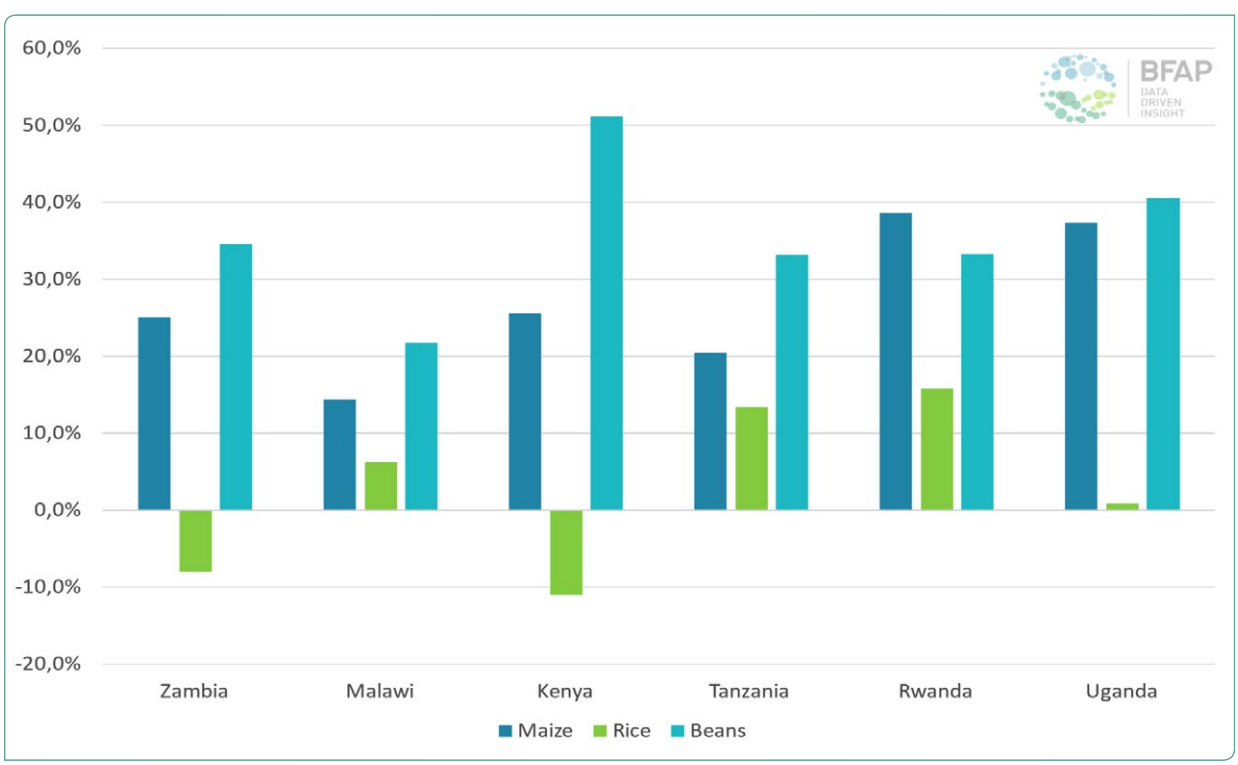


Figure 98: Change in production of maize, rice and beans in selected African countries by 2027 relative to the 2020-2022 base period.

Source: BFAP, 2023

export-led growth and potential import replacement for processed products could improve the agricultural trade balance substantially.

The remainder of this chapter provides two case studies chosen to illustrate selected pockets of potential. The first is for export led growth from mangoes in Malawi and another from potential import replacement of vegetable oils in Ethiopia.

CASE STUDIES OF HIGH VALUE PRODUCTS IN SELECTED COUNTRIES

Multiple policy objectives across the SSA region are underpinned by initiatives such as the sustainable development goals (SDGs), along with climate action obligations and region-specific initiatives such as the Malabo Declaration and Agenda 2063. While the attainment of such goals will require broad-based actions across the SSA region, the two case studies presented in this chapter indicate the potential if just a handful of targeted reforms in selected countries can be achieved.

