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# **Industry associations as growth coalitions: Lessons from South Africa's citrus industry**

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**CCRED-IDTT Policy Brief**

**November 2021**

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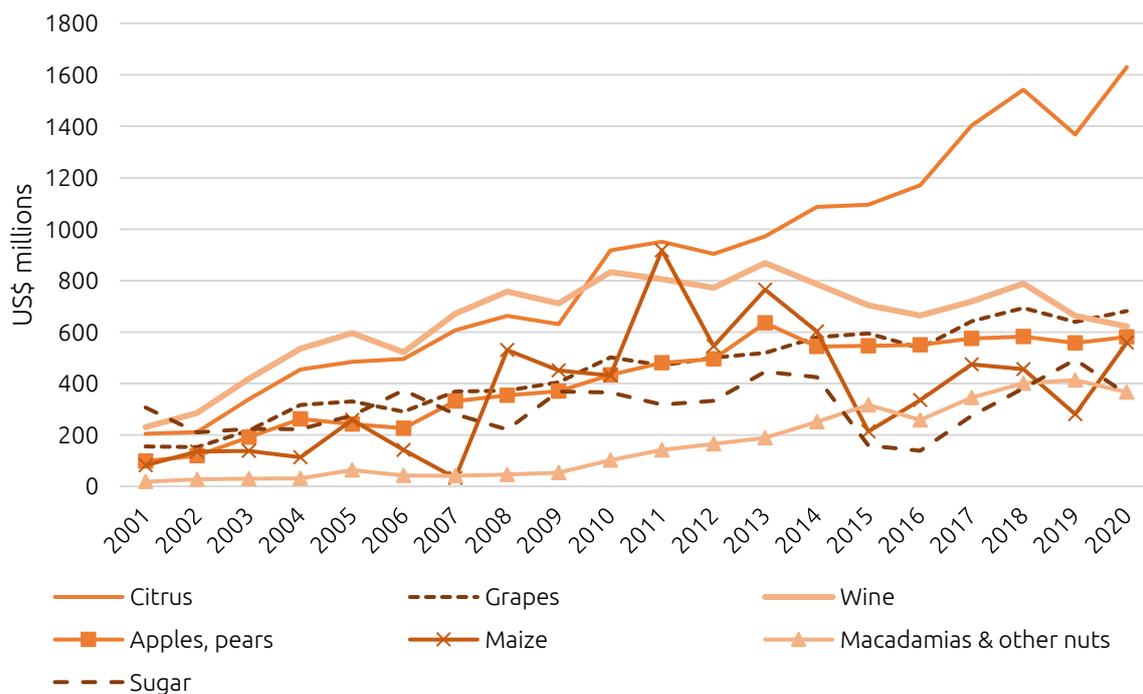
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## 1. The exceptional export-led growth of citrus

South Africa's citrus industry is characterised by strong export-led growth, which has not received the attention it deserves, especially given its relatively labour-absorbing nature. In 2010, citrus exports overtook wine as the largest agricultural export, and by 2020 they were equal to two and a half times the value of wine exports (Figure 1).

Apart from wealth creation, the citrus industry in South Africa has huge potential for realising land reform. And, with the necessary investments in water management and smart agriculture, it can continue to grow under the conditions of climate change. The sustained growth in demand for citrus from health-conscious consumers in global markets (reinforced by Covid-19) means that seizing these opportunities is even more important.

