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A sector-wide review of the COVID-19 impact on the South African agricultural sector during 2020–21

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ABSTRACT

The agriculture value chain is a complex web of interactions which includes activities within the agricultural sector and various support industries less directly linked to the sector. Despite being declared an essential service when the COVID-19 regulations were promulgated and lockdown restrictions imposed, the value chain still faced multiple bottlenecks and disruptions that needed to be overcome to ensure food security through this period. This paper considers such bottlenecks and their impacts on major industries within agriculture, as well as the actions taken to address them. It highlights distributional challenges, which influenced accessibility to vulnerable groups, which was accentuated by the initial exclusion of informal traders from essential services – an omission that was later corrected. Furthermore, it notes severe impacts on non-food industries such as wine, where trade was restricted, but other sectors performed well and overall, agriculture still grew by 13% year on year and mostly keeping food inflation in check. Key to this performance was that real time communication and reporting mechanisms were put in place, allowing stakeholders to report bottlenecks quickly, from where they could be escalated and addressed through strong collaboration between government and industry.

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COVID-19; value chains; food security

1. Introduction

When the South African government announced stringent lockdown measures on 26 March 2020, food production and the distribution and retailing of food were proclaimed essential services. At face value, this suggested that the direct impact of the Covid-19 regulations on the agricultural sector and the availability of food would be limited.

However, crises of any nature send shockwaves through food systems (Cullen 2020; Schmidhuberm, Pound, and Qiao 2020). Examples of such crises include climate-related disasters, outbreaks of war, human displacement and more recently, the financial crisis in 2009 and the current Covid-19 pandemic. These food shocks are manifested in different ways but, importantly, they affect the health and well-being of a population.

In Figure 1 the Bureau for Food and Agricultural Policy (BFAP) shows the complex nature of the food system. The agricultural and food supply chain is a complex web of many interactions, including seed producers, farmers, agricultural support, food processing plants, ingredient and other

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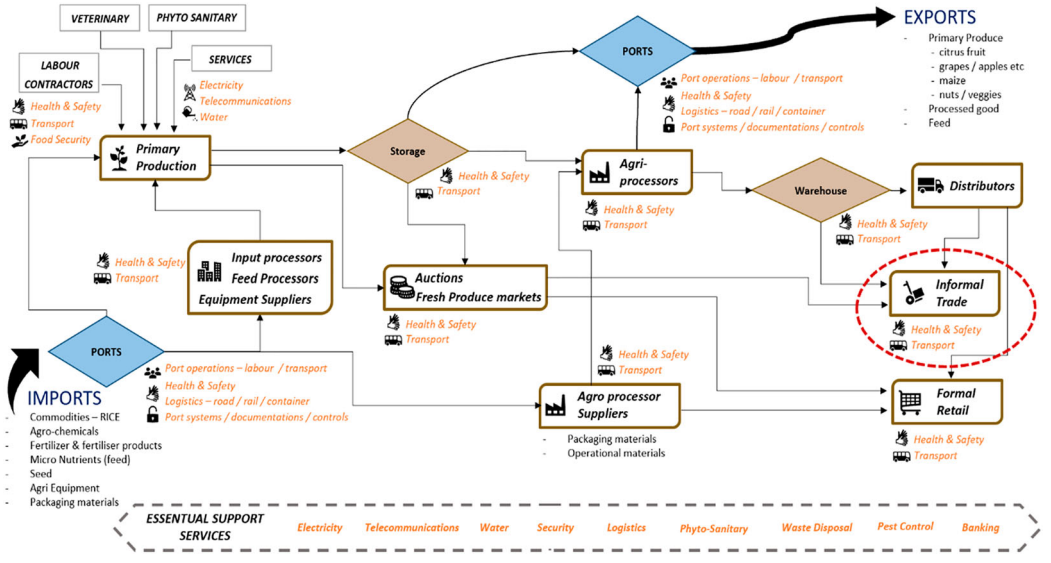

Figure 1. The nature and composition of the agriculture and food supply chain in South Africa. Source: BFAP (2020c).

service suppliers, transportation and shipping for food exports and imports, retailers, consumers, restaurants and more (CFS 2015; FAO 2019; Cullen 2020). It is imperative during crises that countries keep food supply chains going (Cullen 2020). To ensure the functioning of the food supply chain in South Africa during the Covid-19 pandemic, declaring agricultural primary production as an essential service without including critical support services, for example, port services or input processors needed to be available.

Given the harmful impact of the regulations on livelihoods and economic activity, it is appreciated that government designed some relief programmes. However, the relief programme for the agricultural sector announced by DALRRD in May 2020 (DALRRD 2020a) in essence assisted only small-scale farmers and farmers in the Proactive Land Acquisition Strategy programme, without paying specific attention to the industry-wide impact of the regulations.

This paper is therefore the first attempt to document a sector-wide impact of the Covid-19 regulations on South African agriculture.[1] We base our paper on a comprehensive set of interviews with industry leaders, experts and on the results from a supply chain tracker (BFAP 2020c) implemented in the most important food supply chains since the onset of the pandemic in April 2020.

The paper is an exploratory and introductory attempt to provide a macro-overview of the impacts on the agricultural sector. It is followed by more detailed empirical assessments by other papers in this special issue of Agrekon which provide more empirical and scientific analysis of the specific impacts of the South African regulations to deal with the Covid-19 pandemic.

The rest of this paper is structured as follows: the first section discusses context and the research methodology and is followed by exploratory analysis of the direct and indirect impact of the regulations on food supply chains. This is followed by an assessment of the impacts on ports, production and trade, and agricultural employment. Next, a discussion of Covid-19 containment measures looks at both government and industry. Finally, conclusions and recommendations are provided.

2. Regulatory context, data sources and research methodology

The initial lockdown regulations under the Disaster Management Act omitted a broad spectrum of the *informal food retail sector* (e.g., spaza shops, "bakkie" traders, hawkers, informal traders, and micro-caterers) from the exemption list. This group of informal sector players is an essential part

of the food system and contributes significantly to the economy, while providing accessible and affordable food to poor and vulnerable groups. Likewise, thousands of *"subsistence" fishers* were unable to fish and faced both a loss of income and food insecurity during alert levels 5 and 4.

Lockdown regulations also led to significant uncertainty around the definition of essential services. For example, a sizeable backlog developed at the office of the Registrar of Fertilisers, Farm Feeds and Agricultural Remedies of the Department of Agriculture, Land Reform and Rural Development (DALRRD) because of understaffing, as many employees who worked from home lacked the appropriate infrastructure. This backlog disrupted supplies of farm inputs. Figure 2 shows that major disruptions where reported by fifteen per cent of the survey respondents in the week of 21 April 2002. In other cases, critical support services for the food supply chain could not operate, leading to logistical problems in the food supply chain.

