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Are we bearing fruit? Investigating the impact of industrial policy in the South African deciduous fruit sector

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Declaration of authenticity

I, Atang Moletsane, declare that the research report, ***Are we bearing fruit? Investigating the impact of industrial policy in the South African deciduous fruit sector***, is my own work and that each source of information used has been acknowledged by means of a complete reference. This research report has not been submitted before for any other research project, degree or examination at any university.

Signed: _____

On: _____

At: _____

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Abstract

Industrialisation is widely-recognised as being the driver of the rapid development experienced in East Asian miracle economies, in which those governments used targeted industrial polices to grow chosen sectors. Industrial policies have traditionally focused on manufacturing; with agriculture being viewed as an entirely separate sector that provides certain inputs into technology-heavy manufacturing activities. In more recent times however, high-value fresh agricultural produce is becoming more aligned with processes and technologies normally associated with manufacturing. The production and particularly the export of fresh horticultural commodities has become subject to a phenomenon coined the 'industrialisation of freshness'. These commodities are high export-earners and facilitate technological progression and employment creation, and thus are becoming more recognised around the world as good candidates for targeted industrial policy. One such high-value agricultural commodity is the deciduous fruit sector which in South Africa contributes substantially to the economy, but has experienced slow expansion over two decades compared to other countries like Chile. This report is an investigation into whether, in South Africa, industrial objectives of supporting growth, export expansion and employment creation are being facilitated by the nature of the conception and implementation of industrial policy; assessed using the case of the deciduous fruit industry. This investigation is done using the 'embedded autonomy' model of the developmental state which infers that in order to be effective in its interventions, government needs to have close relationships with industries but must also have the authority to direct industries in line with national priorities. This report provides interesting insights into the levels of cooperation and trust between government and industry; highlighting that gaps still exist in state capacity and that more targeted focusing of industrial policy needs to take place before South Africa can achieve a developmental state.

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LIST OF ABBREVIATIONS

ANC: African National Congress

APAP: Agricultural Policy Action Plan

BEE: Black Economic Empowerment

BBBEE: Broad-Based Black Economic Empowerment

BFAP: Bureau for Food and Agricultural Policy

DAFF: Department of Agriculture, Forestry and Fisheries

DBSA: Development Bank of Southern Africa

DTI: Department of Trade and Industry

DFDC: Deciduous Fruit Development Chamber

FIVCRT: Fruit Industry Value Chain Round Table

FSA: Fruit South Africa

GDP: Gross domestic product

IDC: Industrial Development Corporation

IPAP: Industrial Policy Action Plan

NIPF: National Industrial Policy Framework

NAMC: National Agricultural Marketing Council

NDP: National Development Plan

PLAAS: The Institute for Poverty, Land and Agrarian Studies

SATI: South African Table Grape Industry

UNCTAD: United Nations Conference on Trade and Development

CHAPTER 1: INTRODUCTION

Policy-makers in many developing countries have focused on industrialisation as a key strategy for development, following the rapid industrialisation-led growth seen in East Asian countries between 1960 and 1995. Various academics including Krugman (1994), Rodrik (1995) and Amsden (1989) describe how East Asian miracle economies were able to grow selected industries by implementing targeted policies. Industrial policy in the broadest sense refers to policies that aim to support the development of technologies and capabilities that raise growth and productivity. These policies have usually centred on manufacturing as the driver of growth, whereby the economy is transformed from an agrarian-based economy to an industrial one. Over the past decade however, certain agricultural exports such as high-value produce[1] are increasingly making use of advanced industrial techniques even in their raw unprocessed state. This phenomenon has been coined the 'industrialisation of freshness' and it describes the industrial economies of scale and technical advancements required to deliver quality fresh horticultural produce to international markets - including research on plant genetics, complex transport and storage logistics, computer systems to monitor and trace produce, and sophisticated methods for preservation and packaging (Tomkinson, 2015). One such agricultural sector where the industry methods have become sophisticated and value addition is substantial, is the deciduous fruit industry.

South Africa's deciduous fruit industry is currently the most significant horticulture sector by gross value, contributing roughly 27% (R19 billion) of the total gross value of the horticulture industry (DAFF, 2017a). The deciduous fruit industry consists of pome fruit (apples, pears and quinces), stone fruit (apricots, peaches & nectarines and plums) and table grapes which are all known as high-value produce. In 2017, the deciduous fruit industry's export earnings represented about 12% (R15 billion) of South Africa's earnings from total agricultural exports (DAFF, 2017a). This industry also employs a high number of people (roughly 110 000 on farms in 2017) and requires significantly more permanent labour inputs per hectare than other agriculture sectors such as maize, wheat, soybeans and livestock. Through forward and backward linkages, deciduous fruit farming is also dependant on supplementary operations such as packaging and cold chain facilities, which creates service jobs throughout the production chain (Chisoro-Dube, das Nair and Nkhonjera, 2018). The employment creation

[1] High-value produce refers to non-traditional food crops (including vegetables, fruits and flowers) that have higher market values than traditional cereal grains and export crops.

and foreign exchange earnings potential of deciduous fruits make it an important industry for a country such as South Africa that is facing two major problems - a balance of payments constraint and high levels of unemployment.

South Africa is the second largest producer of deciduous fruits in the Southern Hemisphere[2], after Chile. However, despite a high reputation for quality, growth in South African exports has been slow and the country's share of the global deciduous fruit export market has remained stagnant over the past two decades whilst other countries such as Peru and Chile have managed to increase their share of exports. The success of Chile's deciduous fruit sector in global trade is largely attributable to significant industrial policy measures provided to producer-exporters (Bloemendal, 2008; Mashabela and Vink; 2008; Retamales and Sepúlveda, 2011; Donoso, 2016). Support from the Chilean government has come in the form of streamlining export procedures, investments in infrastructure, supporting export promotion institutions and facilitating trade agreements.

In South Africa, there is not much literature that focuses on industrial policy in fruit production but in 2015, Christopher Cramer and John Sender were commissioned to provide recommendations on interventions that could be implemented by the Department of Trade and Industry (DTI) to enhance the agro-processing sector. They reported that many large South African agribusiness owners, including one responsible for more than 30% of all South African apple and pear exports, had never had the opportunity to meet anyone from DTI; and they argued that "the single most important policy change in government would be the promotion of a positive interaction with businesses" (Cramer and Sender, 2015: 26). Given the significance of deciduous fruits as a high-value export and the literature gap regarding government's actual or potential support for this sector, this report focuses on industrial policy in this industry, with a view to probing further that statement regarding the estrangement between deciduous fruit operators and government. This research report has built upon that statement as a starting point for understanding the effectiveness of industrial policy in South Africa, using the case of the deciduous fruit sector.

The DTI (2018) states that the broad objective of industrial policy in South Africa is "to address the key challenges of economic and industrial growth and race-based poverty, inequality and unemployment." Particularly over the past decade, government has sought to bring the

[2] Here we refer to the Southern Hemisphere only, because the Southern and Northern hemispheres are subject to different productive seasons and thus are not in competition with one other.

previously excluded Black community into the mainstream economy through employment and ownership. The DTI notes that industrial policy aims to "focus on key existing exporters, emerging and export-ready firms and supporting new black-owned entrants" (DTI, 2018). South African industrial policy also seeks to support value-added production.

Using the lens of Evans' (1995) embedded autonomy theory of the developmental state, this report investigates whether the export expansion and employment objectives of government are being facilitated by the nature of state-industry interactions, whether the intended results of industrial policy are realistically aligned with the capabilities of targeted beneficiaries, and whether government has the capacity to drive industrial growth in the deciduous fruit industry. The notion of embedded autonomy infers that effective state intervention requires government to have close ties to business groups and industry objectives (*embeddedness*) but also have the power to instruct the private sector according to national interest goals (*autonomy*).

The major question this study sought to answer is "What is the appropriateness of industrial policy towards raising production and exports, employment, and value in the deciduous fruit sector in South Africa?" In order to answer this question, this research explores whether large deciduous fruit producers are accessing incentive schemes, export promotion programmes, and long-term finance from government. This report also assesses whether smaller newer entrants have been able to use government support to establish or expand their operations. The research further answers whether coherence and agreement exists between government and the industry regarding the manner in which policies are conceived and implemented. This report has found a lack of both embeddedness and autonomy in the South African government. This 'dis-embedded un-autonomy' is characterised by mutual mistrust and contention between the industry and government regarding the industrial potential of the deciduous fruit industry and the competency and performance of government. This has led to an environment of stakeholder disillusionment and policy incoherence not conducive for industry expansion.

The structure of the rest of the report is as follows. The next section provides an overview of the 'industrialisation of freshness' and the ways in which government interventions can support this process or be ineffective. Chapter 3 provides a coalition-centred approach to industrial policy that highlights close cooperative interactions between government and industry as being critical for the formulation of policy. Chapter 4 explains the research approach for this study, whereby findings were largely sought through stakeholder interviews. Chapter 5 then details the economic significance of the deciduous fruit industry while also noting that there have been

many years of slow growth in employment and exports. Opportunities for industry expansion are also noted. Chapter 6 and 7 then provide the research findings regarding the appropriateness of industrial policy as it relates to this industry; and Chapter 8 concludes.

CHAPTER 2: THE INDUSTRIALISATION OF FRESHNESS

This chapter begins by defining industrialisation which has historically entailed growing the manufacturing sector. The chapter goes on to explore the industrialisation of fresh fruit production which has occurred in more recent decades. Next, different approaches to industrial policy are briefly discussed, which largely differ on the extent to which the state should be involved in the private sector. Lastly, the chapter provides a literature review of the successes and failures of industrial policy towards high-value agricultural produce in different countries.

2.1 Industrialisation: from manufacturing back to agriculture

2.1.1 Defining industrialisation and its driving forces

Kaldor's 1967 seminal theory of industrialisation highlights manufacturing, through its increasing returns to scale, as the engine of growth. Kaldor's empirical work showed important properties of manufacturing to include strong backward and forward linkages with other economic sectors like agriculture; dynamic economies of scale; increases in labour productivity and fast learning-by-doing. Kaldor (1967: 54) observes that "the kind of economic growth which involves the use of modern technologies, and which eventuates in high real income per capita is inconceivable without industrialisation." Other theoretical models that undertake to explain how industrialisation leads to economic growth include that of Rostow (1956) who emphasised the protection of infant industries as the engine for growth in the industrialised North. Some like Krueger (1998) are of the view that protecting infant industries is not what will bring growth; rather, an open economy facilitating free trade will achieve this.

The rapid growth and improvements in income distribution experienced by East Asian economies as from the 1960s has been attributed to export-led industrialisation by neoclassical economists. These economists argue that, given the correct mix of policies, other countries can achieve similar success (Athukorala and Melon, 2010). The rationale behind this argument is that developing countries tend to have comparative advantages in labour-intensive activities in the production of international products. Theory predicts that due to this comparative advantage, an expansion of manufacturing will lead to increases in employment. Labour is the most widely-distributed factor of production within economies. Increased employment and a rise in real wages is expected to reduce poverty and income inequality (Krueger, 1995).

2.1.2 The industrialisation of food and agriculture

Early theoretical analyses have largely viewed agriculture and industry as two separate sectors with distinctly different characteristics (Saikia, 2009). In more recent decades however, food systems are increasingly removed from being a purely agricultural process and the distinction between manufactured products and primary goods is becoming harder to detect (Cassuto and Saville, 2012). Starting in the early 1990s, there has been rapid agro-industrialisation in a number of developing nations. Agro-industrialisation refers to the industrialised production of crops, livestock and poultry where the farming is typically large-scale and capital-intensive. The forces driving agro-industrialisation include quality and traceability demands from consumers; new process control technologies; and the implementation of business systems that exploit economies of scale (Gray and Boehlje, 2007).

In line with this, an 'industrialisation of freshness' has been occurring - the industrialisation of high-value fresh produce. The term was coined by Christopher Cramer (Cramer, 2017). High-value in this case is not associated with more processing, but with improved functions and processes to increase the quality and shelf life of fresh fruit, "as the highest value product" (Chisoro-Dube et al, 2018: 1). This industrialisation of freshness entails investments in pack houses, cold chain facilities and logistics, as well as growing the most in-demand fruit varieties. Successfully exporting *fresh* fruits to other parts of the world requires an extensive amount of industrial organisation, scale requirements and precise demand forecasting to ensure that what is produced and exported is of sufficient quality and quantity. "The technological sophistication, research and development (R&D), sophisticated packaging… that go into producing a fresh orange ready for consumption in a foreign market outstrip the technology and manufacturing transformation required, say, to produce a carton of orange juice" (Cramer and Sender, 2015:2). In that way, this exported fresh orange has higher value than the orange juice. These are both agro-processed goods. Accordingly, agro-processing in this study refers to wide-ranging postharvest activities including minimally processed and packaged fresh fruit, as well as the industrial processing of fruit.

In line with the current industrialisation of freshness, the exporting of fresh produce involves a number of complex steps that involve substantial investment, productive capacity and technical expertise. The National Agricultural Marketing Council in 2007 outlined the main stages of deciduous fruit production to be the following:

- Research and plant development
- Sourcing of inputs such as seeds and fertilizers
- Planting and picking of fresh fruit
- Packing and cold storage
- Processing of fruit including canning and juices
- Distribution of fresh and processed fruit, and marketing.

It can be said that in large part, the success of this industry is dependent on factors that require government assistance, especially where inexperienced emerging farmers are concerned. Ouma and Whitfield (2012) and Webber and Labaste (2010) argue that the experiences of Latin American and Asian nations show that the success of agro-industries not only depends on neo-Ricardian comparative advantages such as inexpensive labour and natural resources, but also necessitates creating competitive advantages. "Creating competitive advantages in turn requires the transformation of landscapes of disparate capabilities, organisational forms, inherited institutional frameworks and routines, and technological relations into a coordinated socio-economic system" (Ouma and Whitfield, 2012: 302). The South African government's 2015 Agricultural Policy Action Plan, a framework for revitalising agriculture and agro-processing, highlights that horticulture producers "should develop a competitive advantage by focusing on non-cost factors like quality and compete in terms of innovative value chain aspects (i.e. products, production, packaging, logistics, marketing, sales and markets)" (DAFF, 2015: 65). These are all factors which can be massively supported or impeded by the actions and policies of government.

2.2 What is meant by 'industrial policy'?

Industrialisation is an important component of many countries' development strategies. Proponents of industrial policy maintain that it can promote and quicken the process of industrialisation. The most straightforward definition of industrial policy is any policy that affects the progression of industry, usually in the manufacturing sector. This definition is offered by Curzon-Price (1981) and Hall (1986). Pack and Saggi (2006: 267 - 268) define industrial policy as "any type of selective government intervention or policy that attempts to alter the structure of production in favour of sectors that are expected to offer better prospects for economic growth in a way that would not occur in the absence of such intervention".

Krugman and Obstfeld (2003) and Chang (1994) both provide a similar definition, in which the purpose of industrial policy is to facilitate productive capacity transformation in developing nations in order to produce goods that are associated with high growth. The industrial policy definition that this study employs takes all of this into account, and refers to policies that aim to direct industrialisation in line with some definition of national interest.

During the 1980s, developing countries adopted economic policies aligned with the broadly free-market Washington Consensus policies, in accordance with neoclassical growth theory which presumes that countries with access to the same technologies should converge to a similar income level. However, Lall (2004) argues that in reality, differing levels of industrial competitiveness in the developing world is one of the common causes of the mounting differences in country-to-county income. Rodrik (2012) however shows that unconditional convergence in labour productivity does in fact occur in modern manufacturing, even if it doesn't happen throughout the entire economy. Rodrik (2012: 165) also concedes that "despite strong convergence within manufacturing, aggregate convergence fails due to the small share of manufacturing employment in low-income countries and the slow pace of industrialization"; and further notes that what "high-growth countries typically have in common is their ability to deploy policies that compensate for the market and government failures that block growth-enhancing structural transformation" (Rodrik, 2012: 202).