MANGOES IN MALAWI: IMPROVING URBAN-RURAL LINKAGES THROUGH SELECTED AGRICULTURAL VALUE-CHAINS[6]

Malawi is a small, land locked country with the tenth highest population density of mainland Africa, with 206 people per km2 in 2020 (World Bank, 2023). Most Malawians rely on agriculture for their livelihoods, but land pressure is already immense and only expected to increase as the population is projected to double in the next quarter of a century (National Planning Commission (NPC), 2020). Unfortunately, subsistence farming alone will not be a way out of poverty for the bulk of the country's population. Consequently, from a policy perspective, there is a need to ease the pressure on land and consider other opportunities to drive inclusive agricultural transformation to improve their livelihoods.

In 2020, the National Planning Commission (NPC) published a long-term vision document called Malawi 2063, in alignment with the 100-year anniversary of the country's self-governance and the vision of the African Union (AU). This vision is pursued through three main pillars, namely agricultural productivity and commercialisation, industrialisation, and urbanisation. All these pillars are anchored by the agricultural sector, which accounts for about 22% of the country's GDP, but if one adds the rest of the agri-food system this share increases to 44%. The bulk of production accrues from smallholder farmers operating on an average farm size of less than 2 ha and as much as 80 % of production relies on rainfed mono-cropping of cereals.

Maize dominates agricultural production, with the staple crop accounting for approximately 90% of land allocated to cereal production. Tobacco has historically been a leading cash crop, contributing 50% of foreign exchange earnings by the sector (NPC, 2020). The concentration of production value amongst a few commodities makes it difficult for the sector to drive the country's vision. Success in the attainment of the vision would require adjustments to the production structure and importantly, shift the focus towards agricultural commercialisation, irrigation development and value addition with the aim of growing exports. The pursuit of urbanisation as vehicle of economic development requires the adoption of market-led policies and investment.

URBANISATION AS A VEHICLE FOR AGRICULTURAL TRANSFORMATION

The traditional link between agriculture and economic development has been well articulated in literature, but in countries such as Malawi, land constraints mean that many people will need to find opportunities off the farm. Additional avenues exist through which investments in agricultural value chains can be a strong basis for secondary city development. The Malawi Secondary Cities Plan (MSCP), which sets out to contribute towards the implementation of Malawi 2063 (GoM, The Malawi Secondary Cities Plan (MSCP), 2022), identified eight

[6] This case study refers to a collaboration between BFAP and IFPRI Malawi to assess the role that modernisation of fruit value chains can play in anchoring secondary city development, with the mango value chain in Salima / Chipoka region as an example.

catalytic locations for strategic investments meant to guide growth of secondary cities, in order to manage population growth that is expected to increase to 45 million by 2063.

In one of these proposed secondary cities, Salima/ Chipoka, the mango value chain provides a case study to document the economic linkages between the different segments of the value chain, be it traditional, transitional or modern, by using Reardon's approach (2022). Malawi has a highly suitable climate for mango production, but most of the production is attributed to smallholder farmers that rely on trees scattered across rural areas, with minimal use of inputs. Marketing chains are short and spatially dispersed, with little product differentiation. However, the biggest off-farm processing facility in the country is situated in Salima. Malawi Mangoes was established in 2011 and its 10 000 m2 facility is supplied with mangoes for fresh exports and value-added activities in the form of dried products by large scale farming operations. This also provides an opportunity to tap into the potential for agricultural value chains to drive secondary city development. Asides from feeding their modern processing facility from anchor farms operated by the same company located in the rural parts of the Salima District, they also have an extensive outreach program linking smallholder farmers in their downstream markets. Whereas Malawi Mangoes can be classified are as a modern value chain channel due to export market being spatially long with intensive use of capital, technologies and focus on product quality, the integrated smallholders that deliver mangoes into this chain are considered to be transitional, somewhat between the continuum of traditional and modern.

The value chain analysis plotted the flow of mangoes from the different farms towards the various markets, but with a specific focus on how their different value chain participants contribute to rural and urban value addition. The estimated value addition per industry or subsector, essentially the aggregate net income flows due to a certain economic activity, is calculated as the gross income minus intermediate expenditure. This calculation then enables assessment of the channel through which activities generate income, either as gross operating surplus (profits for businesses and farmers, referred to from this point forward as net earnings), or wage income to workers that provide labour in the value addition process (SNA 2009). Table 9 shows total value addition in the mango value chain in the Salima district is around $2.6 million. The contribution of the modern value chain to that total is significant. Without the modern mango value chain, combined with the transitional medium-scale and integrated smallholders it pulls in, total value addition for Salima/Chipoka would drop by around $1.9 million, lowering the number of jobs provided, wages paid, and farm and firm income earned across Salima.