The Bureau for Food and Agricultural Policy (BFAP) developed a web-based monitoring and reporting system referred to as the End-to-End Agro Food Chain Tracker to inform government so it could change regulations and add complementary measures over the months. The tracker was the only source during lockdown that provided near-real-time reports to government decision-makers of disruptions experienced by various agro-food value chains which ultimately enabled timely decision-making (BFAP 2020c). The on-line survey was disseminated periodically, to a group of 66 stakeholders that were chosen to represent the spectrum of South Africa's agricultural value chains, be it through industry organisation involvement or market share. The survey results are biased towards capturing the commercial chain disruptions (with limited informal chain disruptions being mentioned), given the affiliation of the respondents that participated. 53 respondents completed the survey over the 3-month period the survey was running (26 March to 30 June 2020); most respondents completed more than one iteration of the tracker survey (an average 80% participation rate was achieved).

Figure 2 illustrates the tracker survey results for disruptions experienced at various nodes in the food chain during the lockdown (BFAP 2020b). The main disruptions reported include the following:

- Sales were under pressure because of the closure of quick-service and other restaurants, as well as lower overall demand resulting from lower economic activity. Sales did improve after quick-service restaurants were opened under alert level 3. However, interviews with the Restaurant Association of South Africa and the Restaurant Collective (which covers sit-down restaurants) suggested that they had not been consulted by government and felt "abandoned" (Anelich 2020b). Both organisations held that government failed to understand the importance of the sector to the economy. A lack of coordination and communication between departments was also indicated. Unlike South Africa, many countries permitted takeaway foods to be sold from the beginning of their lockdown periods. Allowing businesses to provide takeaway food, especially during the initial lockdown, would have significantly improved outcomes in the industry.
- Agro-processing plants were often disrupted because staff tested positive for Covid-19. For example, Tiger Brands, Fry Group Foods (both plants in KwaZulu-Natal) and Coca-Cola (plant in Gauteng) had to shut down because of Covid-19 outbreaks (Pillay and Comins 2020).
- Congestion at Cape Town Harbour affected food exports, especially of citrus and pome fruit. Some shipping companies had imposed congestion fees, and some ships opted not to dock in Cape Town because of the delays. To avoid the congestion, fruit exporters trucked products to Port Elizabeth at extra cost. For food imported into South Africa, reports suggested that consignments that would normally be released within 72 days now experienced delays of 3–4 weeks. This resulted in significant additional costs to the importers because of port overstays and demurrage.
- Significant congestion was also reported at the Beitbridge border post between South Africa and Zimbabwe. Early on in alert level 5, Zimbabwe's maize supplies were running low, and maize imports spiked right when the lockdown measures were announced. Participants in the food chain tracker reported delays of 14–28 days at various regional border posts in April 2020.

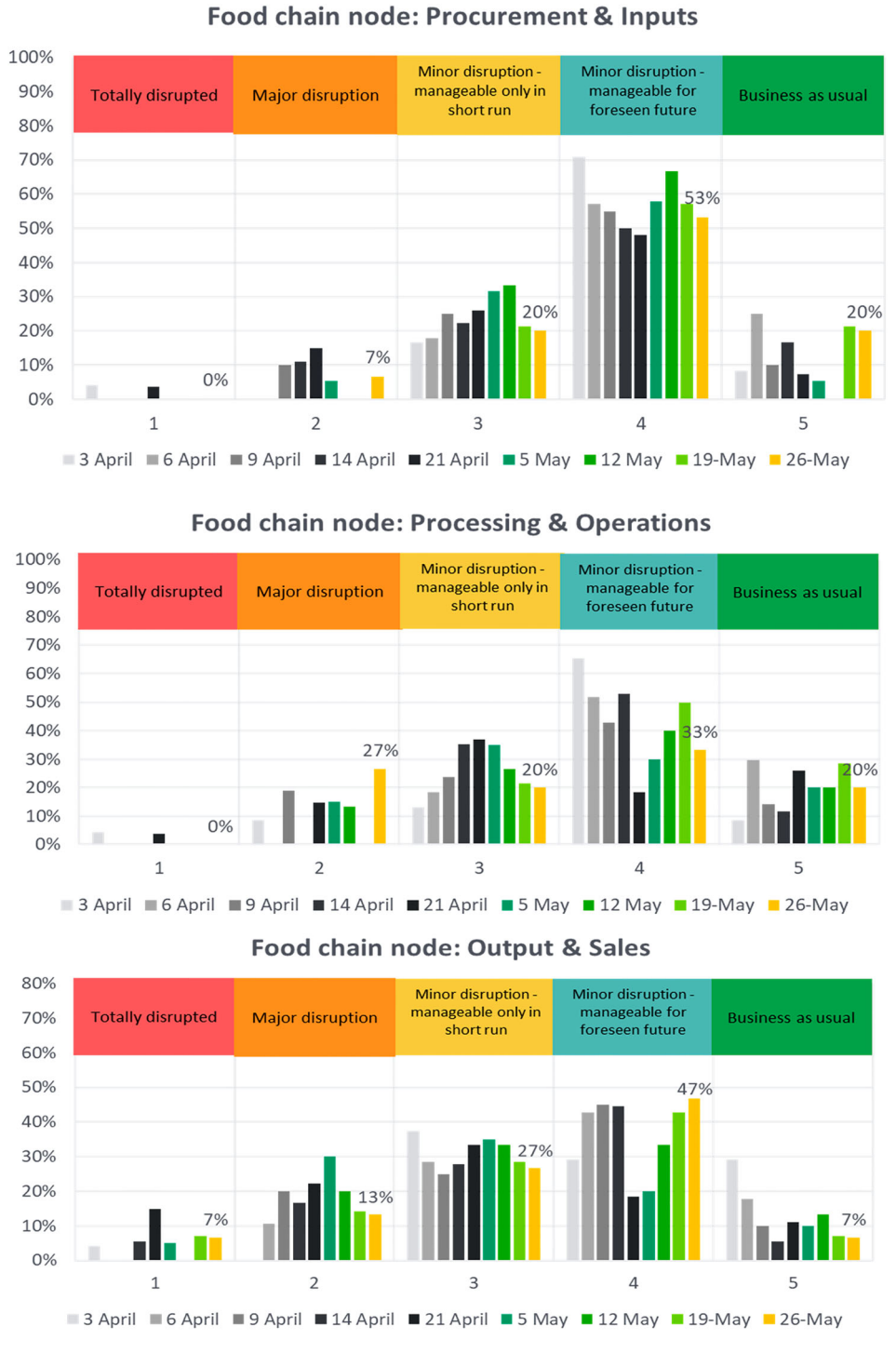

Figure 2. Survey results on disruptions in South Africa's food chain nodes. Source: BFAP (2020c).