Industrialisation necessitates structural changes and many academics advocate that these changes must be triggered by high-level government leadership through policies that mobilise industry and public institutions to increase national productivity and technological learning (Kim, Shim and Kim, 1995; Robinson, 2009; Marti and Ssenkubuge, 2009). There is still wide debate on the extent to which the state should be involved. One aspect of this debate is whether governments should be using industrial policy to make the most of a country's current comparative advantage, or whether the state should rather be investing in higher value activities that will likely be unprofitable in the short term. The first position is generally associated with neoliberal economic theory which limits intervention, while the second is more aligned with structuralist policies that favour state support and infant-industry protection (Chang and Lin, 2009).

Given that there are a number of different theoretical justifications for the existence of different forms of industrial policy, a follow-up question is: what have been the experiences of different countries with regards to state support towards high-value horticulture specifically?

2.3 Industrial policy for high-value agriculture sectors: lessons from countries

The Chilean government's significant investment and export promotion programmes for deciduous fruits have already been noted in Chapter 1, but the success of Chilean industrial policy in agro-industries has also been attributed to the Fundación Chile (FCh), a semi-public technological research foundation. FCh's interventions in the grape/wine, and asparagus industries have been highly successful (Chang, Hauge and Irfan, 2016). In the 1980s, by investing in pilot firms, FCh introduced a new policy to encourage technology transfer. "These firms had to demonstrate the feasibility and applicability of their use of internationally available technologies in the Chilean context. These innovative companies were supposed to attract other Chilean companies, spreading the innovative technologies across the country" (Chang et al, 2016: 79). In other words, within industries, there are firms that have the most potential to successfully industrialise and these firms should be identified and targeted for industrial growth. This observation has led to research on the characteristics of successful firms and the notion that industrial policy would be more effective if it targeted these characteristics instead of all firms in a sector (Devarajan, 2016; May, 2017).

In the developing world, successes in grape production in Brazil and Peru, and floriculture in Ethiopia highlight the importance of close cooperative interactions between producers and public institutions (Ouma and Whitfield, 2012). Compared with other developing countries, unfortunately most agro-industries in Africa generally underperform in terms of productivity, output and competitiveness (Ouma and Whitfield, 2012). In 2002, the political crisis in Côte d'Ivoire had a very negative impact on the pineapple industry because pineapples there are largely produced by small independent farmers who were unable to access state support and financing during this time (Rogowsky and Laney-Cummings, 2008). According to the World Bank (2013), despite a successful domestic fresh produce sector in Kenya, the country has not been able to translate this into export expansion. A Kenyan export association reported that fruit exports were constrained because of low incentives, limited access to credit, and stringent market requirements which are a barrier to access (Okinda, 2017). Ghana's pineapple industry is said to be challenged by a low level of trust and interaction among industry stakeholders as well as limited government support, which has resulted in unresolved collective action and coordination problems (Ouma and Whitfield, 2012). Outside of Africa, interviews by Suryaningrat (2014) revealed reasons why the slow-growing fruit processing industry in

Indonesia don't access government support; those reasons included inadequate advertisement of support and the lack of a dedicated government agency in charge of marketing agricultural products.

In the South African context, a review of the existing literature indicates that more exploratory research is needed to understand the nature of the interactions between government and deciduous fruit producers/exporters. There are a few studies that either explored the topic from the perspective of only one phase of the value chain (processed canned fruit), or which briefly touched on the issue from a fresh fruit perspective but it wasn't the main focus of those studies. The little available literature points towards the notion that recent government interventions have not been adequate or appropriate for growing this industry.

One report expressed that government was failing to adopt a targeted and sector-focused trade and industrial policy in relation to fruit canning and processing (Kaplan and Kaplinsky, 1999); another study explored the macroeconomic potential of the fruit canning industry and mentioned that due to that potential this industry would benefit from targeted industrial policy which was lacking at the time (Ross, 2007). A 2015 analysis focused on stone fruit (a type of deciduous fruit) and used a model developed in Porter (1990)[3], the Diamond Porter Model of competitiveness, to allocate scores to six indicators of competiveness. The 'government support and policy' indicator scored the lowest out of all indicators (especially with respect to trade policy, political factors and corruption) and was therefore deemed the most constraining determinant of the stone fruit industry's competitiveness (Boonzaaier, 2015). Also in 2015, Cramer and Sender found that large-scale agro-processors (including a large deciduous fruit producer) stated that they have achieved their market share without support from the DTI. That paper also highlighted a lack of coordination between government departments. Most recently, in January 2018 the Centre for Competition, Regulation and Economic Development released a brief policy note on structural transformation in all fruit sectors in South Africa. The policy brief noted that structural transformation requires increased investment along the entire fruit value chain but "that there is limited capacity and skills in government to provide support and regulatory services throughout the value chain and to the point where the fruit is ready for export markets" (Chisoro-Dube et al, 2018: 3).

[3] Porter, M (1990). 'The competitive advantage of nations' *MacMillan.* London.

Given the above country experiences, there seem to be some common themes emerging relating to successful industrial policy in high-value agricultural produce sectors. Firstly, industrial policy has seen failure in achieving its targets where there hasn't been close coordination between government and businesses. Secondly, successful industrial policy has required a skilled government that can monitor the performance of policies and react accordingly. And thirdly, industrial policy can be fruitful if government has enough understanding of the industry to actively target those firms that have the potential to be successful. Based on these points, the next chapter will offer a modified alternative to the structuralist (state-centred) approach and the neoclassical (market-centred) approach to industrial policy: a coalition-centred approach that highlights close cooperation and interaction between government and private firms as an important driver of industrialisation.

CHAPTER 3: A COALITION-CENTRED APPROACH TO INDUSTRIAL POLICY

This chapter builds on the theoretical principle that the performance of certain industries is a result not only of economic factors but also, more importantly, of political factors, in which various role-players including political leaders, government agencies, private firms, and labourers interact to enhance their interests within the confines of existing institutional structures.

3.1 The political economy of industrial policy

The debate on industrial policy since the 1980s has emphasised that the success of policy depends not on economic factors alone, but that market outcomes are affected by both political and economic factors (Chang, 1994; Evans, 1995). This dual approach to analysis, called political economy, is "concerned with the interaction of political and economic processes within a society, the distribution of power and wealth between different groups and individuals, and the processes that create, sustain and transform these relationships over time" (Collinson, 2003:3). Political economy analysis focuses on historical and prevailing class relations across capital, labour and land; taking into account the role and power of institutions (Fine, 2010; Liodakis, 2010).

Chang et al (2016) note three key aspects of political economy that determine the success of industrial policy: class relations, ideology and the relationship between the industrial capitalist class and government. These three features will now be briefly discussed in the context of South Africa. One durable feature of South African capitalism since its origin is the uneven relationship between the state, industry and finance (Hart and Padayachee, 2013). South Africa has a legacy of inequality stemming from pre-apartheid and apartheid policies that excluded the majority of the South African population from the economy. From 1948, South African White farmers were supported through many protective measures and massive state assistance (in the form of land, credit, and input and output markets) which placed them in a strong position that held until the economic recession of 1985 (Visser, 2016). The state also implemented repressive laws to ensure a cheap supply of unskilled labour from the Black population.

South Africa's history has shaped prevailing ideologies about how industry and the economy should work now, and why. Ideology remains an important driver of policy. Kalt and Zupan (1984) argue that the ideological leanings of those in charge of policy, not just their constituents' economic interests, play a large part in the design of legislative and regulatory frameworks. After 1994, South Africa's industrial policy changed from the "demand-side" system of promoting certain industries through tariff and quota support to a "supply-side" industrial promotion referring to new measures like incentives intended to raise productivity and increase Black participation (Chang, 1998).

The ANC in its 1994 Reconstruction and Development Programme argued for removing subsidies to large-scale commercial farmers, and committed to a land redistribution target of 30% of land under White ownership (ANC, 1994). Black Economic Empowerment (BEE) was formally introduced in 2000 as a policy to redress the social and economic inequalities of apartheid. In 2003 the Broad-Based Black Economic Empowerment (BBBEE) strategy was released.

After 2007, South African macroeconomic policy was still based on Washington Consensus thinking, but pressure on government to deal with economic inequality led to policies that hoped to address redistribution of wealth and create jobs (Mazibuko, 2013). Government expressed their commitment to building a developmental state, which emphasises state-led macroeconomic planning and interventionist policies (Kuye and Ajam, 2012).

Research on late-industrialising countries has emphasised the importance of continuous cohesion between government and industry in ensuring that policies are well-formed. However, it is also crucial that the government does not get bound to particular industrial interests and thus avoids the danger of state capture (Chang et al, 2016). Evans (1995) highlighted this point in his 'embedded autonomy' theory which was built on Chalmer Johnson's work on the developmental state. These theories are discussed in the next sub-sections.

3.2 The developmental state as a strategy for industrial growth

Johnson (1982) used the term developmental state to describe the Japanese interventionist state in contrast to the United States' market-orientated system of capitalism and the fully state-dominated socialist system of the Soviet Union. Johnson described industrialisation in the developmental state as a process of economic transformation managed by a strong and functional central government. Close collaborative relationships are established between elite

bureaucracy and the private sector. The state does not take over private ownerships, but it intervenes and directs industries in line with national policies (Cai, 2010). Tying back to the notion of political economy, Fine (2010) notes that are two schools of thought in developmental state literature: the political school which focuses on the ideological conditions that make development possible, and the economic school which focuses on appropriate economic policies.

South Africa's ruling party, the ANC, first expressed a firm commitment to building a developmental state in 2005, as a means of addressing unemployment and inequality by investing in under-resourced areas and directing private investment (Kuye and Ajam, 2012). South Africa adopted an overarching National Industrial Policy Framework (NIPF) in 2007. According to the DTI (2007), the primary purpose of the NIPF was to lay out government's approach to an industrialisation path and help synchronise private sector and public sector efforts. This implies that South Africa adopted views similar to those expressed by Hausmann, Rodrik and Sabel (2008) that industrial policy should be a negotiated process between the private and public sectors. An annual Industrial Policy Action Plan (IPAP) was formulated each year after that. The NIPF and IPAPs aim to encourage value-added, labour-absorbing industrial production. The latest IPAP (2017/18 – 2019/20) has identified agriculture and agro-processing as focal sectors for state incentives and support, in addition to other sectors. Reciprocity is an important principle underpinning the developmental state whereby the state provides the incentives and the private sector must reciprocate by achieving specified performance targets.

Building a developmental state was reiterated as a key objective in the 2012 National Development Plan (National Planning Commission, 2012). Despite the policy focus on state intervention to drive development, South Africa has still been unable to catch-up with successful late developing countries such as resource-rich Chile and resource-poor South Korea. Even during the post-apartheid years where South Africa was experiencing high economic growth (2002-2008), the impact on development was negligible. South Africa remains one of the unequal countries in the world with a Gini coefficient[4] of 0.66 in 2017.

[4] The most commonly used statistical measure of income inequality, ranging from 0 to 1. A Gini coefficient of 1 (or 100%) expresses maximal inequality, while a Gini coefficient of 0 expresses perfect equality.

Unemployment also remains elevated at 27%. This has led to ongoing debate about the appropriate circumstances for successful industrial growth and development.

Rodrik (2004) noted that while the economic rationale for the advantages of government intervention in the developmental state may generally be acknowledged, not much focus had been given to where the authority to implement policies and where the policy objectives originate from. Consequently, the developmental state paradigm by itself does not explain why similar kinds of industrial policy fail in some cases (di John, 2006). Some extension of the developmental state theory is necessary in this case, that expands on elements of political economy towards unpacking the impact of the *extent* of coordination between the government and industry, as well as unpacking the capacity of the state to direct industries.

3.3 The embedded autonomy of governments

Peter Evans (1995) focuses on the structure and capacity of the state, and the importance of close state-private sector relations. Evans argues that states vary along a spectrum of characteristics - on one extreme end is the predatory state and on its opposite end is the developmental state. The predatory state is characterised by parasitic state-business relations, resulting in policy incoherence and an incompetent bureaucracy, rendering the state unable to promote economic development. Evans defines a developmental state as a state with the capacity, authority, and credibility to develop and implement policies that promote development.

In describing the developmental state, the histories of Japan and Korea are used to showcase two factors: "long bureaucratic traditions" and "direct economic intervention" (Evans 1989: 575). Evans also refers to a strong state autonomy that allows for a commitment to industrialisation. He goes on to capture these arguments in what he considers an 'embedded autonomy' which he says: "depends on the existence of a project shared by a highly developed bureaucratic apparatus with interventive capacity built on historical experience and a relatively organized set of private actors who can provide useful intelligence and a possibility of decentralized implementation" (Evans 1989: 575). In Evans' 1995 book, following a comparative analysis of the development paths of Brazil, India, and South Korea, he deduces that successful development occurs as a result of a meritocratic[5] rationalised bureaucracy

[5] Meritocracy is a political philosophy which states that certain things, such as economic goods or power, should be vested in individuals on the basis of ability and talent.

(founded in merit-based recruitment and professionalism) that gives the state a degree of corporate coherence. The term 'state' includes government as well as state bureaucracy throughout Evans' works. Evans emphasises that the state apparatus is crucial for closing the gap between the market and the social goods required for state-led development (Evans, 1989).

The theory of embedded autonomy infers that, in order to effectively intervene, the state needs to have roots in business groups (*embeddedness*) but also has to have the authority and capacity to impose its own will on private industries according to national interest goals (*autonomy*) (Chang et al, 2016). Embeddedness "implies a concrete set of connections that link the State intimately and aggressively to particular social groups with whom the State shares a joint project of transformation" (Evans, 1995: 12). Autonomy is equally important in Evans' conceptualisation and doesn't just mean "not having its goals shaped by societal forces", but also "implies the ability to formulate collective goals instead of allowing officeholders to pursue their individual interest" (Evans, 1995:45). Therefore, it is important that the autonomous state empowers the bureaucracy to intervene in the market. This means that the government officeholders decentralise their power, and government becomes the observer and overseer of the legitimacy of processes.

In as much as the state becomes embedded in ties between public agencies and private businesses, autonomy is a must in order to create relationships conducive for industrialisation not state predation. "Embeddedness is necessary for information and implementation, but without autonomy, embeddedness will degenerate into a super-cartel, aimed, like all cartels, at protecting its members from changes in the status quo" (Okuku, 2006: 77).

3.3.1 Applying 'embedded autonomy' to South African industrial policy

In South Africa, there are signs of industrial policy failures and alienation between industry and government. In order to apply the embedded autonomy framework towards uncovering potential failures (or successes), some concretisation of Evans' original theory is necessary. A successful development state achieves a balance between embeddedness and autonomy. If there is too much bureaucratic autonomy, this hinders corruption but doesn't provide the incentives needed by private businesses. If there is too much embeddedness, bureaucrats are more susceptible to private self-serving deals with businesses (Rodrik, 2004).

Frisk (2013) describes two illustrations of an embedded state - channels for state-industry participation and state-business cohesion - which go towards striking that much-needed

balance. These two features will be useful as a guide for assessing the embeddedness of the state later on in this report.

Channels for state-industry participation: This refers to institutionalised channels (like forums, deliberation councils, and committees) that improve the cooperation and communication between state and business groups for the ongoing negotiation and renegotiation of goals and policies.

State-business cohesion: Cohesion refers to broad policy consensus among politicians, bureaucrats and the private sector; whereby there is coherence in overall policy conception and application. A very "close-knit relationship would signify a higher degree of embeddedness but could also mean diminished state autonomy" (Frisk, 2013: 9). Again, a balance is needed.