Figure 1: South Africa's top agricultural exports



Source: ITC TradeMap

The citrus industry creates substantial employment across the different activities in the value chain: from growing, packhouses, marketing and logistics, and upstream in tree nurseries and other input supplies. In 2019, growing and packhouse activities employed an estimated 112,000 workers and an additional 1,650 workers at the nursery level, contributing around 12% to total employment in agriculture.<sup>1</sup> Estimated employment in

<sup>1</sup> Total employment in agriculture in 2019 was 974,292 (Quantec). The citrus employment numbers are based on estimates from the CGA on employees per hectare, growth in hectares planted, and employment in packhouses per tonne packed for local and export markets. It is important to note that citrus production has become more intensive on a per hectare basis, implying that this estimate is conservative; on the other hand, packhouses have become more automated. Employment at the nursery level is based on estimates of annual production of trees for approximately 33 certified citrus nurseries as of 2018.

citrus production has grown by more than 50% over the past decade.<sup>2</sup> Moreover, there are sizeable multipliers into input supply and services such as logistics. Citrus also has links into processed products such as concentrates and fruit juices. Taking all these into account, we estimate conservatively that the value chain accounted for around 250,000 jobs in 2020, with continued growth being projected.

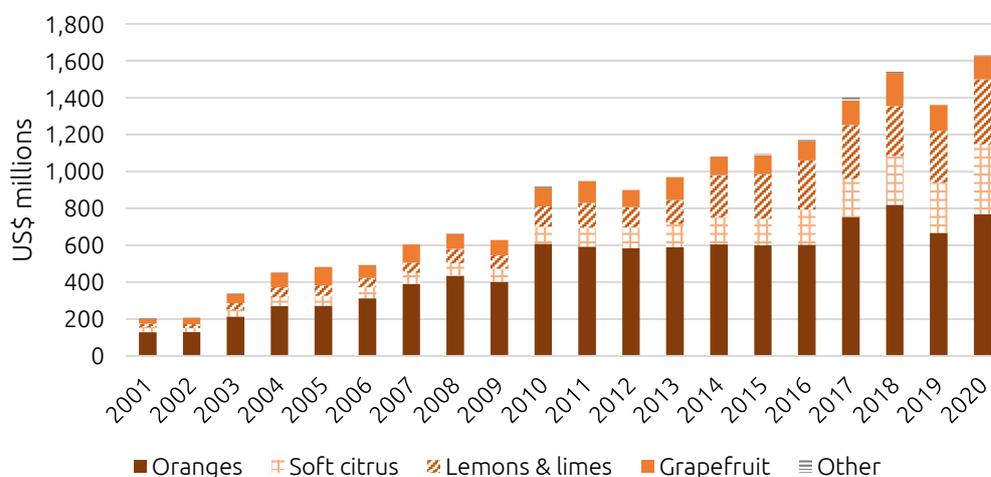
This brief focuses on the crucial role played by the industry body, the Citrus Growers Association (CGA), along with government, in underpinning the impressive performance, and the wider lessons that can be learned for other sectors. The paper builds on insights from recent studies undertaken by CCRED and draws on extensive producer and stakeholder interviews.

## 2. Unpacking the performance of South Africa's citrus industry

South Africa is the second-largest citrus exporter in the world and accounts for 10% of global exports, with an even higher share in some product lines. The majority of citrus production (66%) is exported as fresh fruit and this has provided the basis for the industry's strong growth in earnings over the past two decades (Figure 1).

The growth in export earnings, generated from increased production and higher prices, has been driven by higher-value "soft citrus" varieties, along with lemons & limes. Specifically, soft citrus and lemons & limes underpinned the export growth from 2010, nearly quadrupling from US\$202 million in 2010 to US\$730 million in 2020, while growth in the export of oranges was more important in earlier years (Figure 2). This shift reflects two critical points: first, the planting of trees to respond to changing global demand patterns; and second, the growing sophistication in a range of capabilities, including the cultivars being planted, compliance with phytosanitary standards, infrastructure in cold chain and logistics, and marketing in the "industrialisation of freshness" (Cramer and Sender, 2019). The growth of the capabilities of cultivar companies with international linkages, and nurseries supplying trees, forms a key part of the picture.

Figure 2: South Africa's citrus exports



Source: TradeMap

<sup>2</sup> See footnote 1 above.