- Imports of critical mechanical spares and agricultural inputs (including ingredients) were also problematic, as these consignments were delayed at the ports.

The lockdown regulations prohibited the domestic sale and export of alcohol, which severely affected the wine industry. Government did not consult with this sector and made no attempt to understand the effect of its decisions on the supply chain. For example, grapes and barley for wine and beer-making, respectively, had to be harvested and processed into the respective products, which could then be stored for long periods. Dispensations had to be sought for every step of the process; this arduous procedure could have been avoided had there been adequate consultation upfront. The ban on exports resulted in South Africa losing important trading partners, some of which sought wine from other wine-producing countries to fill the gap. Securing an export market takes many months of negotiations, and once lost, they are very difficult to regain.

Within the first lockdown period, non-food agricultural activities such as *wool, mohair, floriculture, ostrich feathers and animal skins* were all deemed non-essential and were prohibited from operating.

As noted, the regulations also closed the *food-away-from-home market*, an important element in the food supply chain. This included quick-service restaurants, restaurants, hotels, guesthouses, coffee shops and catering businesses, along with entrepreneurs selling hot meals to passers-by and taxi drivers. Together these establishments demand a considerable volume of food products from the wholesale, fresh produce markets and food processing sections of the supply chain. Their closure brought temporary drops in farm prices, specifically red meat, vegetables, and fruit (Stats SA 2020a). The closure of food-away-from-home services also resulted in a shift towards more home cooked meals, with some retailers reporting that sharp increase of sales in products like baking powder, flour, meats etc.

The quick-service restaurant sector employed an estimated 330,385 people before the pandemic, virtually all of whom were negatively affected by the hard lockdown. Many of these employees were contracted on a no-work-no-pay basis or relied on gratuities and tips from clients. Thus, most workers in this industry did not earn an income during alert levels 5 and 4. When restaurants began to open under strict health regulations and social distancing measures, many employers were unable to retain jobs. Some downsized, but others had to close. Many casual workers lost their jobs, which in turn affected their ability to buy food. Hopefully, they were assisted through social grants, food vouchers and food parcels to help them afford a basic basket of food (Louw, Vermeulen, and Meyer 2020).

Statistics South Africa (Stats SA 2020b) conducted a survey of tax-registered private and public enterprises that provide food and beverages for immediate consumption (i.e., restaurants and coffee shops, takeaway and fast-food outlets and catering services). Published in December 2020, the survey's key findings are as follows:

- Measured in real terms (constant 2015 prices), total income generated by the food and beverages industry decreased by 42.5% in September 2020 year-on-year. The largest decreases were in bar sales (−65.6%) and food sales (−41.2%). The main contributors to this decrease were restaurants and coffee shops (−61.9% and contributing −32.3 percentage points) and catering services (−54.0% and −8.2 percentage points).
- Total income decreased by 45.8% in the third quarter of 2020 as against the third quarter of 2019. The main contributors to this decrease were restaurants and coffee shops (−65.3% and −33.5 percentage points); and catering services (−60.6% and −9.3 percentage points).

3. The alert levels and regulations and impact pathways

The economic impact during this crisis period can essentially be separated into three layers:

(1) The pandemic per se: negligible impact, mainly restricted to short-term supply disruptions

(2) The panic that translates into low business and consumer confidence: large impact
(3) The lockdown regulations: yet larger and most serious impact.

The panic altered consumer shopping habits, with people relying more on online channels and large retail stores. This, combined with restrictions on going to village markets, for example, reduced the revenues of many firms, small farmers, and informal traders. In the lockdown, the sales of certain products originating from many firms were also banned. The details of the regulations in each alert level for the various agricultural and food industries are discussed below.

3.1 Alert level 5: 26 March to 30 April 2020 (R398, 25 March and R419, 26 March 2020)

Alert level 5 had the strictest lockdown regulations. The list of essential services and products was short and even excluded certain industries within the agricultural sector. Only food-related agriculture (including animal food), livestock, the transport of live animals, and auctions and related agricultural services were deemed essential and were permitted to operate. Harvest activities and processing of non-essential agricultural products were also allowed. Several agricultural industries were commercially constrained because their products could not be traded; these include:

- Floriculture
- Wool
- Mohair
- Wine and other alcoholic beverages
- Tobacco
- Ostrich feathers
- Leather industry.

The feedback effect from the closure of all enterprises providing meals away from home (restaurants, fast-food outlets, and supermarkets) contributed to a drop in demand and a related reduction in farm prices for red meat, vegetables, and fruit.

3.2 Alert level 4: 1 May to 31 May 2020 (R480, 29 April 2020)

Under alert level 4, all agricultural and fishing activities (e.g., preparation, cultivation, harvesting, storage, transport of live animals, and auctions) were declared essential services. Exports of all agricultural and agro-processed goods, including wines, were allowed. However, serious bottlenecks in the ports (because of backlogs and unclear regulations) caused significant delays in the exports of citrus and pome fruits. Some of these delays had substantial financial implications for producers.

All agricultural producers could now do business. The only exception was that the local sale of alcohol was still prohibited; this negatively affected wine estates, cellars, and grape producers. Furthermore, sales in the restaurant and quick-service restaurant industry remained very low, because only home deliveries were allowed.

3.3 Alert level 3: 1 June to 17 August 2020 (R608, 28 May 2020)

Under alert level 3, the economy was largely open, except for bars, taverns, restaurants, personal services, and large gatherings and events. The hotel and accommodation industry remained closed, but quick-service restaurants could operate. This continued to have a negative impact on domestic sales of meat, processed foods, and wine. Domestic sales of wine (and sales by the broader liquor industry) were permitted for home consumption only. Business hours were limited to 09:00 to 17:00 on Mondays to Thursdays. Local sales, however, continued to be hampered by the ongoing closure of restaurant, accommodation, and entertainment businesses.

The on-farm impact for most food-producing farms was marginal, with a slight drop in farm prices and volumes in the case of meats and some vegetables. However, farmers still had a substantive revenue stream, and they could continue to pay accounts and worker salaries. In line with BFAP's baseline 2020 projection of a 13% year-on-year rise in the real gross domestic product (GDP) of agriculture, Statistics South Africa confirmed growth of 13.1% in 2020 (Stats SA 2021). This suggests that agriculture at the aggregate level was better off, driven by a bumper summer crop and record citrus exports at good prices (due to both a weaker currency and strong world prices). In industries where trade was more restricted, however, many individual producers came under severe pressure.