Naturally, there are some differences in the scale of operations between the different value chain actors but estimates of the value addition per metric ton of mango that flows between the different value chain channels are conservative. The modern value chain has the strongest linkages to both rural and urban wages, in addition to providing net farm and firm earnings. Figure 99 illustrates that for every additional tonne of mango that can be produced and sold through the modern value chain, around $ 474 of value is generated. It also provides the distribution of that value across wages and firm/farm net earnings in rural and urban areas. Urban wages comprise the biggest share of the total, reflecting the substantial contribution of the processing facility located in Salima town. Important for rural transformation is that the modern value chain has by far the largest rural wage component. This is due to the large volumes of fruit that needs to be harvested, because of the high yields achieved on the large-scale commercial farms, along with all other technical

Table 9: Value addition in the mango value chain in Salima

Value chain (VC) segment	Wage Bill		Net Earnings		Total
	Rural	Urban	Rural	Urban	
Modern	310,000	648,770	285,760	223,790	1,468,330
Transitional	12,600	154,530	245,650	53,310	466,090
Traditional	14,080	15,200	240,460	406,370	676,110
Total	336,680	818,500	771,870	683,470	2,610,530

and labour-intensive tasks, such as pruning, weeding, and trellising, needed to meet the quality standards required for international retail markets.

For every additional ton of mango passing through the transitional value chain channel, an estimated $225 of value is generated. The transitional value chain is made up of medium and smallholder mango producers who are integrated with the modern processing facility. The largest share of this value addition accrues to the mango-farming households themselves. Because these households do not tend to hire rural laborers for their mango farming, the effect on rural wages is negligible, but these transitional farmers are integrated into the modern facility as outgrowers, emphasizing the ability of the modern value chain to pull in smaller-scale farmers.

The traditional value chain has the lowest impact on creating additional economic value addition, since activities are less labour intensive and the largest share of gross surplus per tonne of output flows to traders based in urban areas. This does not imply, however, that the activities of the traditional value chain are not important. Indeed, any additional value addition is income that will benefit the household in question and some part of that will be spent in the Salima district economy. Overall, the results indicate additional volumes of mango produced through the modern value chain, and to some extent through the transitional one which depends on it, have the largest potential to boost inclusive development.

PROJECTIONS FOR VALUE CHAIN UPGRADE BY 2030 AND STRATEGIC POLICY & INVESTMENTS

In evaluating the possibilities to accelerate growth in the mango value chain, a deep dive value chain analysis was conducted in the region. This analysis defined a possible ideal future state for the value chain, which comprises a number of critical interventions at various levels. Expectations are that significant growth is forthcoming in Malawi's mango value chain as smallholder farmers are realising the benefits of this long-term crop through additional income, whilst the modern value chain continues to perform well, using more of the existing processing capacity. Figure 100 presents the