Turning to concretising the 'autonomy' aspect of the framework, we reiterate that autonomy is government's capacity to implement policies that advance development while having sufficient bureaucratic insulation from objectives and activities that are not in the national interest. Weiss (1998) conducted an analysis of state-led Korean development and suggested some conditions that were critical in establishing an autonomous state as envisioned by Evans.

A reputable and competent bureaucracy. Johnson (1982) and Evans (1995) both argue that a developmental state requires the existence of a small elite bureaucracy staffed with the most talented and a political system whereby the bureaucracy is given enough room to be creative, take responsibility and work efficiently.

A pilot agency for economic policy and the transformation of industries. Japan's Ministry of International Trade and Industry (MITI) is regarded as the first successful illustration of an influential pilot agency responsible for crafting economic policy (Johnson, 1982). Other countries used different structures, including all-powerful planning agencies (Economic Planning Board in Korea) and coordinating committees (Industrial Development Bureau in Taiwan).

Altogether, these four conditions are not ends in themselves but can, if they exist together and are functioning optimally, be very useful in constructing an embedded autonomous state which can bind "the behaviour of incumbents to its pursuit of collective end" and "can act with some independence in relation to particularistic societal pressures" (Evans, 1995: 59). The ensuing analysis will later invoke these four conditions of embedded autonomy towards analysing the state and business relationship as it relates to the deciduous fruit industry.

CHAPTER 4: APPROACH FOR EXTRACTING RESEARCH INSIGHTS

Before identifying a methodology for this research report, it was understood that the method needed to be appropriate for exploring in detail the appropriateness of industrial policy as it applies to the deciduous fruit sector, in order to identify bottlenecks and extract opportunities for growth. This research focuses on the embedded autonomy model, described in the last chapter, and therefore direct engagement with stakeholders was necessary because the required insights are mostly rooted in descriptive real-world observations and perceptions, and are thus difficult to capture in other research methods like hard quantitative figures.

Given the export-orientated nature of this industry and the numerous production phases involved, I initially approached this research with the intention of analysing the industry using the global value chain (GVC) approach. But, this was abandoned quite quickly during the research process because it did not adequately capture the interplay between the state and the industry. A value chain simply describes the full set of activities that businesses and workforces perform to bring a product from origin to end use (Kaplinsky and Morris, 2001). The framework of embedded autonomy was used instead because it provides an appropriate framework for analysing the manner in which government interacts with an industry in designing, implementing and monitoring policy instruments.

Collecting qualitative data

After undertaking preliminary desktop research in order to extract sufficient information on the structure of the industry and the available theoretical frameworks I could employ for analysis; the next step was to undertake qualitative research, my primary method of data collection. Wagner, Kawulich and Garner (2012) define qualitative research as a study to understand the processes, circumstances, and situations that affect different patterns of behaviour. Techniques for collecting qualitative data include interviews, focus groups and the analysis of documents; and entails amassing information through "structured and in-depth data analysis which is interpretive, subjective, and diagnostic" (Wagner et al, 2012: 126). The chosen technique for this research was semi-structured interviews, a technique referred to by Babbie and Mouton (2001) as a conversation in which the interviewer establishes a general direction for the discussion and pursues specific topics raised by the person being interviewed. Semi-structured interviewing was chosen over fully structured interviewing because it allows the people being interviewed to potentially bring forth important observations that an external researcher would

not necessarily think to enquire about. Also, the interviewer has the opportunity to probe the interviewee's responses which allows for collecting in-depth information (Rubin and Rubin, 2005). However, there are known to be limitations to this method: the richness of data is dependent on the capabilities of the interviewer (for example, the ability to think of pertinent follow-up questions during the interview) and the articulateness of the person being interviewed. In addition, the depth of information from a semi-structured interview may be difficult to analyse (for example, deciding what is or isn't relevant).

Potential interviewees were contacted with an introductory letter about the nature of the research. The list of interviewees who formally consented, as well as the introductory letter, are in Appendix 1. The interview questions were formulated with the intention of assessing experiences and perceptions about industrial support and policies. I determined a group of stakeholders that were necessary to engage with in order to explore the research questions: government institutions in charge of policies for industry and agro-processing, major deciduous fruit producer-exporters, emerging deciduous fruit farmers, and lastly, industry experts who are well in-tune with the nature and challenges of the industry.

The following organisations were subsequently interviewed:

- the government department mandated to develop industrial policies: *the Department of Trade and Industry*
- the government department mandated to support the development and implementation of agricultural policies: *the Department of Agriculture, Forestry and Fisheries*
- the industry body for the deciduous fruit industry, focusing on research, market access, and transformation: *HORTGRO*
- the representative body for 200 emerging farmers, representing deciduous fruit farms that are either wholly or partially Black-owned: *the Deciduous Fruit Development Chamber*
- an export council whose members collectively export 90% of all fresh produce volumes from South Africa: *the Fresh Produce Exporters Forum*
- 4 medium to large deciduous fruit export businesses

I experienced some difficulty in finding more individual producer-exporters to interview. Roughly 10% of businesses who I contacted responded to the request for an interview and of those, half accepted to be interviewed.

In most of the interviews conducted, the interview questions (Appendix 2) ended up only being an initial introduction to the research issues, after which participants' comments guided the direction of the conversations.

Analysing qualitative data

After I conducted the semi-structured interviews, the qualitative data was analysed by means of thematic analysis. Qualitative analysis transforms raw data into insights and findings (Patton, 2002). This process of analysis "does not proceed tidily or in a linear fashion but is more of a spiral process; it entails reducing the volume of the information, sorting out significant from irrelevant facts, identifying patterns and trends, and constructing a framework for communicating the essence of what was revealed by the data" (de Vos, Strydom, Fouche and Delport, 2005:333).

The semi-structured interviews were recorded and later transcribed. Quotes that were deemed important or particularly interesting were categorised into a number of colour-codes relating to issues like labour tension, government capacity, land policies for emerging farmers and financing. Finally, by connecting and interrelating the data, these codes were used form research themes. Emerging themes were tabulated, and then described and interpreted to draw key meanings from the interviews.

A number of opinions were common across many participants interviewed but in some instances there were particular claims made about other stakeholders that were potentially controversial and this required further interrogation from my side. A known limitation of semi-structured interviews is validity – in the interview the researcher can't know if the respondent is telling the truth or is clouded by bias. Following each interview, I conducted further desktop research and data collection to probe the insights provided to me during interviews, in order to draw overall findings. Secondary data was mainly sourced from industry annual reports, government reports (particularly from the DAFF and the DTI) as well as trade statistics from multinational organisations.

CHAPTER 5: DECIDUOUS FRUITS IN SOUTH AFRICA - OVERVIEW AND TRENDS

This chapter begins by noting the current economic importance of the deciduous fruit industry. Next, the chapter details some export and employment trends in the industry, showing that there has been slow growth since the 2000s. The chapter then goes on to highlight opportunities for expansion that have been observed by the industry and by government.

5.1 The economic significance of the deciduous fruit industry

In South Africa, deciduous fruit is mostly grown in the Western Cape and in the Langkloof Valley area of the Eastern Cape. Smaller areas of production are near the Orange River in the Northern Cape, as well as in the Free State, Mpumalanga and Gauteng.

Figure 1: Map of deciduous fruit regions in South Africa

Source: FSA (2015a)

South Africa's roughly 2300 deciduous fruit producers (as shown in the figure below), altogether earn approximately R14 billion in annual turnover. A significant portion of the fresh

deciduous fruit produced in South Africa is exported. The country accounted for 9% of the world's total exported fruit in 2015 (Atwood-Palm, 2015).

Figure 2: Deciduous sub-fruits in South Africa

POME FRUIT	STONE FRUIT	GRAPES
Apples, pears	Peaches, nectarines, plums, apricots and cherries	Table grapes*
648 producers	960 producers	659 producers
Output: 45% Fresh: Exports 21% Fresh: Local 32% Processed 2% Dried	*Output:* 25% Fresh: Exports 19% Fresh: Local 50% Processed 6% Dried	*Output:* 90% Fresh: Exports 10% Fresh: Local
R9.51 billion turnover (90% fresh)	R2.9 billion turnover (73% fresh)	R1.5 billion turnover

*Generally, only fresh table grapes are included in deciduous fruit analysis. Wine grapes and dried grapes (raisins) constitute significant sub-sets of the grape industry and are subject to their own specific norms and policies.
Source: NAMC (2015), DAFF (2017b)

Agriculture and agro-processing account for 18% of Western Cape employment (Rabie, 2018). The deciduous fruit industry is worthy of analysis partially because it is a significant source of agricultural employment. Figure 3 shows 2016 on-farm employment in the deciduous fruit sector in South Africa. Part-time labourers have been converted to full-time equivalent labourers. The industry currently employs almost 110 000 workers. According to Statistics South Africa, there were roughly 850 000 agricultural workers in 2016. This indicates that over 12% of all agricultural jobs are in deciduous fruit production. This doesn't take into account deciduous fruit downstream and upstream jobs.

Figure 3: On-farm labourers* and their dependents in 2016

	LABOURERS	DEPENDENTS
Apples	27 526	110 106
Grapes	45 753	183 011
Pears	13 283	53 133
Peaches	8 024	32 097
Plums	6 529	26 116
Apricots	3 404	13 616
Nectarines	2 473	9 894
Cherries	499	1 994
TOTAL	**107 491**	**429 967**

*full-time equivalent employment
Source: HORTGRO (2017)

The potential for agro-industrial development in developing countries is largely connected to the ample supply of agricultural raw materials and low-cost labour in these countries (Diouf, 1997). It follows that the most appropriate industries are therefore those that make intensive use of natural resources and unskilled labour, and less intensive use of presumably scarce capital and skilled workforces. Chapter 3 spoke briefly about South Africa's history and noted that the majority of the labour force is unskilled. In Figure 4, the employment intensity (jobs per hectare) of various goods is shown - deciduous fruits are those shaded in blue. While these fruits do not produce as many jobs per hectare as flowers and tomatoes, the employment intensity is higher than other industries like citrus fruit, sugarcane and soy.

But, whilst jobs per hectare are high for deciduous fruits, the actual number of hectares used in production is much lower than for categories like wheat, dairy and beef. An opportunity is identifiable here – if the number of deciduous fruit hectares can be expanded substantially in line with global demand for the products (fresh and/or processed), many jobs can be created.

Figure 4: Employment intensity of various agricultural commodities

COMMODITY	HECTARES 2010/11	JOBS PER HECTARE
Flowers	545	13
Tomatoes	9 537	3.5
Avocado Pears	13 250	2
Bananas	12 000	2
Grapes	23 526	1.62
Plums	4 227	1.46
Prunes	431	1.46
Pears	11 435	1.26
Apples	21 100	1.25
Nectarines	2 028	1.25
Peaches	8 348	1.2
Sugarcane	380 000	1
Citrus	60 000	1
Dairy	2 613 674	0.03
Poultry	1 327 000	0.02
Beef	628 000	0.01
Soybeans	418 000	0.01

Source: Zalk (2016)

The National Treasury noted in the 2018 Budget that the higher-than-expected economic growth in 2017 was largely as result of strong growth in agriculture. This is important for a country currently struggling to reach growth that is above 2%. The contribution of primary agriculture to South Africa's GDP is about 2.5% (R98 billion) and its contribution to formal employment is over 5%. In comparison, the agro-industrial sector has a higher contribution of

about 12% to GDP (Agriseta, 2010). Deciduous exports to markets such as Europe are of particular importance to GDP (Jordaan and Kirsten, 2014). In 2016, the deciduous fruit industry's export earnings represented about 12% (R15 billion) of South Africa's earnings from total agricultural exports (DAFF, 2017a).

The United Kingdom, the European Union, the Middle East, West Africa and the SADC region are the main export destinations for South African deciduous fruit (PPECB, 2018). In the 2016/17 season, approximately 80% of the gross value from deciduous fruit came from foreign exchange export earnings (DAFF, 2017a). The DAFF also reported that apples, pears and quinces (a significant component of deciduous fruits) were the third highest export value earner amongst all agricultural products in 2016/17; only citrus fruit and wine earned more.

Roughly 30% of the total deciduous fruits produced in 2017 were later processed. Over the past five seasons, the majority of processed deciduous fruit was made into juice, except for peaches and apricots which were primarily used for canning (DAFF, 2017a). South Africa exports 82% of its processed fruit (Atwood-Palm, 2015).

Over the last five years, the industry has experienced substantial growth in the area planted for almost all deciduous fruit, with the exception of apricots and cling peaches (DAFF, 2017a). These new plantings are intended to result in growth in total production. However, this will depend on the potential and sustainability of the farms where new orchards are being planted.

Adding to the challenges of the deciduous fruit industry is a severe drought in the Western Cape and parts of the Eastern Cape that began in 2016 and as at March 2018, showed no signs of abating. Smaller and new-entrant commercial deciduous fruit farmers are particularly exposed to the negative effects of water limitations (Phakathi, 2017). Some established deciduous farmers have the infrastructure and capacity to implement effective drought strategies; but those who are dependent on national water schemes are under massive pressure. Harvest projections for deciduous fruits are down by as much as 25% in some areas due to the drought (Steenkamp, 2018).

5.2 The stagnation of the deciduous fruit industry

Despite being economically significant, the deciduous fruit sector has experienced low growth over the past decade. This can be seen in Table 1 which is compiled from the 2015 Agricultural

Policy Action Plan (APAP). The APAP is modelled on the Industrial Policy Action Plan and comprises of objectives for expanding different commodities (DAFF, 2015). 'Labour indicator' in the below table refers to the labour-intensivity of the sector, with a high performer indicating high labour-intensiveness. 'Average growth' refers to growth in production. 'Global market share' denotes the share that South African products have in global markets among a set of 43 countries – a product will either fall in the Top 15, the Middle 14 or the Bottom 14 countries.

Table 1: Growth indicators for South African horticulture industry

PRODUCT	LABOUR INDICATOR	AVERAGE GROWTH (10 YEARS)	GLOBAL MARKET SHARE
Onions, Tomatoes, Carrots	High Performer	Medium growth industry	Top 15
Potatoes	High Performer	High growth industry	Top 15
Citrus fruit	High Performer	Medium growth industry	Top 15
Sub-tropical fruit	High Performer	Medium growth industry	Top 15
Deciduous fruit	**High Performer**	**Low growth industry**	**Middle 14**

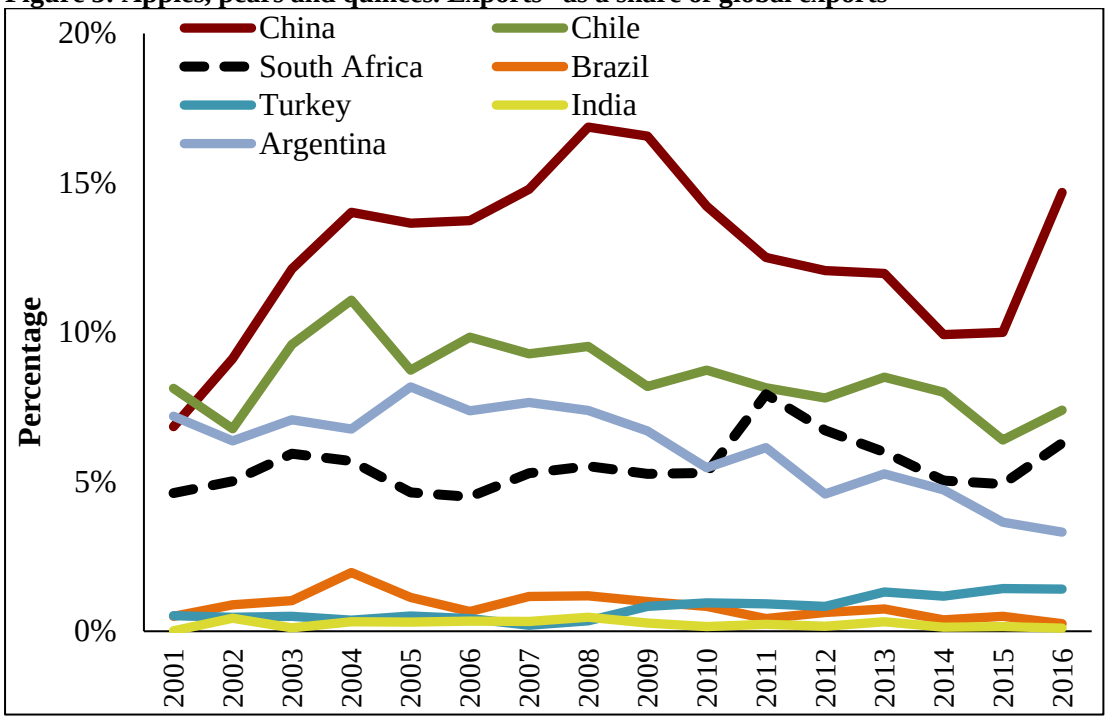
Source: DAFF, 2015

According to the APAP, the deciduous fruit industry is highly labour-intensive but has experienced slow production growth. And although it has been noted that South Africa is the second largest deciduous fruit exporter in the Southern Hemisphere, it is a middle performer among countries (both developed and developing) around the world.