4. Overall impact on agro-food supply chains

Although the pandemic reduced incomes in most parts of the world, the agricultural sector is one of the few that have not been as badly affected. South Africa's agricultural and food exports increased from US$10,6 billion in 2019 to more than US$10,8 billion in 2020 (ITC 2020). This expansion was driven by an increase in grains and horticultural output, favourable world prices (particularly for citrus products, which are high in vitamin C and seen as beneficial to the immune system), and the weakening domestic currency. It built on better coordination and collaboration between the public and private sectors (e.g., agriculture, agribusiness, logistics, and government), which worked together to ensure the functioning of the sector throughout the lockdown.

As noted, agriculture's contribution to the real GDP grew by 13.1% in 2020 (Stats SA 2021); this made it the strongest-performing sector by some distance, with government the only other positive contributor to the GDP (at 0.7%). In the second quarter of 2020 (April–June), which was hardest hit by lockdown restrictions, the agricultural industry was the only sector to exhibit positive real growth.

This is not to say that there were no challenges, but merely that the challenges were addressed and managed effectively. There are two key reasons why agriculture remained robust despite the wider effects of the pandemic:

- The sector was largely operational even during the strict level 5 lockdown, except for a few subsectors such as wine, tobacco, wool, and floriculture. These subsectors reopened under alert levels 4 and 3, except for the tobacco industry, whose sales remained prohibited until alert level 2, while harvest and fieldwork were permitted.
- The lockdown started when South Africa had already reached the tail-end of the summer grain production season. The late start to the summer grain harvest season saw some of the summer crop harvesting activities occurring in May and June, during the less stringent level 3 lockdown. This meant that food production and harvesting activities were largely uninterrupted. South Africa delivered its second-largest maize harvest in 2019/20 season, along with the highest barley output on record. There was also a record citrus harvest, because of investment in orchard expansion in recent years and better weather conditions. Moreover, the output of wine grapes recovered because of improved rainfall after a few very dry seasons. This did, however, present a challenge to industry when sales were initially banned for 9 weeks (26 March to 1 June 2020) and for another 5 weeks in a subsequent ban (12 July to 17 August 2020) for a total of 14 weeks in 2020. (Wine exports resumed on 1 May 2020, after which the ban only applied to the domestic market.) A third ban was introduced on 28 December 2020 and only lifted on 1 February 2021.

The main point from the analysis is that the impact of the pandemic on the agricultural sector was not uniform. Only a few sectors experienced considerable damage because of the regulations. For that reason, it would be logical for government to assess each sector (as was done with the three case studies in Meyer et al. 2021) to help design specific relief programmes to address the damage caused by the pandemic. This needed to be done per sector and not by farm size, farmer typology, or the gender of the farmer. South Africa's precarious fiscal position requires a sensible,

direct approach to minimise the impact of Covid-19 without undermining budget stability. To this end, Table 1 provides a qualitative assessment of the losses per industry caused by the regulations in the different lockdown periods.

5. Specific impacts on the agricultural sector

5.1 Production and trade

Although the overall impact of Covid-19 on the agricultural sector may not have been that significant, the sector was challenged in many respects. The impact of the pandemic has been nuanced, as the broader sector (which remained operational) showed normal to high levels of growth, while parts that were shut down or banned were badly affected, with low levels of growth or even contraction.

For example, the ban on alcohol sales resulted in 14 weeks of zero trade and zero revenue in 2020 (this equates to 17% of sales in a normal year), with a further 5 weeks of zero trade in 2021. The larger players managed to recover from the effects of the ban when trading began on 1 June 2020. Some smaller operations did not survive, while others significantly reduced operations because of cash flow constraints. Many report that they will take years to recover. About 80 wineries, with almost 350 producers and 18,000 workers, reportedly went out of business (SALBA and Vinpro 2020; Davids, Vink, and Cloete 2021). These problems were exacerbated by the second ban on alcohol sales imposed on 13 July 2020, which was only lifted five weeks later in mid-August. The wine industry lost R200 million per week in export revenue during the four weeks of the export ban and R300 million in local sales per week. This created significant cash flow challenges, and at the time of writing, it remained unclear whether the resumption of exports and domestic sales would compensate for the negative impact on cash flow. Indirect costs, such as lost international reputations, lost listings and shelf space, and damage to relationships built over 30 years, are incalculable, particularly to an industry that exports half of its production. Wine stocks have reached an all-time high and will take many years to work out, especially as spending power will remain weak (SAWIS 2021).

Beyond the negative impacts on the wine industry, South African agriculture maintained an overall trade surplus, which grew by 32% year-on-year in the second quarter of 2020 to US$1.1 billion (Trade Map 2020). Agricultural exports remained high, with minimal year-on-year changes, at US$2.4 billion. Agricultural imports declined significantly to US$1.3 billion because of slower domestic demand and large domestic crops. Figure 3 shows the structure of agricultural trade in 2019.

The growth in agricultural exports was underpinned by citrus, maize, apples, sugar cane, pears, avocados, grapes, and macadamia nuts. These products, along with an expected recovery in wine exports, will continue to support agricultural exports. Citrus features prominently in second- and third-quarter exports; for the year, it reached a record of 146 million cartons, up 15% year-on-year, according to data from the Citrus Growers Association of Southern Africa. Similarly, projections from BFAP and estimates from the Supply and Demand Estimates Committee point to maize exports reaching 2.5–2.7 million tonnes in the 2020/21 marketing season, up 89% year-on-year, following the bumper domestic harvest.

Africa and Asia were the largest markets for South Africa's agricultural exports in the second quarter of 2020, respectively accounting for 33% and 29% in value terms. Europe was the third-largest market, taking up 28%, and the balance of 10% by value was spread across the rest of the world. The main imports were wheat, palm oil, rice, poultry meat, sunflower oil, and sugar.

5.2 Disruption of ports

The BFAP End-to-End Agro-Food Chain Tracker (BFAP 2020c) and Anelich (2020a) noted challenges at the ports, which led to delays in shipments of raw materials to processing plants and of final products to local, regional, and international markets. This was of great concern, as the agricultural sector is export orientated. More so, the 2019/20 production season proved to be bountiful, with

Table 1. Qualitative assessment of the losses per industry.