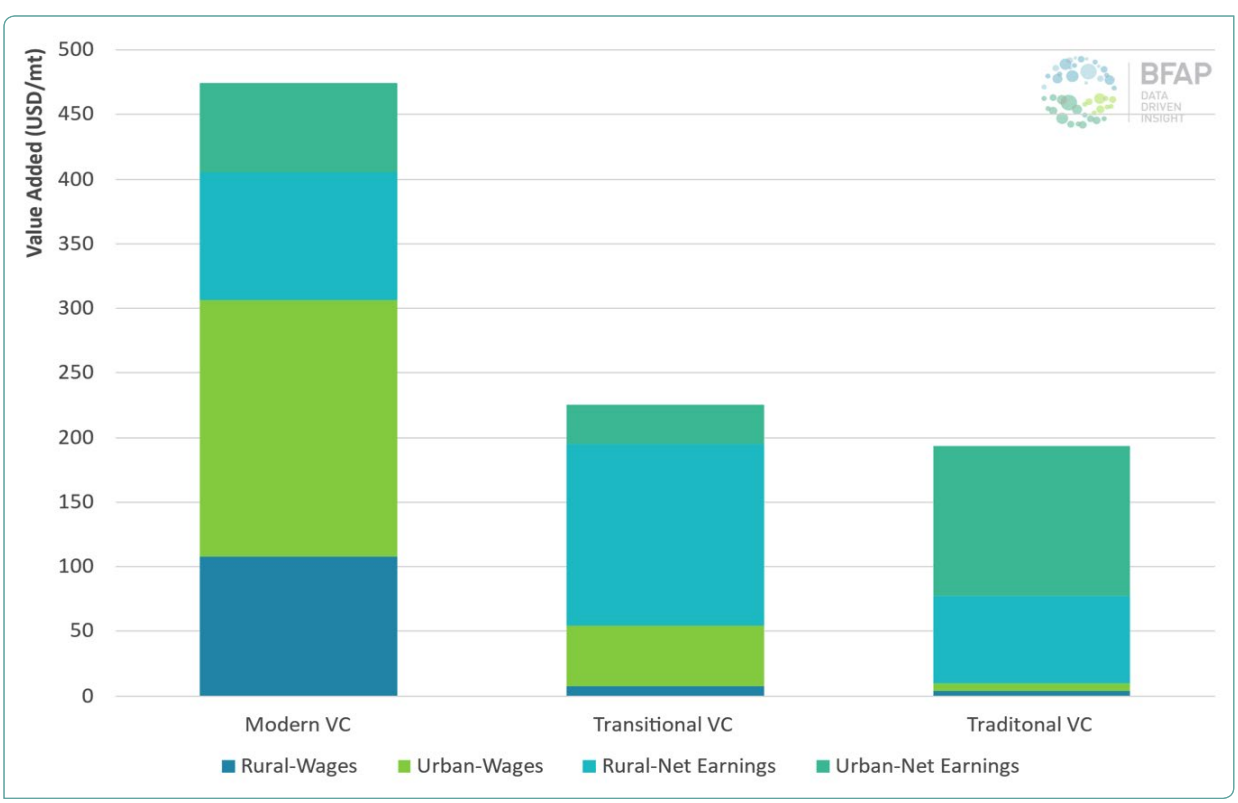


Figure 99: Value added across various mango value chain channels

Source: BFAP &IFPRI, 2023

Baseline trend for production volumes, value addition and job creation in Salima, but importantly introduce three policy and investment levers to boost economic activities beyond the baseline numbers.

- Scenario 1 is a market access intervention in which the Government of Malawi negotiates a lower import tariff into the Indian market, from current levels of 25% to 10%, with this access granted from 2024 onwards.
- Scenario 2 is a primary sector investment from the private sector or donors to establish more integrated medium-scale commercial farmers with a 200-ha expansion in mango area in the district.
- Scenario 3 comprises a targeted extension program that focuses exclusively on yield improvements for existing mango farmers through better protection of trees from animal damage and providing technical advice on pruning, fertilizer application, and reducing post-harvest losses.

When the impacts of these interventions are staggered, Figure 100 illustrates that an additional 1 400 tons of produce is enabled, leading to an additional value addition of $600 000 toward 2030, thereby creating an additional 140 full-time job equivalents. The outlook was generated using BFAP's partial equilibrium model of the African region, underpinned by the groundwork from the Deep-dive analysis.

Overall, the study conducted in Malawi suggests that the development path using urbanisation and market led policies requires deliberate interventions to shift from traditional to modern value chains. The importance of this is that additional gains are distributed backwards to rural areas through the relevant linkages while increasing participation of small and rural mango producers. An alternative way of looking at it is that it leads to creation of opportunities for informal and rural producers to enter the modern value chain. As a value chain modernises, the share of value added that is produced beyond the farm gate increases substantially. This has the potential to initiate the cycle of rural commercial farming incomes, alongside an expanding off-farm sector.

IMPORT REPLACEMENT AND VALUE ADDITION OPPORTUNITIES IN ETHIOPIAN OILSEEDS[7]

Ethiopia is a landlocked, low income developing country with a GDP per capita of around $900 (2021). The economy is largely dependent on the agricultural sector which accounts for 46% of GDP and about 85% of total employment (IFPRI, 2021). The sector's importance stretches beyond the provision of food and supporting livelihoods. It also contributes to the economy through agro-processing, as the top four manufacturing industries in the country are dependent on agriculture,