5.2.1 Post-2000 export trends: slow growth

South Africa's share of world agricultural trade has been small and stagnant since 1992, significantly lower than the share it had in the 1970s and 1980s, and several good opportunities to tackle the balance of payments challenge and unemployment problem have been wasted (Cramer and Sender, 2015). As can be seen in Figure 5, South Africa's share of global pome fruit exports (dotted black line) has remained quite steady since the early 2000s at roughly 5%, although it rose in the aftermath of the recession and then fell again. In comparison China's share rose substantially between 2001 and 2010, and Chile has maintained a consistently larger share than South Africa. Prior to the recession, Argentina produced a larger share of global exports than South Africa but that has fallen as from 2010.

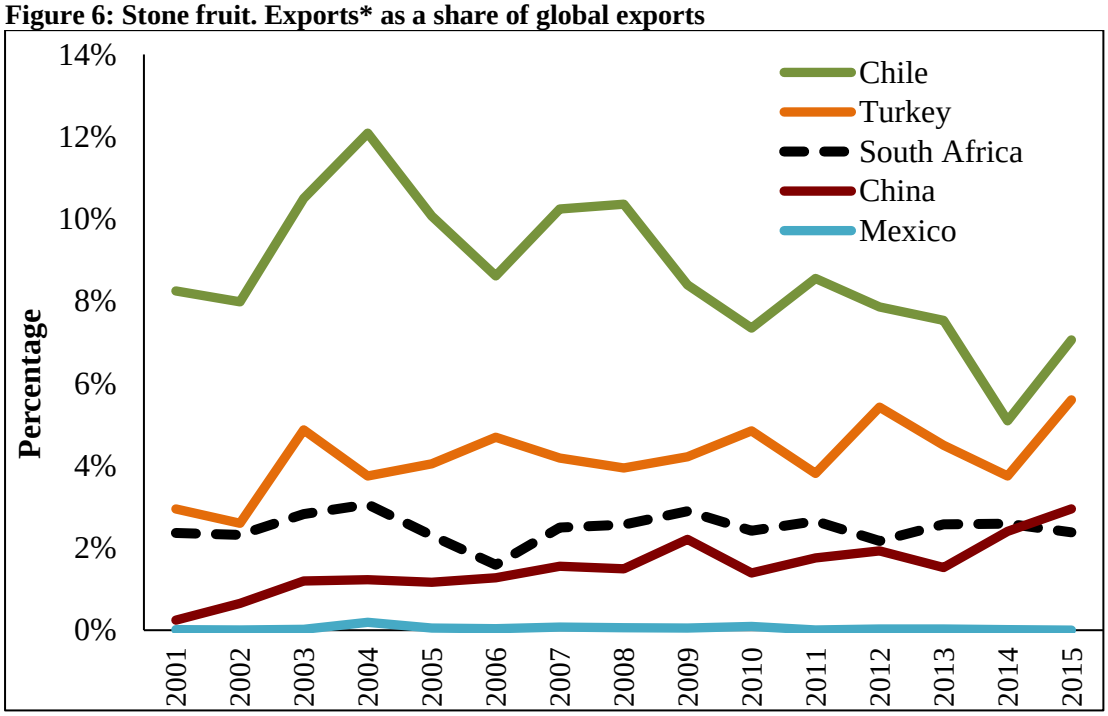
Figure 5: Apples, pears and quinces. Exports* as a share of global exports



*Exported tons of selected emerging nations.
Author's own calculations: Data source: Trade Map (2018)

Figure 6 below turns its attention to stone fruit (apricots, cherries, peaches, nectarines and plums). Over the past 15 years, South African exports have equalled just above 2% of global exports. Chile again is far ahead at an average of 8%.

Figure 6: Stone fruit. Exports* as a share of global exports



*Exported tons of selected emerging nations.
Author's own calculations: Data source: Trade Map (2018)

Table grape exports have grown the quickest among South African deciduous exports, mostly due to rapidly expanding production capacity in the Northern Cape Province (Vink and van Rooyen, 2009). This expansion is said to have been driven largely by industry investments in new technologies and improved shipping infrastructure. However, despite expansion, even table grapes have a lower market share in 2017 compared to earlier years (see Table 2).

Table 2: Largest grape exporters among developing countries

Table grape exporters	Share in world exports (2007)	Share in world exports (2017)	MOVEMENT (2007 - 2017)
Chile	23.38%	17.50%	↓ -5.88%
China	1.52%	8.30%	↑ 6.78%
Peru	0.73%	8.10%	↑ 7.37%
South Africa	**7.34%**	**5.50%**	↓ **-1.84%**
India	3.31%	2.80%	↓ -0.51%
Mexico	4.94%	2.00%	↓ -2.94%
Brazil	2.30%	0.80%	↓ -1.50%

Source: Trade Map (2018)

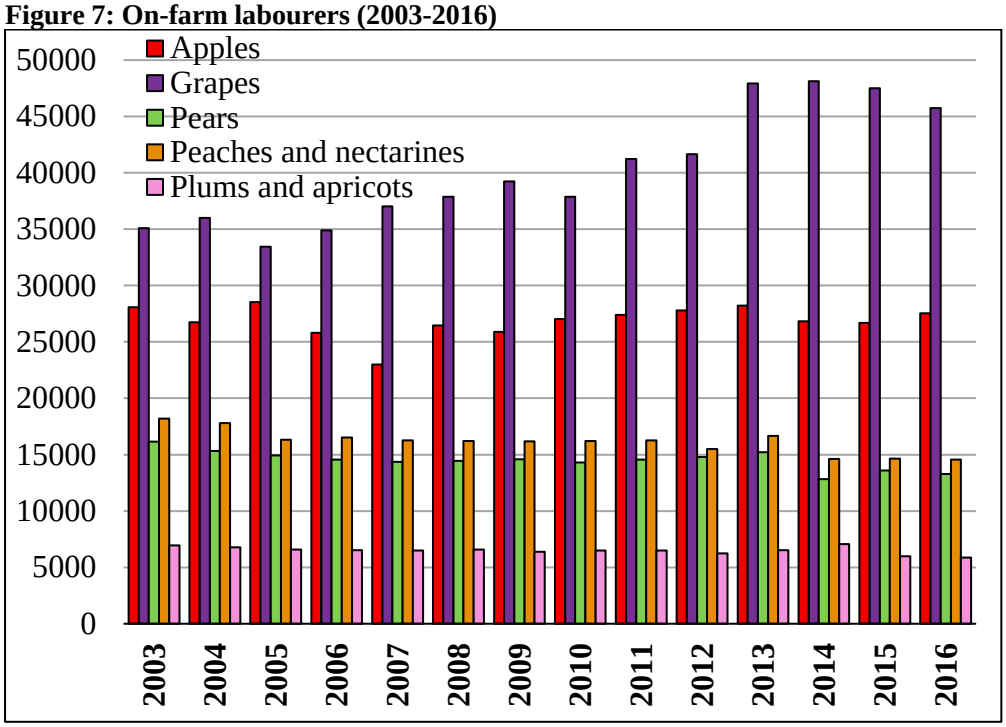
Peru and China managed to massively increase their export share over time as shown in Table 2. The Peruvian industry implemented state-industry interventions including the privatisation of state-owned land, leveraging foreign expertise from Chile and the establishment of an organisation to access new markets, the Asociación de Productores de Uva de Mesa del Perú (Fernandez-Stark, Bamber and Gereffi, 2016). In China, growth in agriculture has been attributed to trade liberalisation, increased investment and market-oriented pricing and distribution reforms (Cheng, 2007).

5.2.2 Post-2000 employment trends: slow growth and labour tensions

In their examination of deciduous fruit production, Barrientos and Visser (2012) distinguish two phases of post-apartheid farm employment. The first, from 1994 to 2007, entailed a downsizing of the labour force, and employment of a core of on-farm workers complemented by seasonal employees. The second, from approximately 2008 to the present, entailed a reduction in the proportion of permanent to seasonal workers, and increased demand for more skilled workers. In theory, during the early 2000s, trade liberalisation should have opened new markets but instead jobs were being shed in the deciduous fruit industry (Theron, Godfrey and Visser, 2007). In Figure 7, it is apparent that between 2003 and 2016, only the table grape

industry has generally had *increasing* employment, while for all the other types of fruit employment has either been *decreasing* or staying roughly the same.

Figure 7: On-farm labourers (2003-2016)



Source: HORTGRO (2004-2017)[6]

The minimum wage in the agricultural sector was first introduced in 2003 (BFAP, 2015); and Figure 7 above shows that this period was followed by a decrease in unemployment in every type of deciduous fruit, except for table grapes (and apples to a lesser extent). In 2012, wage-related protests by farm labourers erupted in the Hex River Valley in the Western Cape and quickly spread throughout the province (SA History, 2015). In late 2012, the DAFF announced a process to review agricultural minimum wages and in 2013, the minimum wage was increased by more than 50% (BFAP, 2015). Following this, deciduous fruit employment generally declined again (including for table grapes). By 2016, only apple employment had begun to rise again. The table overleaf details the minimum wage level for farm workers as determined by the Sectoral Determination[7] led by the Department of Labour. In 2008, the monthly food poverty line[8] of R285 was equal to 26% of farmers' monthly wages; in 2017 the food poverty line of R547 constituted a lower 18% of farmers' wages. This is a rough indicator of the improved ability of permanent labourers to afford basic necessities.

[6] Compiled using HORTGRO's Key Deciduous Fruit Statistics publications. Pre-2014 publications are not available online and were obtained directly from HORTGRO.
[7] A Sectoral Determination is legislation that controls terms and conditions of employment in a specific sector.
[8] A food poverty line is based on some idea of the minimum amount of money that a household needs to buy some basic-needs food basket.

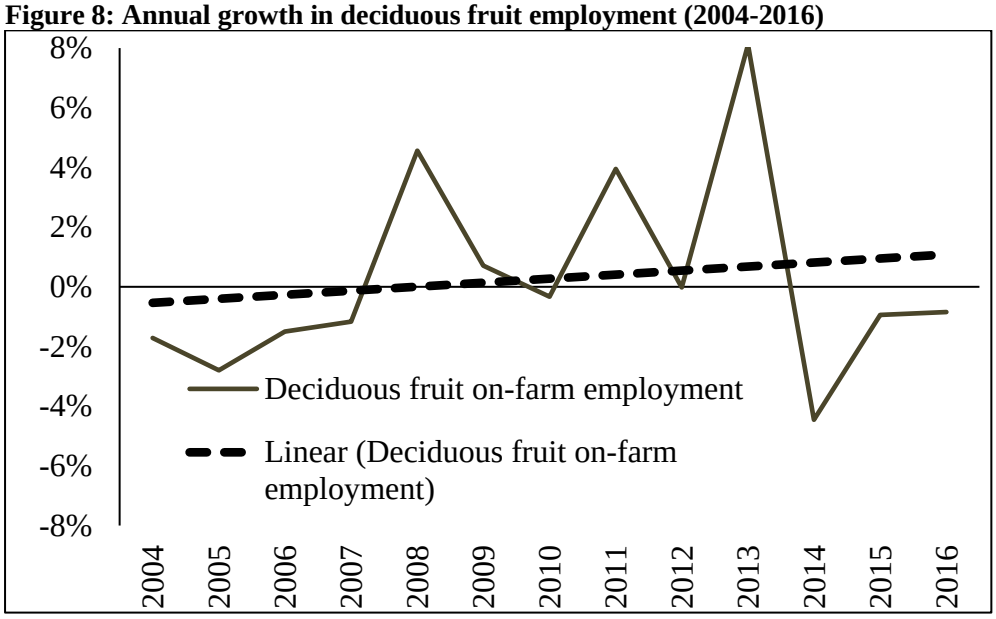
Table 3: Minimum farm wages (2008-2017)

YEAR	RAND/HOUR	RAND/MONTH	ANNUAL % INCREASE	HEADLINE CPI	RSA FOOD POVERTY LINE
2008	R 5.59	R 1 090.00		11.50%	R 285
2009	R 6.31	R 1 231.70	13.0%	7.12%	R 319
2010	R 6.74	R 1 316.69	6.9%	4.26%	R 324
2011	R 7.04	R 1 375.94	4.5%	4.99%	R 343
2012	R 7.71	R 1 503.90	9.3%	5.62%	R 371
2013	R 11.66	R 2 274.82	51.3%	5.76%	R 394
2014	R 12.41	R 2 420.41	6.4%	6.09%	R 423
2015	R 13.37	R 2 606.78	7.7%	4.58%	R 470
2016	R 14.25	R 2 778.83	6.6%	6.34%	R 515
2017	R 15.39	R 3 001.13	8.0%	5.40%	R 547

Sources: HORTGRO (2017), Statistics South Africa (2017), National Treasury (2017b)

Pons-Vignon and Anseeuw (2009) point out that even when progress is made in terms of formal labour legislation, exploitation and poor working conditions are still a factor when an industry has many casual labourers. There is evidence in South Africa that an uncertain investment climate has been created by land reform and restitution debates, and commercial farms are employing greater ratios of seasonal and temporary staff (BFAP, 2012). In the table grape industry, SATI reports that there are 4 times as many seasonal and temporary employees than permanent ones. Casualisation is likely contributing to the irregular employment growth pattern in Figure 8. Due to a number of boughs and peaks in the chart below, overall employment growth has been rather slow at an annual average of 0.3% between 2004 and 2016.

Figure 8: Annual growth in deciduous fruit employment (2004-2016)



Author's own calculations: Data source: HORTGRO (2004-2017)

In the table grape industry, labour costs have increased from 35% of gross farm income in 2000 to 52% by 2011 (Barrientos and Visser, 2012); and for the typical 55-hectare pome farm permanent labour costs constituted 45% of overhead costs and 26% of total costs in 2012 (BFAP, 2012). The 50% minimum wage increase was thereafter implemented in 2013, which had substantial further cost implications for the labour-intensive deciduous fruit industry. A Western Cape deciduous fruit producer-exporter expressed that the biggest challenge now facing their business is that growth in production costs and labour costs has exceeded growth in income for several years (Interview 10, December 13 2017). In addition, producers worry about the constant threat of further labour unrest, which is a major disruption to the industry when it occurs.

Ross (2007) points out that wages of directly employed workers in fruit canning plants tend to be much higher than on-farm wages, particularly when benefits are taken into account. The farm-wage increase in 2013 lessened the gap between canning and on-farm workers, but it is still significant. In 2013, the fruit canning industry[9] employed 11 000 factory workers. The 11 000 workers collectively had a wage bill of R500 million in 2013 (SAFVCA, 2013); indicating an average annual salary of R45 000 for each worker – R3 750 a month. Table 3 showed that on-farm workers earned R2 275 a month in 2013. The fruit canning plants are generally situated in economically depressed areas, where fruit canning is a major source of employment (DTI, 2013).