Key	No impact	Minimal impact	Low impact	Medium impact	High impact	Severe impact

Industry	Level 5 26 March – 30 April 2020	Level 4 1 May to 31 May 2020	All alert levels 1 June 2020 – 31 July 2021
Maize	Intermittent disruptions in the supply of raw materials and products. Ports were not operating efficiently, as they were understaffed, with some terminals closed. This worsened congestion. Labour movement was constrained by curfews and	Improved seaport operations meant greater capacity to support movement of grain in and out of the country. However, inland border posts still had bottlenecks and challenges – especially Beitbridge and the Lebombo border posts. Shortage of packaging	No impact
Industry	Level 5 26 March – 30 April 2020	Level 4 1 May to 31 May 2020	All alert levels 1 June 2020 – 31 July 2021
	interprovincial travel restrictions. Workers had to produce proof that they were essential, but some seasonal workers were unable to comply. Manufacturers of packaging materials were closed, leading to a shortage of packaging materials.	material was reported, as consumers switched to bigger packages because they shopped less frequently, and packaging material manufacturing was not at full capacity.	
Soybeans	No impact	No impact	No impact
Wheat	No impact	No impact	No impact
Sunflower	No impact	No impact	No impact
Canola	No impact	No impact	No impact
Barley	Despite restrictions on alcohol sales, local contracting for barley production continued. However, malting restrictions reduced processing volumes, leading to stock build-up.	Barley planting increase by 10 000ha from 2019 levels	Owing to restrictions on beer sales and less malting (20% decline year-on-year for the 2019/20 marketing year until end-September 2020), barley stock levels are at a record high.
Grain sorghum	No impact	No impact	No impact
Oats	No impact	No impact	No impact
Potatoes	Potato market prices in April 2020 R10/packet lower than the same month in 2018 and 2019	Impact (prices and volumes not back to normal levels)	Impact from weaker demand and restaurant closures
Tomatoes	Reduced demand and lower prices	Reduced demand and lower prices	Reduced demand and lower prices
Other vegetables	Reduced demand and lower prices	Reduced demand and lower prices	Reduced demand and lower prices
Citrus	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate & high world prices	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate & high world prices	Minimal impact because of logistical bottlenecks at ports but support from weak exchange rate & high world prices

higher exported volumes of field crops and horticultural produce than in the previous year. Fortunately, as the lockdown progressed, ongoing cooperation between industry players and government improved conditions at the ports. However, some analysts still hold reservations about the impact of

Industry	Level 5 26 March – 30 April 2020	Level 4 1 May to 31 May 2020	All alert levels 1 June 2020 – 31 July 2021
Deciduous fruit	No impact	No impact	Some impact from port delays due to container shortages
Table grapes	No impact – bulk of season concluded by the time lockdown was introduced	No impact	Some impact from port delays due to container shortages
Wine grapes	Some wineries/cellars unable to pay producers for February and March deliveries	Minimal impact	Lower prices because of sales restrictions on wine
Wine cellars and estates	Full impact – all sales and exports prohibited. Dramatic impact on stock levels, cash flow and profitability. Local wines lose market share abroad. No	Wine cellars and wine cooperatives continue to experience cash flow strain because of the ban on local sales.	Reduced demand owing to no tourism or restaurant sales; sales restrictions imposed in December 2020.
	other wine exporting country banned exports.		
Nuts	No impact	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate
Mangoes	No impact	No impact	
Avocadoes	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate	Minimal impact because of logistical bottlenecks at ports but support from the weak exchange rate
Litchis	No impact	No impact	
Bananas	No impact	No impact	
Beef cattle	Closure of food service sector cut demand. Producer prices low, but retail prices firm	Reduced demand and lower producer prices	
Dairy	Reduced demand and lower prices because of bans on quick-service restaurants	Reduced demand and prices because of bans on quick-service restaurants	
Lamb and mutton	Reduced demand and lower prices	Minimal impact: Prices at pre-Covid-19 levels	No impact
Wool	Auctions and all fibre activities suspended. Cash flow impact for farmers with wool in value chain/auctions	No impact	No impact
Mohair	Auctions and all fibre activities suspended. Cash flow impact for farmers with mohair in value chain/auctions	No impact	No impact
Animal skins/leather	No trading and transport– cash flow impact on abattoirs and beef and lamb farmers	No impact	No impact

the regulations and persistent port challenges on trade. Another concern was the logistical challenges at the receiving ports of target markets, which had imposed lockdown restrictions of their own, and the general uncertainty about global trade. With longer offloading times, industries also faced intermittent container shortages. Both Cape Town and Durban harbours were affected by the delays, as noted. Furthermore, in the interviews, several organisations that rely on harbours for business purposes reported long-standing problems around capacity and failing infrastructure

Industry	Level 5 26 March – 30 April 2020	Level 4 1 May to 31 May 2020	All alert levels 1 June 2020 – 31 July 2021
Broilers	Closure of restaurant sector reduced demand – estimated 20% of consumption through food service sector. Some imported vaccines difficult to obtain because lack of flights, which also affected vitamin prepacks for animal feed sector	Sit-in restaurants still not allowed; food only served on a takeaway basis; this continued to subdue demand	
Eggs	Drop in volumes and prices because of bans on takeaways and restaurants. Temporary shortage of packing material, as recycling facilities were not operational	Drop in volumes and prices because of bans on takeaways, restaurants	
Pigs	Reduced demand and lower prices	Reduced demand and lower prices	
Ostrich meat	Minimal impact	Minimal impact	Minimal impact
Goats	Reduced demand and lower prices in informal markets	Reduced demand and prices in informal markets	Reduced demand and lower prices in informal markets
Live game	Major cancellations from international hunters	Sharp decline in hunting and thus economic activity	Overall hunting activity and linked agri-tourism still low
Lucerne	No impact	No impact	No impact
Sugar cane	No impact	No impact	No impact
Cotton	Harvesting and ginning halted for alert level 5; some delays in exports, as cotton is a non-food product.	Some delays in exports, as cotton is a non-food product.	No impact
Flowers	Trade prohibited – destruction of large volumes of produce; cash flow impact	No impact	No impact
Nurseries	Trade prohibited – cash flow impact	No impact	No impact

Source: Author's analysis based on expert interviews and interviews with industry role players as well as a continuous monitoring of all supply chains.

at ports. Covid-19 exacerbated these deficiencies, and significant funding is required to upgrade facilities for future trade.