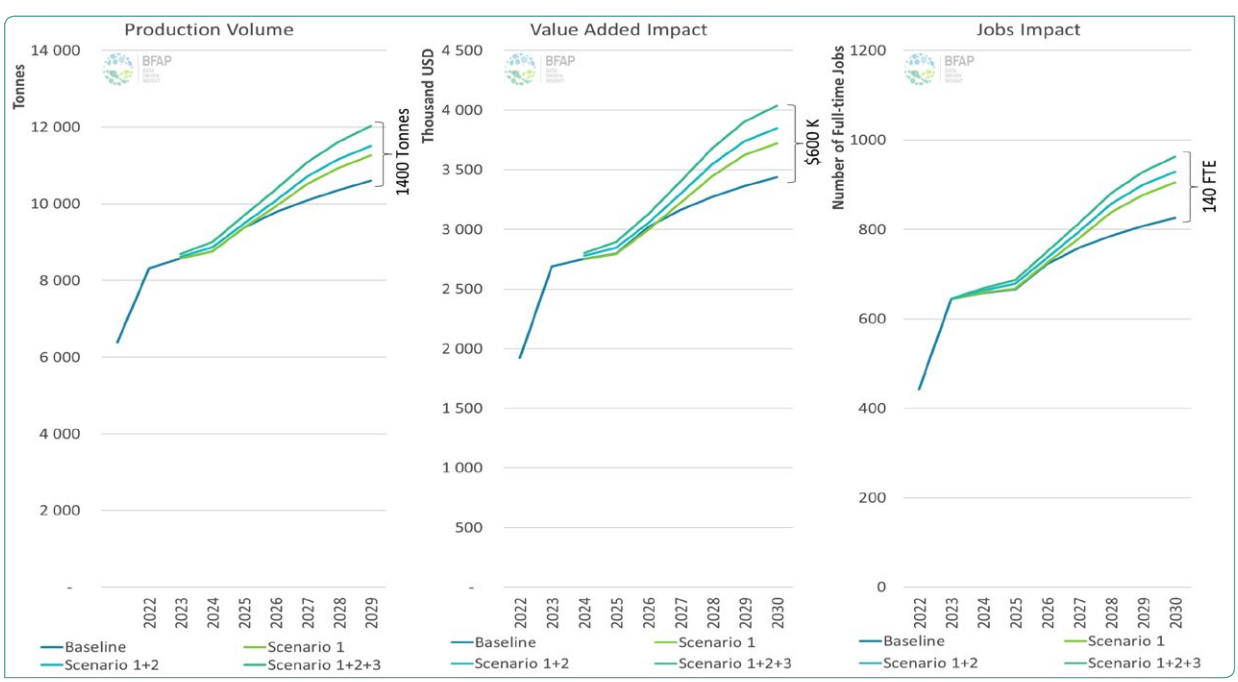


Figure 100: Baseline and Scenario analysis for mango production in Salima district

i.e., food processing, beverages, textiles and leather.

It thus follows that on the international trade front, Ethiopia is again dependent largely on agriculture to earn foreign exchange. The top four exported products, which account for 77% of value, are from the agricultural sector. These are coffee and spices, vegetables, oilseeds, and live plants. These exports are critical to support efforts to restore macroeconomic imbalances in Ethiopia, which tends to suffer from shortages in foreign exchange reserves.

Ethiopia is reliant on international markets to meet consumption needs for other agricultural products. A typical example is edible oils, where total demand equates to approximately 680 000 tonnes per annum. Despite oilseeds being one of the top exported products from the country, domestic supply accounts for only 2% of edible oil consumption, implying that 98% is imported. This leads to a foreign currency outflow of about US$450 million per annum. Exports of primary products such as soybeans imply that the processing industry often experiences shortages of raw material and oil processors operate well below their installed capacity. Low throughput levels and inefficient processing operations lead to high overhead costs, which all contribute to make the sector less competitive relative to imported oils.

The market for oilcake is thin. Per capita meat consumption remains low, even compared to other countries of similar income levels, and the livestock industry is relatively uncompetitive, with low productivity levels. This emanates from extensive production systems and low feed use, with feed products around 50% more expensive relative to the global benchmark. The use of soybean- and sunflower seed cake averaged around 2% of feed use over the past decade, well below global benchmark commercial feed rations for dairy (10%), layers (16%), broilers (21%) and cattle (5%).

In the case of the Ethiopian oilseeds value chain, significant opportunities can be unlocked through strategic reforms aimed at import substitution, with the additional spillover of improving competitiveness in livestock production through the provision of more affordable feed materials. Policies targeted at the replacement of imported edible oils will need to consider a range of integrated value chains. The competitiveness of domestic processing must be improved through the provision of more affordable raw materials, which can in turn be achieved by simplifying marketing strategies and enabling direct procurement by processors from producers. This would remove unnecessary transaction costs and premiums in the value chain and ensure increased throughput for processing facilities. Improved productivity in livestock operations will in turn create additional markets for oilcake, providing further impetus to processing margins and improving the relative competitiveness of vegetable oils compared to imported products.