5.3 The potential for industry growth

In 2010, the New Growth Path stipulated targets of achieving 145 000 additional jobs in agro-processing, and improved working conditions for 660 000 farm workers by 2020. The 2012 NDP claims that agriculture has the potential to create one million new jobs by 2030. Scope for job expansion within the deciduous fruit industry is dependent on industry growth and "industry growth, in turn, depends on remaining competitive in global markets. Thus, growth is most likely to occur in vertically integrated operations and large or medium scale operations, with new entrants excluded by the massive barriers of entry" (Hornby and Cousins, 2016: 6). In other words, researchers note that substantial production growth (and by extension, job creation) are less likely to stem from the operations of emerging farmers. Industry data confirms this point. The top 20 deciduous fruit exports businesses consistently account for

[9] All fruits; separate data could not be found for deciduous fruit canning alone.

more than 80% of deciduous fruit exports from South Africa (NAMC, 2007; du Ploy, 2012). Farming enterprises (which account for total production and on-farm employment) are less concentrated than export businesses, but even in the case of farming enterprises, a relatively small subset accounts for a large percentage of the employment. 20% of stone and pome farms account for more than 67% of on-farm employment and production (Interview 1, December 11 2017).

Table 4 shows fixed price multipliers for sectors in the Western Cape (where most deciduous fruit farming takes place), as calculated by agricultural economists from the University of Stellenbosch and the DAFF. The horticulture sector makes significant contributions to the provincial economy in terms of jobs and value added, more so than non-agriculture. Employment figures (92.8 for horticulture) refer to the number of person-years of employment created from R1 million of additional final demand. Furthermore, R1.00 of additional demand for horticultural output will raise provincial value added by R1.40 and contribute R0.24 to state revenue.

Table 4: Economic multipliers for commodity and sector groupings in the Western Cape

	Employment**	Value added^^	Government revenue^^
All Agriculture	82.8	1.29	0.26
Cereals	26.1	1.02	0.27
Other crops	70.8	1.36	0.25
Horticulture	**92.8**	**1.4**	**0.24**
Livestock	88.4	1.25	0.27
Agribusiness	39.7	1.02	0.2
Non-Agriculture	29.4	1.1	0.22

**Number of person-years employment created per R1 million final demand
^^Rand value per additional R1.0 of final demand
Source: du Preez (2010)

A 2017 study conducted by North-West University and the DAFF identified 573 new global market opportunities for existing South African fruit products with a potential value of R43 billion (Cameron, Viviers and Steenkamp, 2017). About 80% of this value was said to be in only 10 products – including apples, pomegranates and peaches which are deciduous fruits. Table 5 overleaf outlines expansion opportunities that were presented by Fruit South Africa in 2015. Fruit South Africa observed that the deciduous fruit sector has the potential to substantially increase additional on-farm jobs (by 14 097) and in this way also lead to additional upstream and downstream jobs (by 9 305).

Table 5: Growth opportunities for different fruits

Commodity	Surface area 2010 (ha)	Additional area (expansion potential) (ha)	Additional jobs on farm	Additional jobs per additional hectare	(Up) Downstream jobs
Citrus	60 000	15 000	15 000	1.0	9 900
Pomme and Stone	**47 569**	**4 998**	**6 475**	**1.3**	**4 274**
Grapes	**23 526**	**4 705**	**7 622**	**1.6**	**5 031**
Subtropical	36 706	15 302	29 554	1.9	19 017

Source: FSA (2015a)

Clearly, the industry does have significant potential to expand, and both government and the industry have indicated that this is a goal. However, as this chapter has shown, there has been slow growth in this export-orientated industry. The next chapter will explore possible reasons for this, from the perspective of how government engages with the industry and designs applicable industrial policy measures.

CHAPTER 6: IS THE SOUTH AFRICAN STATE EMBEDDED?

This chapter and the next draw on research findings to answer the question of whether industrial policy, in its conception and implementation, has been appropriate for achieving industrial objectives in the case of the deciduous fruit industry. The two chapters assess the embeddedness and autonomy of the state in its dealings with the industry, using the framework described in Chapter 3 where a predatory state was said to be characterised by parasitic state-business relations that undermine economic transformation, and a developmental state was defined as a state with the capacity and autonomy to implement policies that promote development.

6.1 Mapping the industry and government role-players

This section begins by outlining the fruit industry organisation that is responsible for liaising with government. The section then goes on to speak about the different government institutions and state measures on offer to support industrialised agriculture.

6.1.1 Structure of the fruit industry

The collective platform for the national fruit industry is Fruit South Africa (FSA) and this industry body is responsible for engaging with government on policy, legislation and other fruit industry matters, thereby providing an important link between government and producer-exporters (FSA, 2017). FSA was formed by the 5 main fruit industry bodies representing grapes; pome and stone fruit; citrus fruit; sub-tropical fruits; and fresh produce exports. The 5 associations also represent themselves separately on some platforms outside of the umbrella FSA structure which is shown in Figure 9 overleaf.

Three of those five associations are relevant for the deciduous industry – HORTGRO, SATI AND FPEF. *HORTGRO* represents stone fruit and pome fruit industries and provides research services and technical assistance to them. *SATI* is the industry association for table grape producer-exporters, and it aims to consolidate producer and exporter efforts to access market opportunities. The *Fresh Produce Exporters' Forum* (FPEF) is the country's official fresh fruit export council and its 120 members account for almost 90% of fresh fruit exported from South Africa (FPEF, 2017). The FPEF provides a crucial link between government and the industry with regards to market access issues.

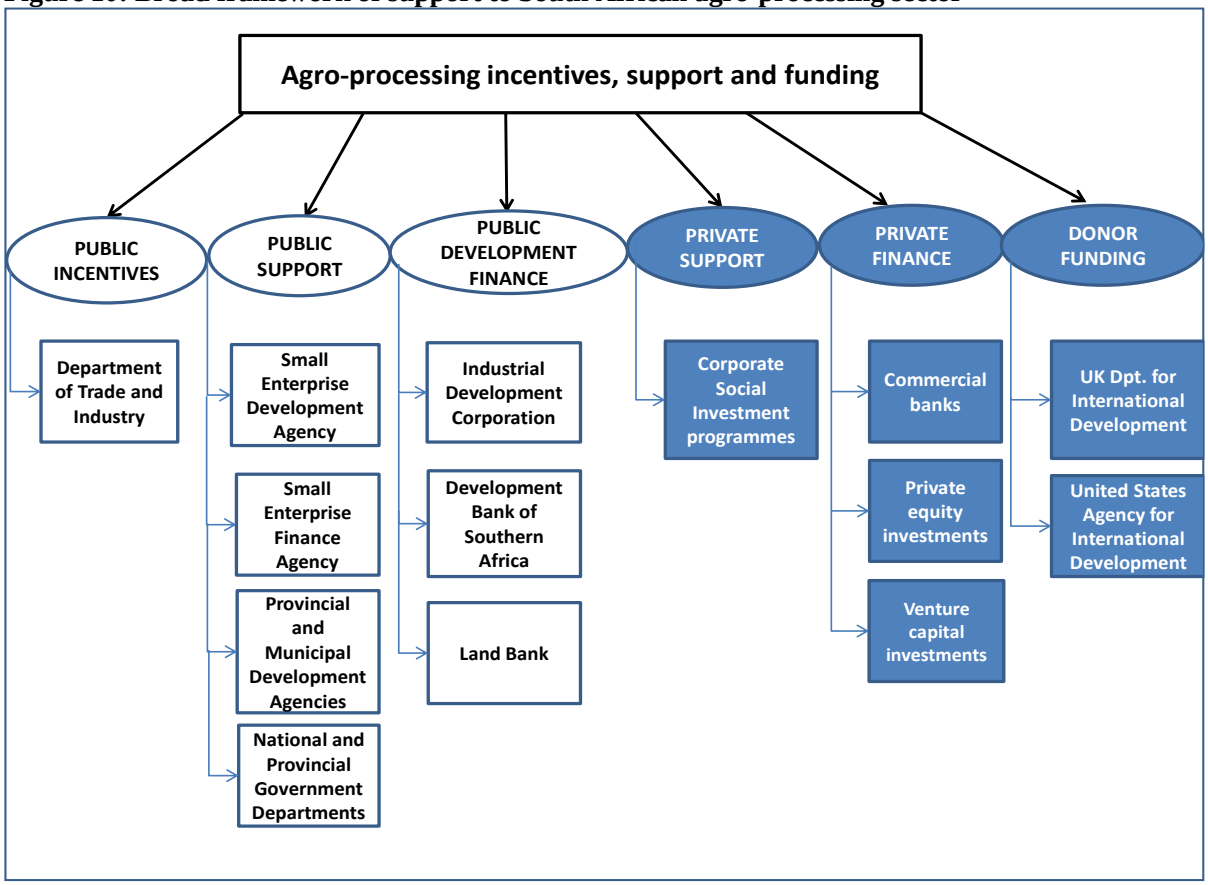
Figure 9: Structure of South African fruit industry bodies

Source: FSA (2015a)

6.1.2 Industrial policy measures for agro-processing in South Africa

There are three ways that government can use policy to impact the capabilities and behaviour of industries: through frameworks that create an administrative and legislative environment that is conducive for growth; through a political environment that supports national economic priorities; and by offering financial and technical tools to improve the position of selected beneficiaries (Ambroziak, 2016). Figure 10 outlines the main structures and measures available to the agro-processing industry in South Africa, vested in a range of institutions.

Figure 10: Broad framework of support to South African agro-processing sector



Source: Jordaan (2012)

The disbursement of agro-processing incentives is largely the responsibility of the DTI. UNCTAD (2003) explains an incentive as any quantifiable benefit given to specific businesses or industries by government. Incentives are intended to boost investment when there are market failures that justify state intervention (Barbour, 2005). In his research on the political economy of Venezuelan industrial policy, Di John (2006) notes that "incentive structures (whether destructive or productive) necessarily constitute historically specific settlements of conflict or compromise over the distribution of rights and resources". This point is particularly applicable to South Africa, given the country's history of inequality and its policy orientation towards redistribution.

Incentives can include direct incentives such as cash payments and land; and indirect incentives such as reductions in company tax rates (Jordaan, 2012). Table 6 shows the incentives that the deciduous fruit industry would potentially qualify for. Many of the programmes have mandatory conditions relating to BBBEE (ownership), Black participation in the provision of inputs, or being a new entrant.

Table 6: Direct incentives applicable for the deciduous fruit industry

Incentive	Administered by	Qualifying Projects	Mandatory Conditions	Grant Offering
AGRO-PROCESSING SUPPORT SCHEME	Department of Trade and Industry	New and existing agro-processing/beneficiation projects, involving a wide range of post-harvest activities, that result in value addition and/or enhanced storage life, such as cleaning, waxing, packaging, warehousing, canning, freezing.	Be BBBEE compliant (achieve level 1 to level 4 of the codes). Have at least 50% of the inputs sourced from South African suppliers and at least 30% of the inputs sourced from Black South African suppliers.	20% - 30% cost sharing grant to a maximum of R20 million over a two year investment period.
EXPORT MARKETING AND INVESTMENT ASSISTANCE	Department of Trade and Industry	South African manufacturers, export trading houses, export councils, entities outsourcing their manufacturing process; Entities in the following sectors are prioritised by the dti: Electro-technical; Music (cultural industries); energy industries; Forestry, paper.	The entity must be registered legal entity in South Africa in terms of the Companies Act or Cooperatives Act except in case of a sole proprietor and partnerships.	Economy class return airfare, Subsistence allowance, Transportation of samples, 100% of the exhibition costs. Development of marketing materials for specific events; Exhibition costs.
SECTOR SPECIFIC ASSISTANCE SCHEME	Department of Trade and Industry	This Scheme gives financial support to organisations supporting the development of industry sectors and exports. Organisations supported include Export Councils, Joint Action Groups, and Industry Associations	Fall within industry sectors prioritised for development by the dti. The Project must be developmental or promotional in nature. Project should benefit the sector as a whole in terms of the SSAS objectives.	Export development costs such as market research and consultancy fees. Export promotion costs such as consultancy fees. Product development costs. Generic Funding - R50 000 grant for establishing export council.
CO-OPERATIVE INCENTIVE SCHEME	Department of Trade and Industry	Intended activities must aim to enhance the viability of a co-operative through: Business development services (e.g. feasibility studies; and production efficiency and improvement); or Machinery, equipment and tools.	Emerging co-operatives with a majority black ownership. Adhere to co-operative principles. Be owned by historically disadvantaged individuals. Be biased towards women, youth and people with disabilities.	The CIS is a grant offered on a 90:10 cost-sharing basis. The maximum grant that can be offered to one co-operative entity under the CIS is R350 000.
AGRO-PROCESSING COMPETITIVENESS FUND	Industrial Development Corporation	This Fund gives financial support to non-dominant organisations in the agro-processing or beverages industries where projects require capital investment, business support measures or research grants at a sector-wide, sub-sector and/or company level.	Criteria require that the enterprises are (i) at start-up or expansion phase, (ii) able to show financial and technical sustainability and (iii) beneficiaries cannot hold a dominant position and must be unlikely to obtain third-party funding from commercial banks.	*Investment:* Senior debt and quasi-equity loans (R250 000 to R3 million for a tenure of up to ten years) *Business support:* Management consultants and industry experts called to provide technical assistance *Research grant:* Between R200 000 and R1 million
LAND REDISTRIBUTION PROGRAMME	Department of Rural Development and Land Reform	The purpose of the land redistribution programme is to provide the poor with access to land for residential and productive uses, in order to improve their income and quality of life.	Redistributed land must go to the landless poor, labour tenants, farm workers and emerging farmers for productive uses.	From 1994 to 2006, beneficiaries could apply for government grants to co-finance land purchases for agricultural production. From 2006, government adopted a new approach of purchasing land directly but retaining ownership and leasing land to beneficiaries.

Compiled using various reports and webpages. Sources: DTI webpages; Mandiriza, Sithebe and Viljoen (2016); Jacobs, Lahiff and Hall (2003); Boshoff, Sihlobo and Ntombela (2018)

2001 was the first year that the deciduous fruit sector formally adopted a mandate of supporting Black emerging farmers, through its numerous industry organisations (HORTGRO, 2016b). The Deciduous Fruit Development Chamber (DFDC) was later created in 2007 and it currently represents 200 emerging farmers (Williams, 2013). In 2016, a R120 million fund was announced for the DFDC. The fund, intended to expand orchards and purchase farming infrastructure for 24 emerging farmers, is a partnership between the Western Cape Department of Agriculture, National Treasury and the industry (Jooste, 2016).

South Africa's major developmental agencies include the Industrial Development Corporation (IDC), the Land Bank and the Development Bank of Southern Africa (DBSA). Gumede (2009: 9) points out that since apartheid ended, "the challenge now is to use these developmental finance agencies more innovatively in fashioning a new developmental state that… can deliver a better life to all South Africa's people." The state-owned IDC provides development-orientated loans and technical assistance. The DBSA is also state-owned and focuses on infrastructure development finance, offering technical assistance grants and loans to the agricultural sector for fixed infrastructure, land and equipment. The Land Bank is the country's state-owned specialist agricultural bank, offering loans for new orchards and vineyards to emerging and established farmers and agribusinesses. The Land Bank is notoriously overrun with management and mandate challenges (Pressly, 2011). The AgriBEE Fund was suspended in 2009 following allegations of Land Bank officials embezzling money from it (Pressly, 2012). As of 2017, the Land Bank acknowledges it has liquidity pressures and inefficient credit extension processes (van Rooy, 2017).