5.3 Impact on food prices and affordability

Overall, food inflation in 2020 posed a more significant threat to dietary diversity (i.e., consumers being less able to afford fruit and animal-source foods) than to basic adequate energy intake. Inflation on basic starch-rich staple foods was less severe, averaging about 3.8% year-on-year average. From January to April/May 2020, year-on-year consumer price index inflation on food and non-alcoholic beverages[2] increased from 3.7% to 4.4%; it then fell to 3.9% in August/September. During the last quarter of 2020, food inflation reached the highest levels of the calendar year, increasing to 6.0% in December 2020. This was driven largely by higher international prices for food-related commodities. In May to December 2020, inflation was particularly high for the following food categories: fruit (11.1% year-on-year average), oils and fats (7.5%), and milk, eggs, and cheese (5.3%). In the fourth quarter of 2020, the prices of sugar and sugar-rich foods increased by 7.3% year-on-year average and that of meat by 5.3%.

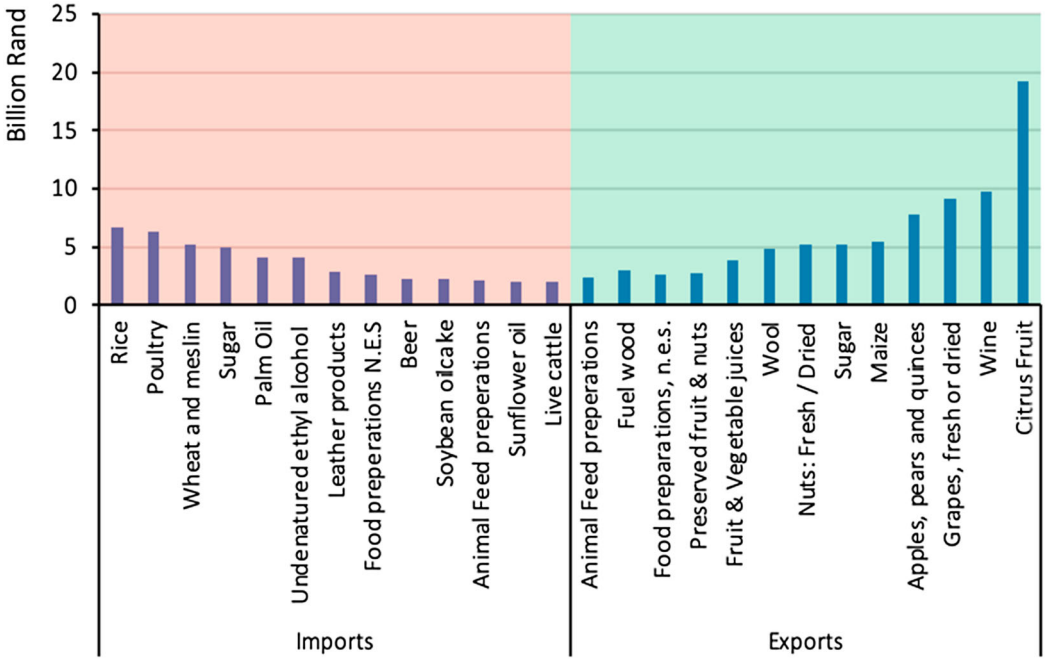

Figure 3. Major agriculture and food imports and exports, 2019. Source: BFAP (2020a), based on compiled data from ITC Trade Map (2020).

The BFAP Thrifty Healthy Food Basket measures the cost of basic healthy eating for low-income households in South Africa. The methodology takes into consideration national nutrition guidelines, the typical food intake patterns of lower-income households, official food retail prices from Statistics South Africa, and typical household demographics. Consisting of a nutritionally balanced combination of 26 food items from all the food groups, the BFAP Thrifty Healthy Food Basket is designed to feed a reference family of four (comprising an adult male, an adult female, an older child, and a younger child) for a month. From January to December 2020, the cost of the BFAP Thrifty Healthy Food Basket increased by R271 from R2562 to R2833 per month, with a maximum value of R2857 in May 2020. Thus, for a four-member household with a dual minimum-wage income, benefiting from both child grants and a school feeding programme, the share of household income allocated to basic healthy eating would have increased from 29% to 31% from January to December 2020. This suggests that about half the South African population would have been unable to afford a basic healthy diet.

The BFAP Thrifty Healthy Food Basket comprises a relatively smaller staple component and relatively more items from food groups contributing to dietary diversity. The consumer price index, in contrast, has a relatively larger staple component, which reflects "typical" food intake patterns. From April to December 2020, year-on-year inflation on the BFAP Thrifty Healthy Food Basket was consistently higher than consumer price index food inflation (Figure 4). This was due mainly to the combination of lower inflation on staple foods and higher inflation on foods contributing to dietary diversity (e.g., fruit and animal-source foods).

Since food affordability is affected by both the cost of obtaining food and household income, the negative impact of the Covid-19 pandemic on household income and poverty should also be considered. According to the second wave of the Statistics South Africa survey on the impact of the pandemic on employment and income (Stats SA 2020c), about a third of people reported lower income because of Covid-19. They might have lost their jobs, had to close a business, or had their salaries and wages cut. The most recent National Income Dynamics Study – Coronavirus Rapid Mobile

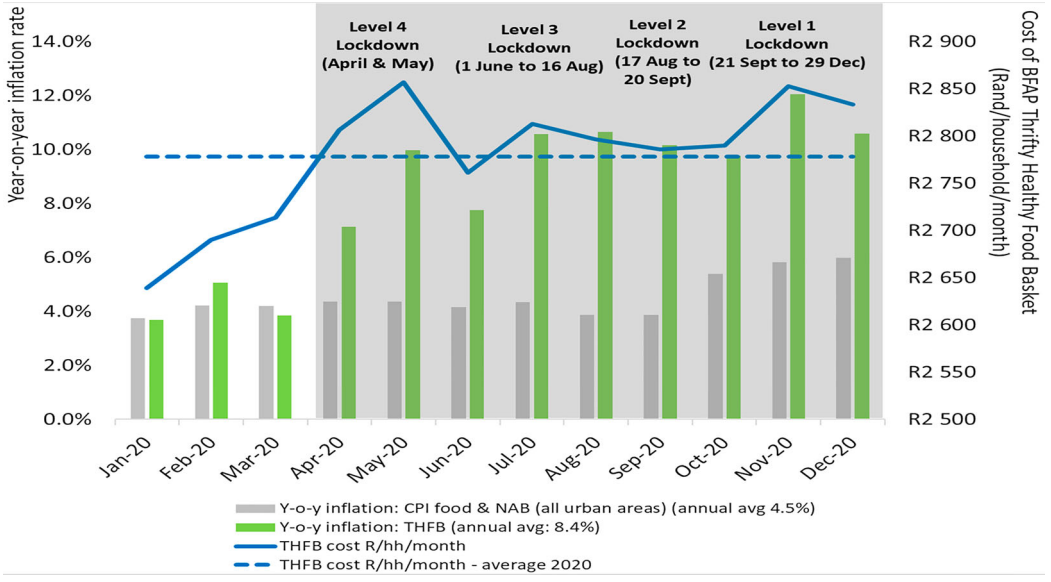

Figure 4. Monthly Food inflation in 2020 and the cost of a healthy food basket. Source: Authors' calculations based Statistics South Africa consumer price index data.