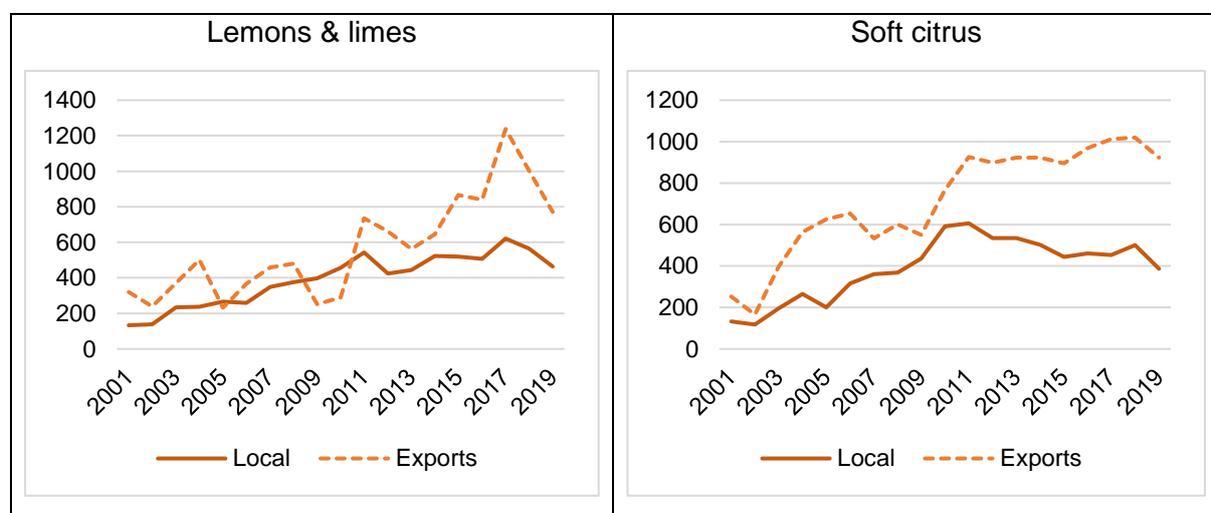
In terms of production, in 2001 the industry produced 72,172 tonnes of soft citrus, and, on the back of export success, this had more than quadrupled to 375,119 tonnes by 2019. Similarly, the production of lemons & limes more than doubled between 2001 and 2019, from 159,206 tonnes to 401,954 tonnes. In contrast to these trends, the growth in the volume of oranges produced over the same period was relatively slow: from 1.3 million tonnes in 2001 to 1.6 million tonnes in 2019.

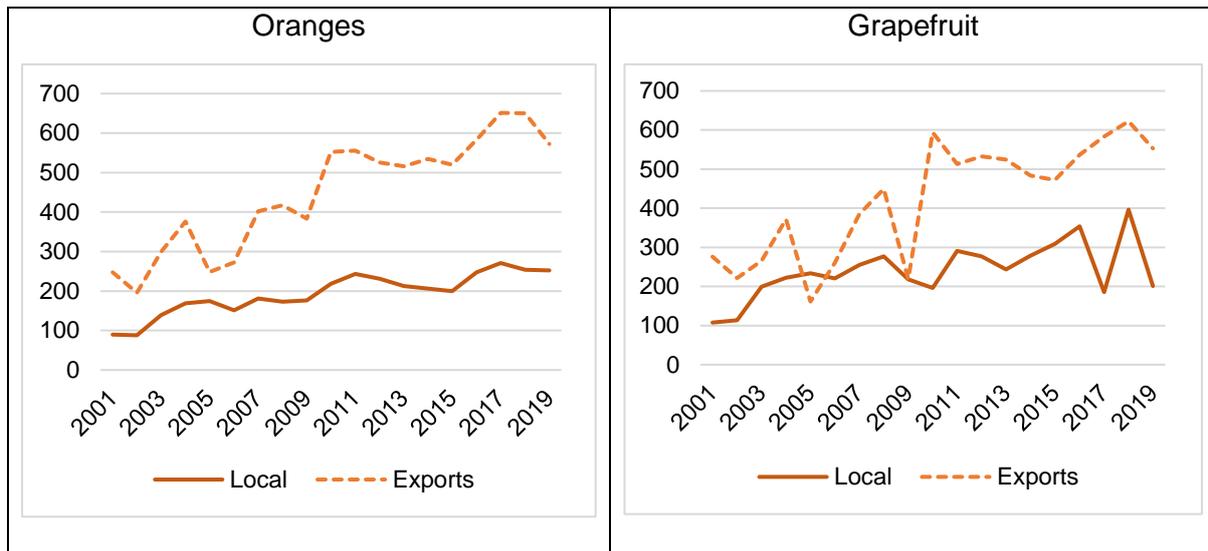
The size of the area farmed for citrus has also increased, with the number of hectares planted growing from 56,338 hectares in 2010 to 86,808 hectares in 2019. The provinces of Limpopo, Eastern Cape and Western Cape are where the majority of citrus is farmed, accounting for 87% of total hectares planted in the country.