The largest lenders to the agricultural sector in 2016 were commercial banks, accounting for 62% of loans (DAFF, 2017b). All of South Africa's major four banks (Absa, First National Bank, Nedbank and Standard Bank) have an agribusiness division. The next biggest lenders to the agricultural sector were the Land Bank (27%), agricultural cooperatives[10] (7%), private persons (2%), other financial institutions like merchant banks (0.7%), and the DAFF (0.05%) (DAFF, 2017b).

Two of the deciduous fruit organisations who were interviewed expressed that to their knowledge, the interest rates offered by government institutions are becoming more expensive in recent years. Table 7 overleaf indeed shows that the gap between interest rates offered by the Land Bank and commercial banks is becoming smaller. In 2011 the Land Bank offered an interest rate that was lower by 1.1%

[10] An agricultural co-operative unites farmers with common interests for activities such as production, processing or marketing. In addition, members can pool their savings and make loans to each other.

compared to commercial banks. In 2016 the Land's Bank's average interest rate was only 0.03% lower than that of commercial banks.

Table 7: Annual interest rates of different institutions (%)

	2010	2011	2012	2013	2014	2015	2016	Average
Land Bank*	9.17	7.88	8.16	8.13	8.27	9.01	10.36	8.71
Commercial banks*	9.72	8.98	8.91	8.51	8.74	9.39	10.39	9.23
Agric Cooperatives*	9.27	8.93	9.23	8.41	9.02	9.60	10.76	9.32
IDC^	5 - 20	5 - 20	5 - 20	5 - 20	5 - 20	3 - 18	3 - 18	4.4 - 19.4

* Annual weighted interest rate for agricultural loans. Source: DAFF (2017)

^ Annual interest rate range for loans and advances to clients, all sectors. Source: IDC (2017)

6.2 Close ties or discord: is there state embeddedness?

In Chapter 3, the notion of embedded autonomy was introduced, where embeddedness referred to the idea that government needs to have close ties with the industry in order for it to be effective in its interventions. Two measures of embeddedness were discussed: channels of state-industry participation and state-industry policy cohesion. We now proceed to analyse these two elements as they relate to the South African government and the deciduous fruit industry.

6.2.1 Channels of participation for the industry and government to interact

The DAFF uses value chain round tables for different commodities as a means of getting all industry stakeholders in one place to discuss and resolve industry challenges. Fruit South Africa requested the setting up of The Fruit Industry Value Chain Round Table (FIVCRT) in 2013. In 2014, the FIVCRT adopted the fruit industry social compact Plan as an agreement between government, industry and labour to ultimately develop a social compact (DAFF,2014). The FIVCRT identified 5 Workstreams.

Table 8: Fruit Industry Value Chain Round Table

MEMBERS
Fruit South Africa
HORTGRO
Department of Agriculture
Department of Trade and Industry
Department of Labour
South African Table Grape Industry
Fresh Produce Exporters Forum (FPEF)
Subtropical Growers Association
Citrus Growers Association
Deciduous Fruit Development Chamber
Black Assoc. of Wine and Spirits Industry

WORKSTREAMS	WORKSTREAM CONVENERS
Employment and Worker Welfare	Black Assoc. of Wine and Spirits Industry
Trade	Citrus Growers Association
Resources	FPEF
Research and Development	South African Table Grape Industry
Tranformation	HORTGRO

Source: SATI (2015)

During the interview with HORTGRO representatives, they explained that the intention of the fruit industry social compact Plan is for all the stakeholders to identify pertinent matters within the five Workstreams and to agree on focus areas and objectives to grow the industry going forward. HORTGRO said that in reality, there has been trouble reaching consensus and thus the social compact Plan has not lead to the formalisation of a social compact yet. In the absence of a state-industry social compact, the industry associations developed a declaration of intent on their own that lists a commitment to transformation, environmental sustainability and fair labour practices. "There hasn't been a similar response from civil society, labour and government," the Executive Director of HORTGRO stated.

The Trade Workstream of the FIVCRT works with the DTI to plan trade shows that are supported through the National Pavilions and the Export Marketing and Investment Assistance Scheme, noted in Table 6. However, most interview participants felt that government can do a lot more in this area. One question posed to the medium and large deciduous fruit producer-exporters was: what form of non-financial assistance would you most welcome from government? Different producer-exporters expressed that the industry would be helped extensively by more streamlined export promotion. One medium-sized exporter of deciduous fruits particularly emphasised that Chile is "streets ahead" of South Africa in terms of promotional roadshows in target markets and that the South African government needs to "emulate that magnificent contribution" (Interview 9, December 13 2017). The Fresh Producers Exporters Forum concurred somewhat, saying that while they do maintain a good working relationship with the DTI, they would like to see government participate more in market access development campaigns but noted that this would require more human resources in government (Interview 2, December 8 2017). With regards to facilitating international trade agreements, one producer-exporter felt that the South African government was "highly incompetent" in this respect and that "other countries' governments are very good at negotiating special access agreements that obviate high duties" (Interview 9, December 13 2017). HORTGRO managers agree with this point and revealed that "the formation of BRICS has had no positive impact on the fruit industry, we still have big challenges in Russia, India and China. Competitors from South America are running circles around us with their preferential agreements. Our industry needs government and diplomats to start those processes" (Interview 1, December 11 2017).

There also seems to be poor information circulation between government and the industry. Despite the Land Bank releasing a press statement in March 2016 advertising drought relief funding to the agricultural sector, none of the interviewed producer-exporters were aware of any drought support

available from government when asked about it. This suggests that advertising either isn't adequate or it isn't being done on the right platforms.

All the medium and large producer-exporters interviewed conveyed that they have never interacted with the DTI directly, but are represented by the industry bodies. Emerging farmers are represented by the Deciduous Fruit Development Chamber. The Chairperson of the Deciduous Fruit Development Chamber was also interviewed and he stated that throughout their interactions with different government departments, state officials create the impression that they are cognisant of industry challenges and are willing to help, but in practice nothing changes as a result of those interactions, resulting in the industry's disillusionment about engaging with government (Interview 4, January 9 2018). A DTI official in the Agro-Processing Unit confirmed that there is "some coordination failure between departments, the industry and agencies – some weaknesses in those relationships in terms of agreeing and working together. We need more focus on linkages between stakeholders who are meant to take part in the design of industrial policy like industry, Science and Technology and Higher Education" (Interview 5, 18 January 2018).

This disconnect between different role-players is discussed further in the next sub-section, with a focus on whether there is agreement and coordination during the process of designing and implementing policies.

6.2.2 Broad cohesion between government and the industry on polices

Cohesion refers to broad policy consensus between government and the private sector; whereby expanding the industry and achieving national priorities are both goals. Cohesion would infer mutual understanding and trust. The interviewed official from the DTI explained that the main objective of South Africa's industrial policy is to boost structural economic transformation and raise investment and trade; and that increasing Black and youth participation is a major industrial policy objective (Interview 5, January 18 2018). The industry expressed similar objectives and values during interviews. Chapter 3 noted that ideologies are an important driver of policy formulation. But, in practice, the ideals of historically large producers and those of the South African government are often not in sync, even if overall objectives seem to be formally aligned through value statements and strategic frameworks. Hall (2012) states that comments by South African politicians with respect to the agricultural sector are somewhat contradictory, resulting in strained mutual trust between industry and government. The Executive Director of HORTGRO expressed that exact point and also referred to a severe disconnect between various government departments that is affecting new entrants in

particular, noting as an example: “land is given to people but then Water Affairs doesn’t allocate water rights and DAFF doesn’t come to the table with technical support” (Interview 1, December 11 2017).

The industry emphasised in interviews that government schemes do not properly mitigate for the risks the farming sector incurs. Specifically, they said that government needs to take better cognisance of the complexity of the industry - the production risks, climatic risks and the long term nature of the industry make it extremely risky at the primary level (Interview 4, January 9 2018); (Interview 7, December 8 2017). Interviewed producer-exporters highlighted that fruit farming is only profitable in the long run. New orchards can take between 5 to 7 years to get to the stage of fully bearing fruit. There are also extremely high capital requirements to establish a new orchard – one hectare will cost between R400 000 to R500 000 (Interview 1, December 11 2017). Unlike with cash crops which can bear harvest within one year, timing in the deciduous fruit isn’t as condensed and the industry feels that many of the incentive schemes on offer do not acknowledge or understand these difficulties (Interview 1, December 11 2017); (Interview 4, January 9 2018); (Interview 7, January 8 2017).

Drawing from these broader issues, we will look now look in-depth at two important areas of policy that consistently came up in interviews, to determine if there are signs of embeddedness and collaboration when government designs and implements policies around: DTI/IDC incentive schemes and land reform.

6.2.2.1 The design and accessibility of incentives and programmes

None of the medium-to-large producer-exporters interviewed are making use of the incentives laid out in Table 6, stating that they do not normally qualify because they are not emerging or Black-owned businesses. For example, the Agro-processing Support Scheme of the DTI requires beneficiaries to be BBBEE compliant and to source at least 30% of their inputs from Black suppliers; and the Agro-Processing Competitiveness Fund of the IDC only supports beneficiaries who do not hold a dominant market position and who are unlikely to obtain funding from commercial banks. The Fresh Produce Exporters Forum as an export council makes use of the Export Marketing and Investment Assistance Scheme for international trade shows and missions, but maintained that no large individual producer-exporters under the export council is making use of significant DTI financing and support (Interview 3, December 14 2017).

The DTI publishes an Annual Incentive Performance Report which provides information on aggregate indicators for entire industries such as the number of jobs *expected* to be created, as well as a few mentions of specific individual recipients. Throughout the various incentive Reports, there were only

two mentions of fruit industry recipients and these were not in the deciduous fruit industry and both were for processed fruit - Laeveld Sitrus BPK (grapefruit juice and orange juice) and Regale Fruits CC (orange and strawberry juices and fruit purees) (DTI, 2017b). This is more confirmation that deciduous fruits don't appear to be major recipients of DTI funding support.

The IDC also offers support to the agro-processing industry. A producer-exporter in the Northern Cape stated that in order to access IDC funding, one needs to have some "transformation element to your projects" (Interview 8, December 12 2017). They went on to say that while these requirements are understandable, it can be quite limiting for using support to significantly increase operations and exports. According to Lizeka Matshekga, the IDC's Divisional Executive for Agro-Processing, the IDC wants to see transformation in the agro-processing sector and therefore particularly wants to partner with the youth, women and black industrialists (Qukula, 2017).

Nonetheless, according to Ismail Motala who is the Western Cape President of the African Farmers' Association of South Africa (AFASA), despite over two decades of policies aimed at increasing Black participation, there are currently no Black commercial farmers producing deciduous fruit and wine, the two major agro-industrial commodities of the Western Cape (Keppler, 2016). The interview with the Chairperson of the DFDC (which represents emerging farmers) highlighted that Black emerging deciduous farmers don't seem to be benefitting from government incentive schemes in any significant numbers (Interview 4, January 9 2018).

The DFDC Chairperson stated that the incentive schemes noted in Table 6 have too many conditions and long waiting times attached to them, so most emerging farmers aren't accessing them. He also said that government institutions implement "half-measures" of support for emerging farmers that are not conducive for helping those farmers become established and commercially viable. Specifically, he made the point that:

> "Government will say they'll help you for 3 years and then they only give funding for one year, and leave you like that, not understanding that breakeven is only in 7 years. Then you are stuck and by this point, you have committed yourself and you have nowhere to turn as an emerging farmer."
>
> Interview 4, Deciduous Fruit Development Chamber (9 January 2018)

It becomes evident that agro-processing incentive schemes and support have not been designed with the needs of high-value fresh horticulture in mind, indicating failures in state-industry consultation.

6.2.2.2 The contentious land issue

Evans (1995:29) argues that the creation of a developmental state is reliant on "specific historical endowments and the character of the surrounding social structure." These historical endowments and the social structure may deter or support the creation of the developmental states. In the sub-section on political economy in Chapter 3, South Africa's history of racial and economic inequality was noted. In South Africa land ownership is currently a major issue. Evans (2010) emphasises that while it may be possible for African states to achieve the bureaucratic capacity and embeddedness that was seen in East Asian countries, those East Asian states did not experience land dispossession like in Zimbabwe or South Africa and thus this places the East Asian experience apart from the realities in Africa. The land ownership issue might put African states at a disadvantage (Evans, 2010).

Land reform policy uncertainty has been a key reason behind slower new investment in the deciduous fruit industry, according to producer-exporters interviewed. Interviews revealed the industry has major concerns with how land reform policy is being implemented. An executive from a multinational deciduous operation explained that the land leased by government to beneficiaries cannot be used as collateral with commercial banks because the beneficiaries do not legally own the land (Interview 7, December 8 2017). (This land redistribution model is briefly summarised in Table 6.) Commercial banks usually employ four credit assessment criteria when evaluating a farmer's credit worthiness: collateral, financial history, management profile and cash repayment ability (Coleman, 2016); and beneficiaries of state land struggle to access commercial funding.

This exporter went on to say that what appears to be happening now is that some unfinanced beneficiaries then lease the land or portions of the land back to large commercial farmers. There is no meaningful emerging farming operations taking place in those instances and benefits only accrue to a few people (Interview 7, December 8 2017). Another exporter discussed how they too see an ineffective situation where land redistribution is enforced but new entrants do not have skills or access to production finance and this has resulted in the decimation of former viable units (Interview 8, December 12 2017). The Chairman of the DFDC strongly concurred that the current land reform model is not working, and that farmers without title deeds will always struggle to access funding and sustain operations.

HORTGRO as the deciduous fruit industry body says that they try to assist where they can (Interview 10, December 13 2017). In 2015 HORTGRO and the Land Bank together launched a business product for emerging farmers that includes a loan scheme and mentorship. Some individual producer-exporters are also involved in community development and emerging farmer support programmes, which they explained to include the Witzenberg PALS initiative and mentorship schemes. But these measures, along with government measures, have not resulted in any major transformation in the sector. According to the president of the Western Cape African Farmers' Association of South Africa (AFASA) Ismael Motala, only one percent of the planted hectares in the deciduous fruit industry are owned by Black people, and over 80 percent are not financially viable (NAMC, 2016).

Despite its documented low performance up to now, there is little possibility of land reform being abandoned by the ANC due to its political importance in post-apartheid South Africa (Cousins, 2010). In February 2018, Parliament voted in favour of a motion to begin a process to amend Section 25 of the Constitution to allow land expropriation without compensation, a move which will likely make the industry and investors jittery.

A Northern Cape producer-exporter (Interview 8, December 12 2017) made the following ominous assertion about the land matter: “the way of farming today, you’re competing in a global environment and to survive you need to be the best, you need the skill, regardless of colour. The land issue is going to bite the country eventually. It will kill the industry and other countries will take South Africa’s market share.”

6.2.3 The verdict on ‘embeddedness’

In the context of this industry, the state is not embedded. Channels of participation have been set up for state-industry participation but these channels are perfunctory ineffective structures at the moment - not particularly effective in practice at agreeing on common ground. These structures have not been able to formalise a state-industry social compact framework, which would form the basic outline on how to grow the industry. The industry particularly emphasised repeatedly that the biggest problem is that government does not *understand* the industry. The industry’s assessment appears to be correct in this respect. The policies and incentives developed by the DTI in particular are not accessible or appropriate for the needs of commercial farmers, whether established or emerging – revealing the absence of the close industry-state ties necessary to explore the requirements and constraints of an industry, and agree on how to address them.

In addition, applying for the existing schemes is described by the industry as an administratively onerous process, said to be rendered virtually pointless because of long waiting times and limited, irregular feedback from government. Industry stakeholders had a number of further comments on capacity within government, which are summarised below and hint at a lack of competent autonomy in government (explored more in depth the next chapter.)