Survey (NIDS-CRAM) reported household hunger (i.e., any household member(s) going hungry in the last seven days) as 23% in May/June 2020, improving to 16% in July/August 2020, but deteriorating again to 18% in November/December 2020 (Spaull et al. 2021). In comparison, before Covid-19, only 5% of households skipped meals for "5 days in the past 30 days" in 2018 (Stats SA 2019).

5.4 Agricultural employment and incomes

High production estimates typically imply higher employment in the farming sector. However, the social distancing regulations introduced in March 2020 limited the extent to which farmers and agribusiness could potentially increase employment, especially of seasonal labour. Growth in employment in 2020 did not occur to the same degree and in the same way as it might have done in the absence of the pandemic. Figure 5 shows employment trends in South Africa's primary agricultural sector, reflecting a substantial decline (66,000 jobs) in the second quarter of 2020. Most of these job losses were seasonal labour, which is not unusual in the months before the main summer season. However, in the rest of the year, the recovery in employment was limited. This may be because interviews were conducted telephonically, which may have excluded some agricultural workers. Despite the job losses, the sector is resilient – output is higher and is projected to remain strong in 2021. This suggests that the sector will continue to require labour in the coming season, particularly once the harvesting season for winter fruits gathers momentum. Seasonal labour will, however, still be affected by the social distancing and other health regulations.

6. COVID-19 containment measures in the agricultural sector

As the agricultural and food supply chain was not severely affected by the lockdown regulations, the general understanding was that there should be no need for government relief or support measures, except for farms and businesses in a few sectors. Nevertheless, government thought it prudent to announce a relief package for the agricultural sector. On 6 April 2020 the Minister of Agriculture, Land Reform and Rural Development, Ms Thoko Didiza, announced the department's measures to mitigate the impact of the Covid-19. The details of the programme are:

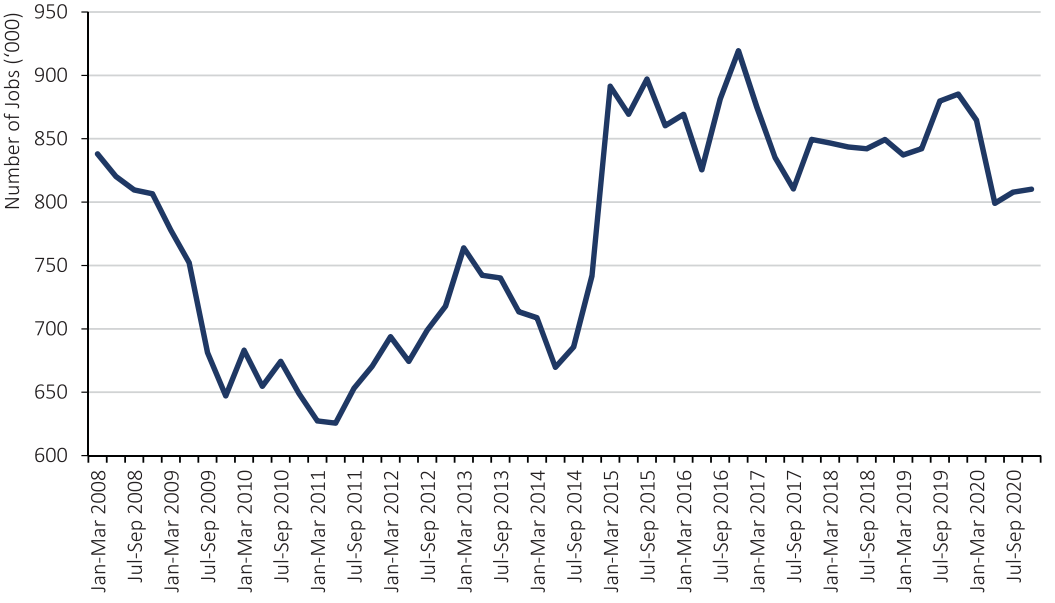

Figure 5. Long term trends in agricultural employment in South Africa, 2008 to 2020. Source: Stats SA (2020d).

An amount of R1.2 billion for assistance to mainly target financially distressed small-scale farmers. Of the R1.2 billion, R400 million has been allocated for farmers within the Proactive Land Acquisition Strategy (PLAS) programme, and the remainder will be channelled towards all other farmers that are mainly within the following commodity sectors:

- *Poultry*: Day-old chicks, point-of-lay chickens, feed, medication, and sawdust.
- *Other livestock*: Feed and medication.
- *Vegetables*: Seedlings, fertiliser, pesticides, herbicides, and soil correction (DALRRD 2020b).

All citizens who had been actively farming for at least 12 months, who were in the production season or cycle, and who had an annual turnover of R20,000 to R1 million were eligible, with some exclusions:

- Mechanisation, infrastructure, and overhead costs were not supported.
- Farmers who were preparing for the 2020 summer production season would not be supported.
- Farmers receiving other government support, such as through the Comprehensive Agricultural Support Programme, would be excluded.

There is, however, no clear link between these interventions and the impact of the regulations on the sector. Government does not appear to have analysed the pathway from the impact of the regulations to the relief measures; this blanket approach, when fiscal resources were already under strain, is not beyond criticism. The main aim of the relief programme was to provide immediate to near-term support to smallholder farmers currently affected by Covid-19, but the department failed to illustrate how the pandemic and regulations affected this class of farmers within this specific scale of operation.

By the time the application for the relief funds closed on 22 April 2020, 55,155 applications had been received. These were evaluated from 23 April to 8 May 2020, after which successful farmers received vouchers to collect inputs from various retailers, wholesalers, and cooperatives. The vouchers were capped at R50,000 per farmer and earmarked for specific inputs. Some provinces allocated the maximum amount to most of the applicants, while others analysed their needs in detail and allocated different amounts up to R50,000. Some, such as Limpopo, Mpumalanga, the

Western Cape, and the Northern Cape, applied due diligence and evaluated all applications in detail. In contrast, in the Northwest Province all farmers received either R50,000 or R30,000. In total, 14,339 applicants (25%) were successful, and R545 million was distributed to them at an average of R38,000 per farmer (Table 2).

As noted, the distribution of the R545 million took place via input vouchers for the collection of inputs from approved suppliers across the country. The validity to the vouchers was extended twice – first from 30 June to 31 July and then again to 30 September 2020, because of various supply chain disruptions stemming from the lockdown regulations.