The greater output is also due to more intensive farming and more effective use of the land, with increased investment in high-yield cultivars and on-farm production technologies. Frequent drought conditions and the higher prevalence of pests and diseases mean that farmers are investing in cultivars that are adaptable to local conditions, coupled with new technologies in irrigation, pest control and precision-farming, to maintain and improve production. Farmers have been adopting the use of low-flow micro and drip-irrigation technologies, which are programmed and operated through mobile phones. Fertigation systems are also used to irrigate and fertilize crops at the same time (Cramer and Chisoro-Dube, 2021). These technologies enable more precision-agriculture methods to be adopted. There is also better use of water and monitoring of the nutritional needs of a tree. And computerised spraying systems can limit the quantities of chemicals sprayed to control for diseases and pest activity.

The export prices of all citrus fruit have increased relative to local prices, especially in the last decade (reflecting the higher-quality requirements of export markets), to be around double local prices by 2019 (Figure 3). The prices of lemons & limes and soft citrus are also significantly higher than the prices of oranges and grapefruit, in both local and export markets. This has been a stimulus for the additional areas being planted for these fruits.

**Figure 3: Average export and local fresh citrus prices in US\$/ton (2001-2019)**





Source: CGA Key Industry Statistics sourced from the Department of Agriculture, Land Reform and Rural Development (DALRRD). Local average prices are based on sales at the 20 major fresh produce markets in the country; Export prices are sourced by DALRRD from Customs and Excise and are Free on Board (FOB) prices. The Rand/US dollar exchange rates were sourced from the South African Reserve Bank and are Middle rates.

### 3. The role of the Citrus Growers Association

The role of the industry association in relation to investments and coordination to support shared capabilities and upgrading over time cannot be over-emphasised. The CGA has played a major role in effectively coordinating different players along the value chain and has also been central in securing market access, conducting research, providing technical support and logistics, and, crucially, facilitating transformation in the industry.

The CGA has worked successfully in partnership with different government departments and agencies to ensure the industry receives the appropriate support for sustained growth. As in other agriculture sectors, until 1997, the citrus industry was regulated through a single marketing channel (Mather, 1999; Mather and Greenberg, 2003). However, even under this marketing arrangement, the industry was largely oriented to export markets.

With the deregulation of the industry in 1997, growers recognised the importance of sector coordination to support exports, and the CGA was established for this specific purpose. The CGA has around 1,400 commercial grower members, who grow primarily for the fresh export market.<sup>3</sup> The CGA manages research projects on behalf of all citrus growers and keeps a register of citrus growers.

Over time, the CGA has been progressively expanding its activities into other areas that support the industry. These include research and technical support, market access and development, logistics, consumer assurance and information, and administration services. It is also playing an important role in transformation and inclusive development in the industry, working with government to support smaller farmers, and black farmers who obtained land under the land reform programme. As we explain below, the government has

<sup>3</sup> See [www.cga.co.za](http://www.cga.co.za)

played a critical role in approving statutory levies on all exports of citrus to fund the CGA's activities in the collective interests of the industry.