Table 9: The industry's assessment of government capacity

ORGANISATION	AREA OF CONCERN	SPECIFIC COMMENTS
PRODUCER 1, Cape Town. PRODUCER 2, Ceres. HORTGRO	Infrastructural constraints due to government incapacity	Government is unable to run logistics enterprises like Transnet efficiently. The railways and harbours are incapable of handling the growth in exports. Businesses are forced to use roads which is a slower and less efficient way.
ALL PRODUCERS INTERVIEWED. HORTGRO.	General ease of doing business with government	Commercial farmers prefer to deal with commercial banks because it is easy and efficient to deal with them. This is not the case when dealing with government agencies.
PRODUCER 4, Northern Cape. PRODUCER 3, Cape Town.	Lack of proper government research	There are a few land reform success stories in commercial farming. But governmnent officials are not studying these few farming models that are working. They don't understand what works and why.
PRODUCER 4, Northern Cape. PRODUCER 3, Cape Town.	Political leadership	The political situation during the Zuma administration, that led to sovereign-ratings downgrades and a volatile currency, affected all industries. Some producers are exiting because of a lack of confidence that the government is capable of ensuring political stability.

CHAPTER 7: IS THE SOUTH AFRICAN STATE AUTONOMOUS?

In Chapter 3, the term autonomy was described as the state's power to effectively intervene while protecting the market from corruption and rent-seeking. Two measures of autonomy were proposed in Chapter 3: a reputable and competent bureaucracy, and an economic pilot agency effective in coordinating industrial transformation. We now proceed to analyse these two features as they relate to the South African government and the deciduous fruit industry.

7.1 The competence of government bureaucracy

Pons-Vignon (2011) notes that industrial policy in Brazil has been positively shaped by the existence of strong groups of high-level technocrats who have an in-depth knowledge of the economy and were able to develop measures that further national objectives, backed by strong political support. Unfortunately, South Africa's bureaucracy is said to be struggling to deliver (Potgieter, 2012). The post-apartheid state is increasingly characterised by institutional failure, inertia and inflexibility (Ensor, 2013).

Analysing failures in public service delivery in South Africa, Karl Von Holdt argues that "the bureaucracy is characterised by contradictory rationales, purposes and meanings which make it difficult to establish efficient routines or grasp the real problems and seek innovative solutions. It is much easier to seek refuge in existing routines, rules, procedures and hierarchies than to acknowledge and tackle dysfunction" (Von Holdt, 2010: 255). The National Planning Commission (2011) acknowledges that the performance of South African government institutions is "uneven" and that this uneven performance results from factors like inappropriate staffing, the erosion of authority and accountability, skills shortages and political misleadership.

In 1998, Ha-Joon Chang advised that the success of South Africa's industrial policy depended not only on policy coordination between the DTI and other policy stakeholders, but also on the administrative capacity of the DTI itself (Chang, 1998). At the time, this capacity was said to be lacking. Since then, there is still doubt around whether this capacity is sufficient. In addition, whatever capacity is present isn't being retained. The mobility of officials in South Africa is resulting in limited institutional memory and a quick turnover of senior managers and this all contributes to a bureaucracy that is far from the high performing one needed in a developmental state (Potgieter, 2012.) The National Treasury's 2017 Estimates of National Expenditure shows that the number of DTI officials in personnel levels 11-16 (middle to senior management, indicating generally superior knowledge and

experience) has decreased from 701 officials in 2014 to 553 officials in 2016. By the end of 2018, this number is expected to fall further to 518 (National Treasury, 2017a).

The DTI has experimented with trying to "move away from bureaucracy" by moving some functions away from the DTI and into autonomous agencies that were meant to operate like businesses without government interference; CIPRO being an example (Chipkin and Lipietz, 2012: 14). This move proved to be disastrous, and CIPRO has struggled amidst internal corruption, an unclear mandate and easily-hackable computer systems that led to money being stolen. This 'autonomous agency' created by the DTI was said by an opposition political party to be reflective of "the crippling effects of affirmative action and cronyism on government entities" (Chipkin and Lipietz, 2012: 22).

Evans' 1995 framework emphasises a meritocratic Weberian bureaucracy as key for the developmental state. But, Von Holdt (2010) argues that in South Africa, bureaucracy and policies are shaped by the need to address racially-based economic imbalances of the past and that this can work against the Weberian rationales of commitment and talent. Von Holdt refers to a few specific non-Weberian features of the post-apartheid South African bureaucracy: firstly, a culture of careerism among the previously-disadvantaged and now middle-class Black personnel resulting in high turnover rates in government. Johwa (2015: 25) concurs with this first point, positing that in South Africa there is a bureaucratic culture "of 'facing upwards' towards the next job prospect, rather than 'facing downwards' to improve service." Von Holdt (2010) also describes some ambivalence towards those who gained high levels of skill and expertise during and as a consequence of apartheid policies (mostly White people).

One Western Cape deciduous fruit producer expressed his belief that people in government need to be "hired on the basis of merit" (Interview 9, December 13 2017). This producer said that government needs to appoint people at DTI level with proven ability to deal with complicated societies such as Thailand and China and that in his view, often it has been observed that people who have been appointed do more harm than good. This claim may partially be true given the number of other industry interviewees who stressed that the South African government is lagging behind competitors where trade diplomacy and trade agreements are concerned. However, more importantly, this claim is illustrative of the industry's strong distrust of government's competency and commitment, which was a major takeaway from interviews.

Given these misgivings about the bureaucracy of government and the DTI, we now move on to assess the DTI as an institution. Specifically, the next section looks at whether the DTI displays the structures and characteristics typically associated with industrial growth.

7.2 Can the DTI drive industrial transformation?

7.2.1 Comparative insights on the DTI and Japan's MITI

An economic pilot agency for industrialisation is one that directly coordinates industrial investment and promotes the national interest as identified by the government (Gumede, 2009). The agency is intended to set the national goals and it needs to have the leverage to direct the implementation of industrial policy. Building from his analysis of Korea and Japan's pilot agencies and their characteristics, Chang (2010) argues that the possibility of a developmental state in South Africa guided by a powerful industrial institution is very possible. He cautions policymakers nonetheless: the powerful capitalist class needs to be on board otherwise it may derail any policy direction it is not in agreement with.

South Africa has a few institutions driving industrial transformation, like the DTI and the IDC, as well as highly resourced agencies like the DBSA. The primary agency is the DTI. Given that South Africa is aiming to become a developmental state and Japan is one of the first examples of such a state, it is useful to now assess the characteristics of the DTI against the Ministry of International Trade and Industry (MITI), Japan's successful pilot agency. MITI illustrates the importance of focus and coordination in industrial policy. "The key characteristics of MITI are its small size…its indirect control of government funds (thereby freeing it of subservice to the Finance Ministry's Bureau of the Budget), its "think tank" functions, its vertical bureaus for the implementation of industrial policy at the micro level, and its internal democracy" (Johnson, 1982: 39). The challenge in Japan was to give the right mix of powers to the pilot agency, i.e. not give it so much power that it controlled too many sectors and also not give it too few powers rendering it ineffective. The solution was to confine the powers of MITI to a limited number of selected strategic economic sectors, allowing for more in-depth targeting and understanding of those sectors.

Unlike the MITI, the DTI does not have indirect or direct control of government funds, but is instead at the mercy of budget allocations decided by the National Treasury and the Minister's Committee on the Budget. The industrial development related-expenditure of the DTI is budgeted to grow from only R7.6 billion in 2018/19 (for the programmes Industrial Development and Incentive Development) to R8.1 billion in 2019/20 (National Treasury, 2017a). Using the National Treasury's GDP projections, in 2018/19 this will comprise 0.15% of GDP. IPAP spending of this size does not constitute a major state-led industrial policy. Burger (2013) argues that South Africa has been ineffective in implementing a wider industrial policy that supports targeted industries. Apart from maybe the

automotive industry, no manufacturing industry is "performing spectacularly or contributing significantly to exports, even though the Industrial Policy Action Plan (IPAP) has been in place since 2007/08" (Burger, 2013: 14). Johwa (2015) highlights the fact that the DTI does not offer custom-made incentives but instead offers generic incentives, and says this is a key area that differentiates the DTI from the hands-on approach of the Japanese and South Korean bureaucrats in the targeted sectors of their countries. The lack of in-depth meticulous targeting, the lack of budgetary power, and the lack of custom-made incentives point to the conclusion that the DTI does not possess the characteristics associated with the pilot agencies that drove industrial development in East Asia.

7.2.2 A dis-embedded strategy: the DTI's focus on fruit processing

A state that has autonomy is able to independently assess and then pursue the best formulation of policy that will advance national development goals. Weiss (1998) asserts that in a developmental state, it is not the level of state intervention that determines impact, but rather the transformative capacity of state intervention. In the few instances where the DTI's IPAPs have placed focus on the fruit industry, this focus has been on processed fruits in particular. This next sub-section will discuss whether there is evidence that this focus is the most suitable for furthering industrial transformation and value addition.

A consultant for the DTI argued in 2012 that even though South Africa exports a high quantity of fruit which has a good reputation throughout the world, this had not resulted in any significant levels of value addition (Barnes, 2012). The 2012 IPAP thereafter announced the implementation of a Private Public Partnership intended to raise value and competitiveness in the fruit canning industry (DTI, 2012). Further fruit canning initiatives relating to market access and the launching of new products were announced in the 2015 IPAP. According to the South African Fruit and Vegetable Canners Association (SAFVCA), these initiatives have been successful. Canned fruit exports to the rest of the world increased by 16% in 2013 and 7% in 2014 (compared to 2011 negative growth of -10% before the 2012 IPAP) (Atwood-Palm, 2015). While giving a talk[11] on transformation in the fruit canning industry in 2014, Minister of Trade and Industry Rob Davies said that his department encourages the emergence of processing industries like fruit canning (as opposed to fresh crops) because processing is the area where more value-addition takes place.

[11] 'Lifting the lid on transformation in fruit canning' *Youtube video*: https://www.youtube.com/watch?v=r2Vd4r_CoXg

The deciduous fruit industry has an entirely different opinion on the whole matter. Firstly, the most significant incongruity between the industry and government departments is that the two sides do not even appear to agree that the production and export of fresh fruit falls under agro-processing. The terminology in state schemes and policies can get confusing, according to HORTGRO and some producers. Particularly, it is not clear what constitutes agro-processing and what constitutes pure agriculture in the stipulations of government. The industry (and modern global literature) describe fresh fruit operations as agro-processing due to the skills and technological sophistication required to export quality fresh fruit. The export council for fresh produce strongly emphasised this when interviewed, stating that "fresh fruit by definition is classified as a processed good. Fresh fruit has a complex supply chain including harvesting, packing, cold storage and so on. It is definitely processed" (Interview 2, December 8 2017).

However, from the point of government, fresh fruit tends to be viewed as an *input* into agro-processing activities like canning. For instance, a DAFF representative stated that the DAFF "sees deciduous fruit as critical due to the fact that they serve as raw material for the agro-processing industry, particularly for the food and beverages division" (Interview 6, January 4 2018). Similarly, a DTI official reported that for most incentive schemes apart from the Export Marketing and Investment Assistance Scheme (outlined in Table 6), "we don't encourage exporting of raw materials. We support manufacturing and processing of those raw materials" (Interview 5, January 18 2018). When probed further to ascertain if the DTI views fresh fruit as 'raw materials', the answer was affirmative**.**

HORTGRO had the following to say on the matter of government's apparent preference for the processing of fruit:

> "The industry wants the primary product, the raw product, to stay in its original form. A bunch of grapes must still look like a bunch of grapes on the retail shelf. Our context is value-add and it seems like government departments don't grasp that fully and they want to see a change of the product – they need it be juiced or it needs to be canned."
>
> - Interview 1, HORTGRO (11 December 2017)

The FPEF expressed their view that "there is definitely a market for canned fruit. However, it wouldn't be correct to assume that these are the activities that add value in this production chain" (Interview 3, December 14 2017). Likewise, according to one producer (Interview 10, December 13 2017), "to move

into canning is moving down the value chain rather than moving up the value chain. Moving up the value chain would be to produce a quality product at high tonnage per hectare."

Maetzold (2000) describes value addition in agriculture as modifications and enhancements of production, processing, and marketing activities. Value-addition endeavours in horticulture encompass things like investments in modern technologies, quality control, shelf life preservation and customer services (Sarku, 2014). And according to Curtis and Cowee (2005), value addition in agriculture is embedded in the customer's perceived values. Based on the ideas expressed in the above definitions, it can be said that value addition is any innovative activity carried out by a producer that results in a better product form that is desired by the consumer and the consumer is willing to pay extra for that better form.

A representative for pears, apples and peaches in Ceres discussed how in her experience, consumers are moving more towards fresh produce as healthy lifestyles become more popular and incomes increase. According to her (Interview 10, December 13 2017), the canned yellow peach industry is now under immense strain. It was pointed out in Chapter 5 that there has been growth in the area planted for all deciduous fruit orchards except for apricots and peaches (needed for canning operations). The CEO of the Canning Fruit Producers' Association acknowledged in a 2016 media report that consumers are growing more concerned about the health effects related to the high syrup-content of canned fruit and that this is affecting the industry (Kriel, 2016). The weak Rand improved the standing of the industry in 2016 but continuing high processing costs mean that consumers will have to pay more for canned fruit if the industry is to remain viable (Kriel, 2016). Rhodes Food Group, one of the largest listed food companies on the JSE and a producer of fresh and processed deciduous fruit, reported a sharp fall in international turnover in 2017, citing lower demand for industrial fruit pulp and purees as well as the drought (Gunnion, 2017).

The two interviewed HORTGRO managers emphasised that their argument has always been that the original fresh product is more valuable than the processed product, and that there is room for processing as a secondary supplementary activity. Similarly, a producer-exporter of grapes offered the following reasoning about the industry's preference for fresh fruit: "canning and juicing is more to reduce wastage, to not throw the stuff away, it's a secondary activity to generate some revenue. Production costs are currently too high to make canning and juicing the core activity" (Interview 8, December 12 2017). An FPEF representative emphasised that profit margins are lower for canned fruit than for fresh fruit because canning uses inferior fruit and is generally consumed by lower income demographics (Interview 3, December 14 2017).

However, the DTI put forth that upper income demographics consume significant amounts of fruit juice and that the Middle East and China represent important new markets for fruit juice that South Africa can potentially take advantage of. The FPEF's point about lower profits for processed fruit is confirmed in Table 10 below. For example, producers of fresh apples will receive an average R5 556 per ton in local markets (and even more in export markets), but will receive R1 431 per ton for processed fruit.

Table 10: Prices for fresh and processed fruit in 2016-17

	SALES: LOCAL MARKETS (FRESH)	EXPORTS NET REALISATION (FRESH)	PROCESSED
	(R per ton)	(R per ton)	(R per ton)
Apples	R 5 556	R 10 815	R 1 431
Pears	R 5 605	R 11 157	R 1 861
Apricots	R 10 161	R 23 507	R 3 044
Peaches and nectarines	R 11 339	R 25 680	R 3 687
Table grapes	R 12 027	R 18 911	**

** Deciduous fruit generally refers to fresh table grapes.
Sources: HORGRO (2017) and DAFF (2017b)

In short, the industry universally conveyed in interviews that canning, juicing and drying can add to the bottom-line of an orchard's operations in cases where fruit is not of an appropriate texture/quality/colour to meet fresh fruit demand, but that ultimately the income derived from fresh fruit needs to be prioritised and maximised. A HORTGRO manager (Interview 1, December 11 2017) is of the view that government's focus on processed fruit is not conducive for growing the economy - "the current stance of government is totally contrary to the economic reality. The fresh product is much more valuable than the processed product. This is also where the majority of the jobs are being created, not on the processed side."