While soybean exports would be reduced if domestic processing is increased, the combination of interventions suggested can induce a significant reduction in vegetable oil imports, while at the same time yielding additional exports of protein meal. The oilseeds industry can be upgraded to a desirable and competitive future state, with sustainable value addition that also supports domestic job creation.

TRANSFORMATION OF THE OILSEED INDUSTRY

The deep dive analysis of the oilseed, edible oil and poultry value chains in Ethiopia, conducted as part of the Policy and Investment Prioritisation through Value Chain Analytics (PPVC) project over the past year, provided a combination of reforms that can move the sector from its current state to an envisioned ideal state by 2030.

The pursuit of improved competitiveness across the value chain begins with increased production of raw materials. This includes the production of the correct oilseeds to drive vegetable oil production – in this case expansion of sunflower production, as its oil content is substantially higher than that of other oilseeds.

[7] The oilseed case study is based on the value chain deep dive conducted in the oilseed and vegetable oil value chains in Ethiopia as part of the PPVC initiative. For more information, visit www.ppvc.bfap.co.za

Soybeans yield less oil but provide a higher protein content to the livestock sector. Biophysical potential suggests that ample area exists for expansion of oilseed production, but input value chains need to be more efficient and removal of barriers to direct contracting of production is critical to provide market certainty that can induce expanded production. Simulations suggest that sunflower area can be increased from 7 000 ha to 50 000 ha by 2030, with significant productivity gains achievable, while soybean production could expand from 62 500 tonnes to about 263 700 tonnes by 2030.

Under the current state, marketing legislation is prohibitive, as it complicates sourcing and drives prices higher for processors, who then run with insufficient throughput. Enabling direct procurement and contracted production would solve this problem, inducing expanded production that could flow into agro-processing activities and improving utilisation rates of milling capacity. The increase in utilisation will contribute towards efficiency gains, reduce costs, provide improved quality oils and ultimately, increase profitability. This will enable systematic substitution of imported edible oils, while seedcake from milling operations can improve availability and reduce the costs of animal feed, thereby supporting improved competitiveness in livestock sectors. Because all additional volumes won't be absorbed by the animal feed sector, the balance can be exported, to yield additional foreign currency.

Figure 101 presents potential changes to gross margins in the event that the combination of interventions and investments provided in the PPVC study are implemented successfully. It provides projected margins across various nodes of the value chain in 2030 under baseline conditions, along with simulated margins under the improved future state. It illustrates clearly that producer margins, on a per tonne basis, would decline. Current levels are high compared to global norms and more sustainable margins at processor level will in turn enable larger volumes, which means that the total production value at primary level will increase, despite the smaller margin per tonne. The sustainability of oilseed processing operations is critical to the long-term success of the value chain, along with that of intensive livestock sectors.

The analytics associated with the PPVC deep dive in the oilseed value chain in Ethiopia are ongoing but