Another important stakeholder organisation in the development of the industry is the Citrus Growers Development Company (CGDC), set up and funded by the CGA. The CGDC was established in 2016 primarily to make a significant impact on the transformation of the citrus industry. Its 145 members are black farmers, about 70 of whom export their products and are therefore also members of the CGA.

### CGA resourcing

The CGA's industry activities are funded through statutory export levies charged on every carton exported.<sup>4</sup> The levies were initially voluntary, and set at 32 cents per 15-kilogram carton of exports. As not all growers had been paying the levy, in 2002, at the CGA's request to the government, a statutory levy on all export citrus was instituted. The levies have ensured independent and ongoing resources, while also holding the CGA accountable for using the resources in ways that most benefit the industry as a whole.

The CGA's budget has increased substantially, in line with the hikes in levies, and also because these levies have been applied to significantly higher levels of exports (Figure 1). The recognition of the value of the CGA's work, including research, and its role in market access and transformation is evident in the increase in the levy by more than 100% – from US\$0.04 per every 15-kilogram carton exported in 2020 to US\$0.11 for 2021 (see Table 1).

**Table 1: CGA export levies per 15kg export carton & annual levy incomes**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Levy	0.05	0.06	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.04	0.11
Income (mIn)	4.44	5.10	4.48	4.13	4.64	4.32	4.06	4.45	6.05	6.34	5.52	6.45

*Source: CGA Annual Reports (2010-2020)*

### Market access and compliance

The CGA works closely with government on crucial export-related issues such as market access, tariffs and trade barriers. These involve government-to-government negotiations, while the CGA represents local players and provides technical support. Closely related is the CGA's work on digital systems to improve compliance by producers in the value chain. From 2013, working with the Department of Agriculture, Land Reform and Rural Development (DALRRD), the CGA developed an electronic data-sharing platform, Phytclean, for issuing export phytosanitary certification.<sup>5</sup> Growers, packhouses, exporters and supply-chain service providers use the digital platform technology to capture, store, and report data for export phytosanitary certification. Phytclean digitizes the recording and ensures that there is consistency in information for different markets. As of 2016, there were 1,400 registered users of the system in the citrus, table grape, pomegranate and stone fruit industries.<sup>6</sup>

The logistics side of the export business also involves very close coordination with government. Bad congestion and long delays at South Africa's main ports, due to frequent machinery breakdowns caused by ageing and worn-out infrastructure have hampered

<sup>4</sup> [www.cga.co.za](http://www.cga.co.za)

<sup>5</sup> <http://citrusresourcewarehouse.org.za/>

<sup>6</sup> <http://citrusresourcewarehouse.org.za/>

logistics. This, in turn, affects the quality of the fruit and increases costs for fruit exporters (Cramer and Chisoro-Dube, 2021). Through continuous engagement with government, the CGA works hard to ensure that systems are in place for logistics at the ports. For example, in June 2020, at the peak of the Covid-19 pandemic, the CGA was instrumental in developing a rail plan with Transnet Freight Rail to alleviate port traffic congestion, and in coordinating and monitoring shipping lines to ensure the availability of shipping containers.<sup>7</sup>

### **Research and capacity building**

The CGA has set up a number of companies to engage in research and capacity-building for the sector. These are either not-for-profit companies that provide shared services and support for growers, or commercial companies that sell products and services (at prices that may be lower than rivals) to earn returns that are re-invested back into the companies. For example, through Citrus Research International (CRI), a non-commercial entity established by the CGA in 2001, the CGA conducts research on disease and pest management and provides technical support for growers to promote market access. CRI's research on diseases and integrated pest management has focused largely on false codling moth, citrus black spot (CBS), and fruit flies, which have presented key market-access challenges for the industry. In response to the perceived threat of CBS for EU exports, the industry has continued to implement a comprehensive CBS risk management programme. The programme has cost the industry close to R2 billion annually (approximately US\$122 million per annum)<sup>8</sup> but it has resulted in a dramatic decrease in CBS interceptions over the past five years (CGA, 2020).