While there are clear failings in the relationship between the DTI and the deciduous fruit industry, there are some signs of successful industrial policy initiatives for high-value fresh horticulture, through the IDC. The IDC has played a crucial role in expanding the fresh table grape industry and citrus fruits, but has been particularly successful in the case of berries. This was done through financing deals and the Agro-Processing Competitiveness Fund (noted in Table 6) (IDC, 2013). In 2013, the IDC reported that they had facilitated the creation of 16 340 'direct annual jobs' in agriculture over 5 years (van Rooyen, 2013). In the case of berries, the IDC invested into research around cultivation, market access and demand (Mail and Guardian, 2012). Blue Mountain Berries is one of the IDC's leading berry ventures, established in 2006 through a deal that included a stake for farm workers via a worker empowerment trust, thereby satisfying the IDC's BEE and rural development criteria (van der

Westhuizen, 2013). The venture became the first Southern Hemisphere supplier of berries to the United Kingdom, and it currently employs 340 people and exports about 90% of its produce (Mail and Guardian, 2012). Other berry projects that were supported by the IDC and which have seen growth in production and exports include Amathole Berries in the Eastern Cape (Burgess, 2013) and Lushof in the Western Cape (van der Westhuizen, 2013). Berries, a niche product, are not a traditional deciduous fruit but the IDC's success here is indicative of the kind of success that could be seen if there were industrial policy measures customised for deciduous fruits.

These IDC investments show a recognition of the industrial potential of high-value agriculture and the ability to research and identify viable horticultural products according to trends in international consumer preferences (in this case, the IDC recognised that the "increasingly health-conscious international market was looking for fresh produce with antioxidants[12], such as berries" (Khuzwayo and Robbins, 2007). Other industrial policy institutions can learn from this.

Interviews revealed that there is widespread consensus within the industry that the DTI needs to consider shifting their focus by asking how value can be added to *fresh* fruit, which earns the most in foreign exchange and creates the most employment. How do we produce fruit in a way that's more environmentally sustainable and requires less water? How do we produce new varieties that have high yields? How do we maintain the different activities of the value chain and become more competitive? All of this will require significant investment, more government capacity and highly-skilled research, as was pointed out by one representative from FPEF.

7.3 The verdict on the 'autonomy' of the state

The South African bureaucracy displays insufficient expertise, performance and capacity, and thus struggles to steer industrial policy and direct industries towards the best development outcomes. Moreover, the DTI's narrow focus on processed fruit shows a misunderstanding of industrial potential and may be leading to missed opportunities for greater levels of industrial growth and value addition. Fresh high-value fruit has higher earnings potential and is increasingly demanded in foreign markets over canned and processed fruit, something which another agency, the IDC, appears to be recognising albeit in smaller niche products. The DTI, meant to be the primary pilot agency for industrialisation, does not display the in-depth knowledge, budgetary power and customised targeting that were

[12] Antioxidants are naturally found in fruits and vegetables, and are sought after in healthy diets because they are thought to lower risk of infections.

associated with successful Korean and Japanese pilot agencies. It can be concluded that the South African state largely lacks the autonomy and authority to drive industrial transformation.

CHAPTER 8: CONCLUSION

Industrialisation-led growth was the engine of rapid development in countries like Japan and South Korea in earlier decades; many analysts agree on this and agree that other countries may be able to emulate this success. Where there has been less agreement is around the role of the state during industrialisation efforts – how much should the state intervene, how much should the state be involved in businesses' operations. This report has highlighted that a significant subset of research points to the need for governments to establish close ties with state-selected industries and have the capacity to successfully coordinate efforts with those industries. This notion was most succinctly captured by Peter Evans who said that successful developmental states are associated with embeddedness and autonomy.

This study highlighted that deciduous fruit is one of those high-value commodities that is using increasingly sophisticated industrial methods to preserve shelf life and deliver the most in-demand varieties of fruits to international markets, and that other countries like Chile and Peru are providing significant and successful industrial policy support to their domestic deciduous fruit producers. Chapter 5 of this report revealed that South Africa's deciduous fruit industry is contributing substantially to the national economy, but that this sector has seen slow growth in employment and exports since the 2000s. The little existing research suggested that government's engagements with South African high-value horticulture had been minimal and ineffective at best, and non-existent or actually detrimental, at worst.

This report contributes detailed findings on this topic, extracted primarily from semi-structured interviews with the deciduous fruit industry and government. The first important finding is that government officials in charge of industrial policy display a lack of proper understanding of the potential of this industry. Overall, industrial policy instruments have not furthered this industry since apartheid ended and trade became liberalised. Emerging farmers in particular do not have the capacity to significantly raise production and create employment; and policy is not fostering this capacity. Furthermore, the narrow focus of DTI agro-processing strategies on processed fruit and the near-total overlooking of fresh fruit, may be leading to missed opportunities for export growth, increased foreign exchange earnings and further industrial transformation. A state that is autonomous is able to pursue the best collective interests for a country, which in terms of employment creation and foreign exchange earnings points to fresh fruit over processed.

One size does not fit all, and this report has highlighted that successful developmental states have had a hands-on approach and those governments were able to tailor specific strategies for selected sectors

with the most potential to yield benefits in the form of increased output, more jobs and faster technological learning. As was shown in Chapter 6, there is evidence that the DTI does not have the capacity to act as a leading industrial-development agency like Japan's MITI or Korea's EPB. It does need to be noted that the DTI is working within the constraints of a small budget, which was not the case for the agencies in East Asian miracle economies. In this case, other resourced organisations in South Africa like the IDC can play an increased role towards offering support that is customised for high-value horticulture. The IDC is already doing this in the berry sector, having invested resources and research into understanding the potential of high-value horticulture, and has seen success.

The contention around current and proposed land reform policies is another factor that places the East Asian industrialisation experience apart from the reality in South Africa. The industry is facing a huge potential threat in the form of plans to expropriate land without compensation, which has already caused some harm to investor confidence. While there is a definite need for inclusive economic participation and opportunities, the results of land reform plans will be disastrous for growth and agricultural employment if the policy is implemented in a manner that doesn't ensure that the land is operated by those who either possess or can gain the technological capabilities and skills required to meet production and export demand.

To use Peter Evans' terminology, industrial policy-making needs to be embedded within a network of effective linkages with the private sector. The state in the case of deciduous fruits is not embedded. Neither large commercial farmers nor emerging farmers have those close, beneficial, reciprocal ties with government that are needed to develop targeted strategies that will increase the productive capacity of the industry (or at least maintain that capacity, given the severe drought), and increase meaningful employment in an industry currently characterised by growing casualisation. The state presently displays some characteristics that are more common in a predatory state than a developmental state. The bureaucracy of South Africa is motivated by individuals' careerism and contradictory objectives, and does not have the autonomy to seek innovative solutions in the areas most needed - technical and monetary investments into the operations of those farmers who have the potential to succeed, export promotion and trade relations.

The principal question this study has sought to answer is: What is the appropriateness of existing industrial policy towards raising production and exports, employment, and value in the deciduous fruit sector? It can be concluded that policies have not been designed with this type of industry in mind. Policies and incentives are generic, inaccessible and insufficient. Industrial policy without balanced

embedded autonomy results in ineffective policies, and this shows in the case of this industry. Neither large nor emerging deciduous fruit farmers are accessing significant state support.

Future policies towards this industry and similar industries would ideally consider incorporating the following:

- The establishment of a social compact for fruits, which has not yet been agreed upon between government, the industry and labour. This social compact would form the basis for negotiating and agreeing on coherent policies that advance national policy objectives. These objectives centre around expanding employment creation while decreasing the exploitative casualisation of labour, as well as increasing Black participation in commercial farming while also supporting existing commercial operations that have the experience and capacity to contribute the most to the economy at this time
- Improvements in export promotion programmes and trade diplomacy; modelled on the contributions made by other governments in the developing South
- Performance-linked funding mechanisms and technical support that will provide committed support to emerging farmers in the industry for 7-10 years, taking into account that this is the breakeven timeframe.

Given the political, ideological and economic differences in South Africa, achieving an embedded autonomous state will be a difficult endeavour. South Africa, if it is truly seeking to be a developmental state, needs the type of dedicated expert bureaucracy that will be able to undertake the mammoth task of uncovering and addressing bottlenecks in industry, trade, labour relations and land reform. Only then will government have the ability and credibility to create the needed incentives and also demand that those incentives be directed in the most productive ways, in sectors that contribute to national development objectives.

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APPENDICES

APPENDIX 1

Interviews conducted:

(Interview 1) Executive Director – **HORTGRO**. 11 December 2017

(Interview 1) Group Operations Manager – **HORTGRO**. 11 December 2017

(Interview 2) Operational Manager – **Fresh Produce Exporters' Forum**. 8 December 2017

(Interview 3) Transformation Coordinator – **Fresh Produce Exporters' Forum**. 14 December 2017

(Interview 4) Chairperson – **Deciduous Fruit Development Chamber**. 9 January 2018

(Interview 5) Deputy Director: Agro-processing – **DTI**. 18 January 2018

(Interview 6) Deputy Director: Agro-processing Support – **DAFF**. 4 January 2018

(Interview 7) Commercial Director – **Capespan Group**. 8 December 2017

(Interview 8) Deputy CEO - **Karsten Group**. 12 December 2017

(Interview 9) Group Managing Director – **Sinogold**. 13 December 2017

(Interview 10) General Manager – **De Keur**. 13 December 2017

Participation Letter

Date: 04 December 2017

Good Day

My name is Atang Moletsane and I am a Masters student in the School of Economic and Business Sciences at the University of the Witwatersrand, Johannesburg. I am conducting research on the the impact of industrial policy on the deciduous fruit sector. Specifically, my thesis asks the question "What is the appropriateness of existing industrial policy towards achieving an expansion of output, exports and jobs in the deciduous fruit sector?"

As producers and exporters of deciduous fruits, you are **invited** to take part in this research. The purpose of this research is to get an understanding of the policy instruments that are available to the deciduous fruit industry, and how relevant and accessible state support is.

Your participation will be in the form of an unstructured interview around the policy environment for deciduous fruits. Your responses are important and there are no right or wrong answers. The results of the interview will remain confidential and will only be made available to myself and my supervisor. Participants will not be named by name in the research report but results per organisation may be reported due to the nature of the research, if you do not object. Your participation is completely voluntary and involves no risk, penalty, or loss of benefits whether or not you participate. You may withdraw from the research at any stage.

The first part of the unstructured interview will be a discussion around policies and strategies for deciduous fruits and the second part will be a discussion around access to finance. Other topics under discussion will be the international trade environment and industrial upgrading. The entire interview should take between 45 minutes to 1 hour. The broad interview questions were approved by the SEBS Ethics Committee (Non-Medical), Protocol Number: CECON/1102

Thank you for considering participating. Should you have any questions, or should you wish to obtain a copy of the results of the research, please contact me on (012) XXX-XXXX or at 599226@students.wits.ac.za
My other contact details: Cell number: 083 XXX XXXX
My supervisor's name and email are: Dr Nicolas Pons-Vignon – Nicolas.Pons-Vignon@wits.ac.za

Kind regards
Atang Moletsane
Masters Student: Faculty of Commerce, Law and Management
School of Economic and Business Sciences
University of the Witwatersrand, Johannesburg

APPENDIX 2

Guide to interview with the agro-processing unit of the DTI

Deciduous fruit industrial policy

- What is the purpose of industrial policy as it relates to agro-processing generally, and deciduous fruits specifically?

- What has been/is the expected output of industrial policy in this sphere?

- What policies, support structures, financing and incentive schemes have been made available to the deciduous fruit industry in the past, and what structures are available now?

- In your opinion, does the industry sufficiently access these structures and why?

- How has the DTI interacted with major deciduous fruit exporters in the process of designing industrial policies?

- What is your consultation process and cooperation with the Department of Agriculture like?

Monitoring

- What procedures are in place to monitor the effectiveness of institutional structures? Do you think there is sufficient capacity and adequate resource to monitor policy coherence?

- How does the department gather evidence on the impact of sectoral policies on the different sectors and policy coherence among policies?

- What are the main challenges that hinder/inhibit the impact of policies in the agro-processing and deciduous fruits? What are the measures that you have put in place to overcome these challenges?

Going forward

- Are there any upcoming plans to revise policy in the future?

- What do you think the ideal direction of industrial policy (as it relates to deciduous fruits) should be?

Guide for interview with HORTGRO, FPEF and individual producers

Policy environment

- What would you say are the 3 biggest challenges facing the deciduous fruit industry?
- Do you know of any government finance/DTI incentives/IDC finance schemes available to the industry? If yes,
    - Is the industry accessing these? If so, how? If not, why not?
- How do industrial policies match the challenges that the South African deciduous producers face and require government support to overcome?
- How has land reform policy impacted business, negatively or positively?
- Is there co-operation between local communities/land reform beneficiaries and large-scale producers? Does current state support impede or support any cooperation? Are there any other factors hindering cooperation?

Access to finance

- What form of financial assistance from the government would you welcome and why?
- Who are the main providers of external finance for deciduous fruit producers? Why do they choose these providers?

Local operating conditions

- Would you say that there is adequate physical infrastructure to support production and expansion in this industry (road, rail, ports, etc.)?
- In light of the drought in the Western Cape, has government been supporting producers in developing contingency plans and mitigating the impact of the drought?

International trade environment

- Since the global recession, how has the market environment of this industry changed?
- At the current time, what is the potential for expansion in this sector?

Industrial upgrading

- Are there significant attempts to add greater value to deciduous fruit production by moving up the value chain (i.e less fresh fruit and more canning or processing)?
- Would you agree that there is greater value in processed and canned fruit?
- Is government policy supporting businesses attempting to do more processing, packaging and canning?

Guide to interview with the agro-processing support unit of Department of Agriculture

Policies and strategies

- What is the overall purpose of the Agro-processing Support Unit as it relates to agro-processing generally, and deciduous fruits specifically?
- What policies and support structures have been made available to the deciduous fruit industry in the past, and what structures are available now?
- Has this unit ever interacted with major fruit exporters in the process of designing policies?
- What is your consultation process and cooperation with the DTI like?
- In what way does the DAFF interact with relevant stakeholders to align agro-processing development initiatives towards achieving rural industrialisation?
- How does the DAFF support the development of new agro-processing technologies that may allow deciduous fruit producers to move into higher-value activities such as the canned fruit and processed fruit?

Monitoring

- How does the department gather evidence on the impact of policy support in the different sectors and policy coherence among policies?
- In your opinion, what are the main challenges that hinder/inhibit the impact of your policies and strategies in agro-processing? What are the measures that you have put in place to overcome these challenges?

Going forward

- Are there any upcoming plans to revise DAFF's agro-processing policies and strategies in the future?
- What do you think the ideal direction of agro-processing policy (as it relates to deciduous fruits) should be?

Guide for interview with Deciduous Fruit Development Chamber

Policy environment

- What would you say are the 3 biggest challenges facing emerging deciduous fruit producers?
- Have you ever interacted with the Department of Trade and Industry, or any other government department departments?
- Does the Deciduous Fruit Development Chamber assist producers in accessing finance from the DTI?

Access to finance

- What form of financial assistance from the government would you welcome and why? (i.e. in what area would you welcome financial assistance – new orchards? Skills training? Equipment? Export expansion?)
- Who are the main providers of external finance for producers? Why did they choose these providers?
- Do producers face any challenges in accessing finance?
- What form of non-financial assistance would you welcome from government and why?

DFDC specific questions

- Initial capital investments are very high for fruit productions, which is likely a significant barrier to entry for many farmers. Government has established the Deciduous Fruit Development Chamber commercialisation programme. This will disburse R120 million in funding to emerging fruit farmers to grow their businesses to fully commercial status.
    - Can you explain a bit more on why exactly this Fund was established? Who initiated it – government or the deciduous fruit industry?
    - Is production expansion and export promotion an objective of this Fund?
    - What financial measures does it offer – loans? Grants? Please elaborate.
    - What is the funding meant to go towards? Equipment? Training? New orchards?
    - What the types of support structures and policies does government still need to put in put to help deciduous fruit producers?