As part of the relief package, a further R400 million was channelled to farmers on land acquired through the Proactive Land Acquisition Strategy who had already been approved for the department's stimulus package (in the 2019/20 budget). It is, however, unclear how this funding is linked to the pathway of the pandemic and the related regulations. No details have been made public.

The minister also announced that the department set aside R100 million for a Covid-19 grant scheme, which would be made available through the *Land Bank* to existing smallholder clients (i.e., with an annual turnover below R10 million) who were in distress because of Covid-19. The fund was to be used as a loan instalment waiver of no more than one year of instalments per farmer. The closing date for applications at the Land Bank was 16 October 2020 and the Bank rigorously vetted applicants to ensure that their financial problems could be attributed to the Covid-19 regulations.

The wine industry was given some relief on excise duties. Government announced the deferral of excise payments on alcoholic beverages on 23 April and again on 11 August. The Government Gazette of 11 August 2020 (Notice R.876) deferred excise tax payments for tobacco products and specific alcoholic beverages by (a) 150 days for taxes on tobacco products due between 1 May and 30 June, and (b) 90 days for taxes on specific alcoholic beverages due between 1 May and 30 June, and 1 August and 30 September (SARS 2020).

The Western Cape Department of Agriculture supported employees in the wine tourism sector through the Wine Tourism Worker Support Stipend. The aim of the fund was to safeguard the permanent employment of wine tourism workers by subsidising their salaries for a key quarter of the tourism calendar. It is noteworthy that this decision was made by the provincial government rather than the relevant national departments. The programme defined wine tourism workers as wine and food service employees permanently employed in a winery tasting room in the Western Cape. A total of R12 million was made available, which would support 1333 workers. A stipend[3] of R3000 per month would be allocated per worker for three consecutive months to mitigate projected job losses. Wineries could claim from December 2020 to February 2021, traditionally the peak domestic and international tourism months. Each winery was allowed claim for no more than ten employees to give as many wineries as possible access to the fund and to limit the size of payments to single, mega wineries.

The wine and alcohol industry also took measures to assist the broader community (Box 1).

Box 1. Covid-19 relief initiatives by the liquor industry.

- The larger wine and alcohol industry made some important contributions to the fight against Covid-19:
  Donated 160,000 litres of pure alcohol for use in hand sanitisers
- Produced 45,000 litres of sanitiser for distribution in communities
  Commissioned the production 114,000 litres of hand sanitiser for donation to frontline workers:
  - 10,000 litres of sanitiser for communities in Gauteng
  - 4000 litres of sanitiser distributed to public health facilities in KwaZulu-Natal
  - 100,000 units (500 ml) to hospitals and communities in Gauteng, KwaZulu-Natal, and the Western Cape, working with the Department of Health
- Set aside at least R2 million for employees in the trade and hospitality sector who lost their income
- Donated R7 million to the Covid-19 Solidarity Fund
- Converted crates to face shields and donated 100,000 face shields to hospitals.
- *Source: Letter to the President and number of ministers from SALBA, VINPRO and Beer Association of SA – dated 5 April 2020*

7. Conclusions and lessons learned

Government regulations to contain the pandemic had a minimal impact on the food supply chain in terms of production, manufacturing, and retail. In many respects, this was because real-time communication and reporting mechanisms were put in place, such as the BFAP End-to-end Supply Chain Tracker (BFAP 2020c). These mechanisms allowed stakeholders to report bottlenecks quickly; these concerns could be escalated and addressed through strong collaboration between government and industry. Government would have been well served by assessing the damage to individual sectors and providing targeted relief rather than implementing a blanket relief programme.

Ideally, relief should have been provided to industries whose cash flow had dried up for at least one month or whose sale volumes dropped dramatically. These include wine cellars, wine estates, and wine grape producers, broilers, wool, mohair, floriculture, and animal skins.

Only individual farmers (small or large) and companies in these qualifying industries should have been allowed to submit damage claims to the DALRRD. To ensure an orderly process based on clear evidence, the following should have been required:

- Must be registered on the farm register of the department
- Tax clearance certificate
- Companies and Intellectual Property Commission confirmation of (a) business and (b) that annual reports are up to date
- Audited financial statements for 2017/18, 2018/19 and 2019/20
- Sales volumes in April 2018, 2019, and 2020
- Turnover values for April 2018, 2019, and 2020
- The estimated loss in revenue attributed to the Covid-19 regulations based on this documentation.

To protect the fiscus and reach more farmers, the department's assistance to primary producers should not exceed 75% of loss estimates.

Smaller farmers operating outside the formal sector might not have these documents. For them, a blanket approach of R50,000 per farmer could have been used, with three critical requirements:

- Must be registered on the farmer register of the department
- Should provide proof that their farming activity falls within the six affected industries
- Should not have received any of the other special Covid-19 grants.

Other firms in the supply chain that are not primary producers but were also affected should have applied to the other assistance programmes of the Department of Trade, Industry and Competition, the Unemployment Insurance Fund, and the Temporary Employee/Employer Relief Scheme (TERS).

Table 2. Successful applicants and approved relief amounts per province.

Province	# of successful applicants	Amount approved for disbursement
Western Cape	1554	R 58,105,486
Northern Cape	1413	R 45,620,090
Gauteng	981	R 37,551,000
Mpumalanga	810	R 38,239,079
Free State	393	R 17,496,583
KwaZulu-Natal	2791	R 97,959,061
Eastern Cape	1551	R 63,838,134
North West	2906	R 104,222,995
Limpopo	1940	R 82,387,350
Total	*14,339*	*R 545,419,778*

Source: DALRRD (2020a).

South Africa did not experience a shortage of food; rather, it had difficulty providing accessible food for vulnerable groups. This is in part because informal traders did not receive enough support and were not allowed to trade in the first days of the lockdown. This restriction affected both the affordability and the accessibility of food for vulnerable people.

Some government regulations were promulgated without a clear understanding of their impact on the food supply chain. Infrastructure to support the roll-out of and compliance with regulations and requirements was also inadequate. Government also greatly underestimated the knock-on effects of decisions made before alert level 5. The highly regulated food industry is a complex web of interactions; it is extremely interconnected, and what happens at one point in the chain affects the entire chain, including the livelihoods of people operating in that vast industry.

Notes

1. A longer version of this paper was prepared for DPME and National Treasury as a chapter (see Kirsten et al. 2021) in the South African country report on the Covid-19 pandemic.
2. Official Statistics South Africa consumer price index data for "all urban areas".
3. A stipend is a fixed payment intended to help offset costs. Stipends are considered taxable income.

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