The CRI also provides technical support for growers on pests and diseases in the orchards. It ensures that growers are supplied with nursery trees that are free from diseases through the Citrus Improvement Scheme and the Citrus Foundation Block, established in 2002. The CRI manages a centralised system of procuring plant material by all certified nurseries in the country. Nurseries can only buy certified rootstock seeds and bud wood from the Citrus Foundation Block, which is located in the Eastern Cape in a secluded valley where citrus is not commercially grown.

Through River BioScience, a commercial subsidiary of the CGA, the CGA manufactures and commercialises crop protection products and services for the local industry and international citrus and other agricultural markets. A key example is Cryptogran, a biological agent for commercial pest control of false codling moth larvae on crops, developed by the CRI. As part of its efforts, River Bioscience invested in Xsit, a company that focuses on the sterile insect technique programme for the control of false codling moth. The programme is also being applied to grape orchards. The Xsit programme initially only operated in the Western Cape, but it has now extended its coverage to the Eastern Cape.

To support industry research and development, in 2005, the CGA formed the Citrus Academy. The objective was to develop a quality learning system for the citrus industry, and to improve access to skills development for all participants in the citrus industry. The academy aims to address industry challenges relating to low levels of production skills, and

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<sup>7</sup> Interview with the CGA Justin Chadwick, 8 June 2020.

<sup>8</sup> These are based on the Rand/US dollar exchange rate sourced from the South African Reserve Bank for 2020, and are middle rates.

scarce and critical skills. There is additional support for black farmers through the CGDC, which is discussed further below.

Through this research and development ecosystem, the CGA is playing a central role in the industry in maintaining and meeting the necessary sanitary and phyto-sanitary (SPS) standards and requirements for exports and in responding to concerns about possible pests and diseases that could block exports.

### **Transformation and inclusion**

One of the ways in which the CGA has built relationships with government is through its links with the land reform process. This process supports the inclusion in citrus production of black South African farmers who were systematically excluded from commercial agriculture under apartheid.

In 2016, the CGA established the CGA Grower Development Company (CGDC) to drive transformation in the industry, with funding from government and from the industry's export levies. The CGDC provides both financial and on-farm support to land reform beneficiaries and individual black farmers, including access to export markets. Twenty percent of the CGA's export levies are allocated to the CGDC, and the recent sizeable increase in the levy means a doubling of support for black farmers. The CGDC assists growers with training and business plans, and shares research on industry and market trends through workshops and meetings. Growers receive training on how to identify different pests, chemicals and spray programmes, and export requirements. From a very low base, the CGDC has supported around 76 farmers in entering export markets, with average export volumes in line with those of commercial farmers.

The inclusion of black citrus growers as competitive players in production and export markets has been limited by two key factors that need to be addressed. First, there have been widely reported challenges with the land reform process (including the pace at which it has proceeded), the granting of title deeds, and the provision of appropriate support (Advisory Panel on Land Reform and Agriculture, 2019). (These are by no means specific to the citrus industry.) Second, there needs to be more effective support for the necessary investment and capabilities to build long-term competitiveness, rather than piecemeal initiatives.

## **4. Factors in the CGA's success**

The ability to manage the balance of interests at different levels in the value chain, being accountable to the industry, the effective use of the resources it has been able to leverage, and its research and technical capacity are the key factors in the CGA's contribution to growth in the South Africa citrus industry. These strengths have made it an effective coordinator and leader in ensuring export success and generating value and sustainable inclusive growth.

### **Export orientation and capabilities**

The overriding focus of the CGA has always been on longer-term export competitiveness. It has avoided the trap of lobbying to protect short-term returns at the expense of strategizing for longer-term sustainable growth. Its export orientation provides a discipline

to build and sustain dynamic comparative advantages through improved capabilities along the value chain.