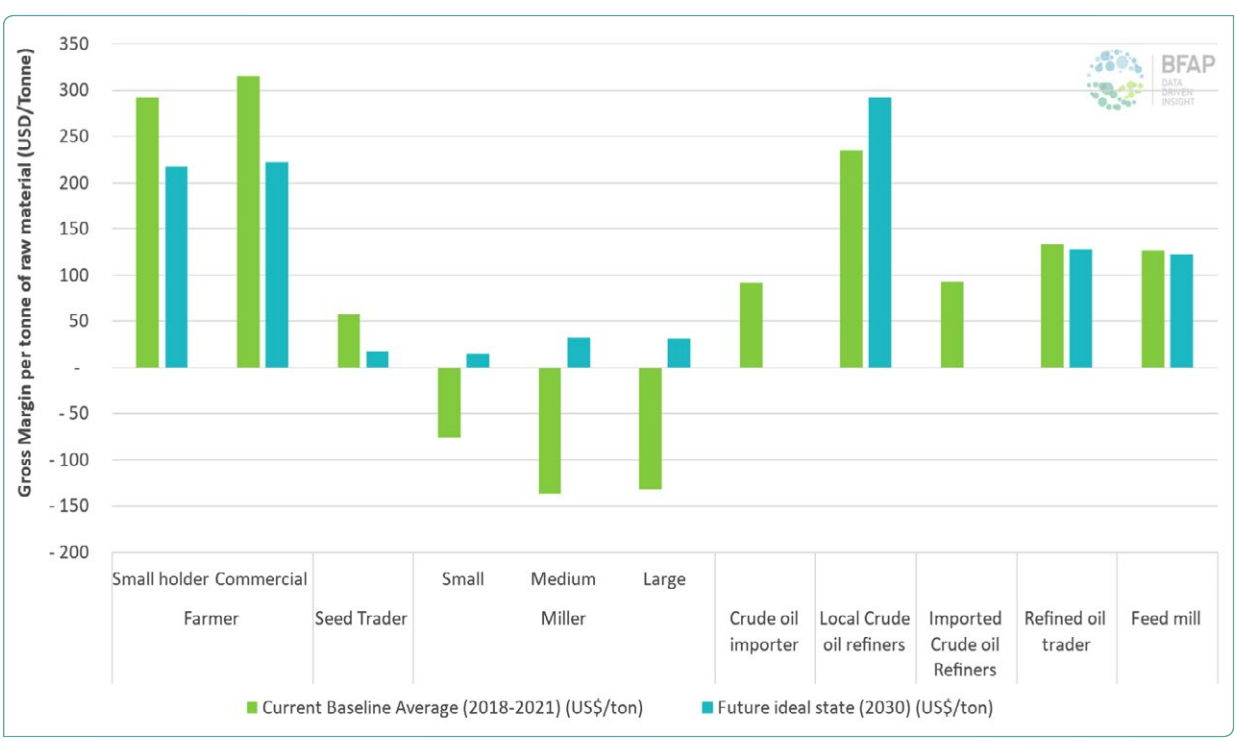


Figure 101: Gross margin comparison of the baseline and ideal future states for soybean value chain

Source: BFAP-IFPRI PPVC analysis in partnership with EIAR , 2023

have already made a substantial contribution to the development of an oilseed flagship program and with soybeans a major product prioritised in the Ethiopian agricultural development space, significant scope exists for further interventions to be adopted.

CONCLUSIONS

The era of government domination in development on the continent has been influenced by historical, ideological and other events over the past four decades. This meant that for a long period, the state remained the main driver of development, being responsible to fund policies, initiatives, and investments. In contrast modern development approaches require creation of an enabling environment for the private sector to participate and partner with government. The policy environment needs to recognise changing global dynamics and adapt accordingly, to enable improvements in competitiveness of agricultural production and processing on the continent.

The trade status of SSA countries reflects a paradox as the agricultural potential is acknowledged, but the region remains a net importer. This trade status reflects a history of focus on self-sufficiency, particularly in the production of major staple products, while rising demand for processed food products is not being met domestically. This reflects under-investment in processing capacity as well as infrastructure to support such activities, including storage, cold chain facilities and transportation networks. As a result, consumers turn to international markets, and the region loses out on significant opportunities to expand the agrifood system, which could create jobs, reduce poverty and grow its economies.

To evolve from a net food importing region and grow domestic production requires deliberate policy reforms to transform the sector, shifting towards increased agro-processing and production of higher value products. The case studies from Malawi and Ethiopia illustrate clearly how urbanisation and import substitution policies can be transformative and increase participation in formal value chains. The key drivers are policy reforms that enhance expansion in agro-processing, extension of value chains beyond national borders using trade instruments and, most importantly, responding to market indicators. These tasks are not only possible through government interventions, but also by increasing private sector participation through enabling environments without unwarranted restrictions.

In both cases of Malawi and Ethiopia, the main responsibility of the state is to facilitate and encourage private sector participation. This allows expanded agro-processing utilisation. However, the full potential is not realised when the value chain starts and ends in-country. Modern, competitive value chains cross borders in search for export opportunities. Thus, government's responsibility extends towards bilateral engagements, utilising the free trade agreements in place or negotiating for additional market access and suitable regulatory conditions.

As the demand for products increases, often beyond national borders, further expansion through backward linkages of agricultural value chains is enhanced. Consequently, the private sector contributes towards socio-economic development through employment, wages, infrastructure upgrades and integration of rural livelihoods. However, inclusive agricultural transformation cannot be fully realised until opportunities are created for rural, small and medium farmers to participate in formal value chains. These groups comprise the majority of sector participants on the continent and therefore sustainability of African agriculture is enhanced when they adapt to market conditions, as opposed to depending on government resources alone.

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