The focus on export competitiveness has informed its approach to research and the provision of technical support. This has involved recruiting and developing skilled researchers, scientists and technical professionals. Through the Citrus Academy, it has developed a high-quality learning system for the citrus industry, and widened access to skills development for all participants. Through its research and technical services, the CGA keeps abreast of all changes in sanitary and phytosanitary standards, thus protecting the industry. It has worked very effectively with government in addressing challenges with diseases and pests. All these achievements have required ongoing coordination among different industry players.

Digitalisation has also changed the necessary traceability and documentation requirements for compliance with sanitary and phytosanitary standards for access to the export market. The need for improved processes of capturing, storing and sharing information for compliance purposes has driven the development of innovative digital platforms such as Phytclean by the CGA working with the government. In principle, digitalisation may reduce the costs of compliance for smaller producers and improve inclusion. However, this is dependent on the systems being developed and rolled out for the industry as a whole, with the necessary infrastructure and producers' ability to make the necessary investments.

### **Balancing interests and building a broad coalition**

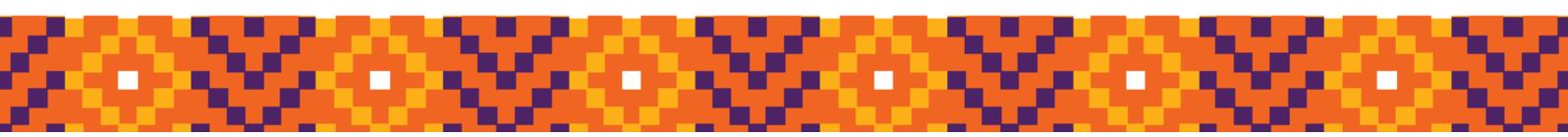
Building a sustainable industry in South Africa requires the inclusion of previously marginalised groups and the balancing of different interests, to sustain a functional broad coalition of players and stakeholders. The CGA reflects a diversity of growers and also works with other non-member value chain participants, including cultivar companies, nurseries, packhouses and marketing companies. This coalition shares a common understanding of what is required for success, and is oriented to upgrading and building capabilities in premium product segments.

In terms of power and governance, a balance of interests within the CGA and in the industry has been achieved. For example, there are no clearly dominant firms in the value chains that are able to seize short-term value at the expense of longer-term value creation. The highest levels of concentration are in the cultivar companies. While these companies may have a degree of market power, including due to the rights they have on protected varieties, their interests are in growing the competitiveness of the value chain as a whole, as without this they do not have a growing market.

While the CGA has been successful in building an inclusive coalition through establishing structures and through the land reform process to support the inclusion of black citrus growers, this needs to move more quickly. The overall growth of citrus points to further opportunities yet to be seized. A more focused approach to collaboration between industry and government should yield the necessary resources for more black citrus farmers to grow and thrive in export markets.

## **5. Conclusions and lessons for other industries**

The success of the citrus industry has depended on effective coordination along the value chain, investment in shared services and capabilities, and good alignment between



government and the industry. The CGA has worked with government to open up new markets, establish the rules and regulations that the industry must adhere to in order to meet standards, and to improve inclusion, although much more progress is required here.

South Africa's citrus industry presents lessons that can be drawn on for other industries to reach similar levels of success. These relate to:

- export competitiveness founded on research and technical support
- the inclusion of black farmers
- job creation, especially in rural areas.<sup>9</sup>

The most important challenges to be addressed in the industry include linking accelerated land reform with the appropriate support for investment and capabilities formation, to ensure "land reform for wealth creation". After extensive reviews and analysis of the land reform experiences over the past 25 years, what is required now is effective implementation. Second, the implications of climate change require ongoing investment in water management, research, and investment in production technologies. Third, expanding access to markets, and improving export terms in existing markets against increased demand globally from more health-conscious consumers, is critical for ensuring the sustained growth of the industry.

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<sup>9</sup> This is particularly important for more labour-intensive fruit production such as berries and avocados – employing 2.9 and 2.6 workers per hectare, respectively.

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